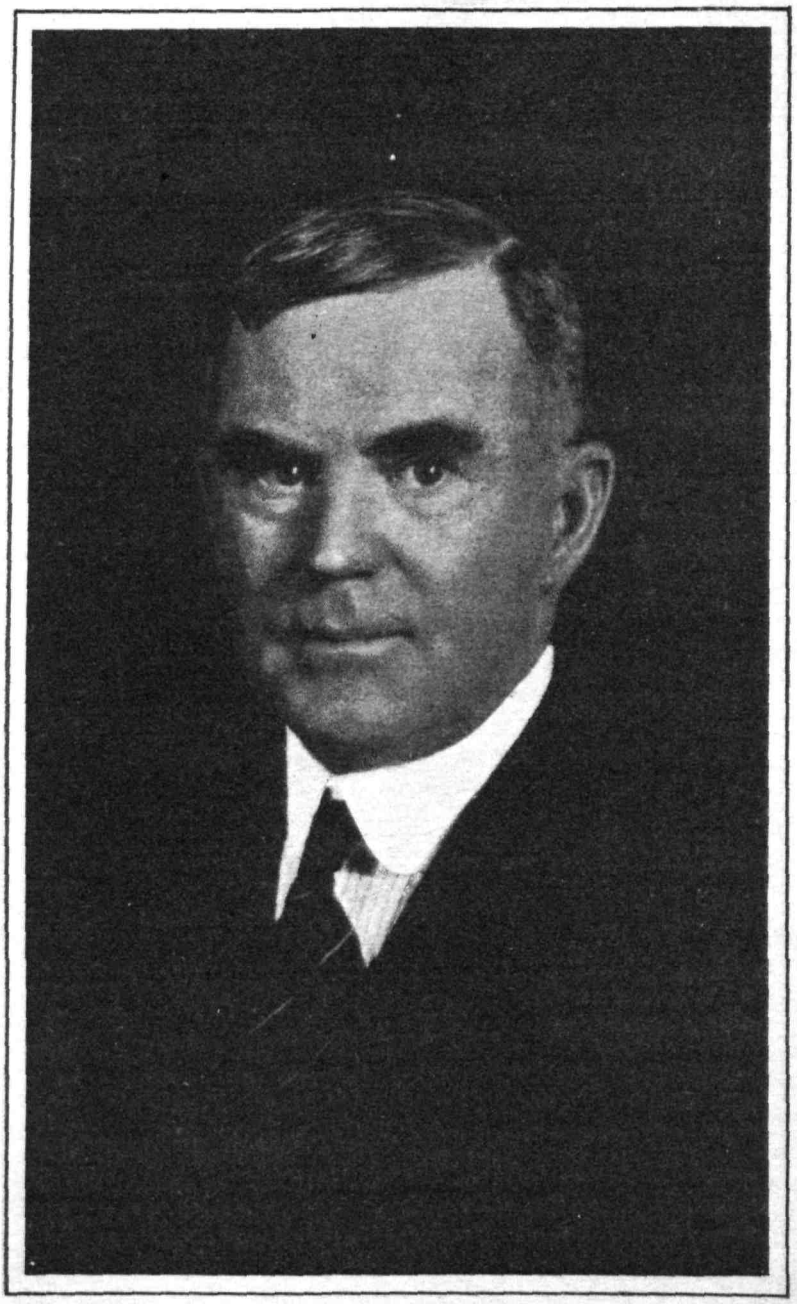
UNITED STATES
DEPARTMENT OF AGRICULTURE

HOWARD M. GORE
SECRETARY

AGRICULTURE YEARBOOK

1924

WASHINGTON
GOVERNMENT PRINTING OFFICE
1925

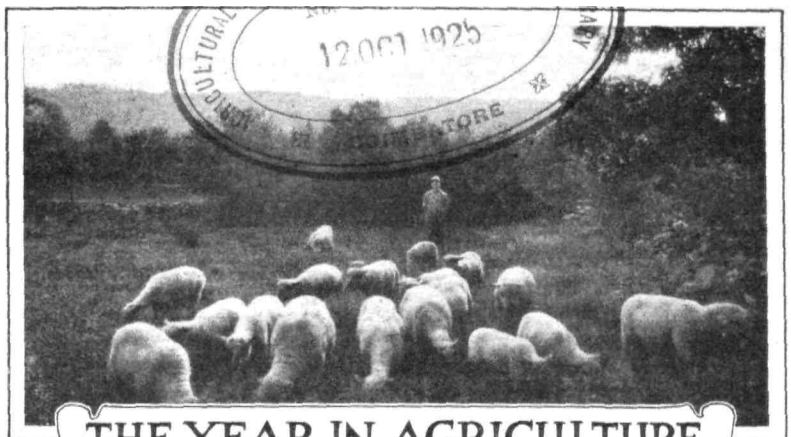


HENRY CANTWELL WALLACE

MAY 11, 1866—OCTOBER 25, 1924

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THE YEAR IN AGRICULTURE

THE SECRETARY'S REPORT TO THE PRESIDENT

WASHINGTON, D. C., *November 15, 1924.*

TO THE PRESIDENT:

It becomes my solemn duty, Mr. President, to transmit the annual report prepared under the direction of the late Secretary of Agriculture, Henry C. Wallace. Although Secretary Wallace did not have an opportunity to consider the report in its final form, it has been carefully reviewed by representatives of the department who have been in close touch with him and who worked with him in its preparation, and is believed to represent his views regarding the state of agriculture and the work of the department during the period it covers.

It is regrettable that the lamentable death of Secretary Wallace leaves his annual report in the present status. The method pursued in submitting this report appears to be the only practicable one to meet the situation that presents itself.

Respectfully,

HOWARD M. GORE,
Acting Secretary of Agriculture.

The report as prepared under the direction of Secretary Wallace follows:[1]

Prospects are that the gross income from agricultural production in the United States for the crop year 1924–25 may reach approximately $12,000,000,000, compared with $11,500,000,000 in 1923–24 and $9,550,000,000 in 1921–22. While much further recovery is required to bring it back to its pre-war condition, American agriculture, on the whole, is in the best position it has held since 1920. Prices of many crops are at the highest point in four years, and costs of production have declined somewhat from the high point of the depression period.

A favorable readjustment has taken place in price ratios between agriculture and industry, due partly to an advance in prices of the things farmers have to sell and partly to a decline in the prices of the things they have to buy. While the purchasing power of farm products is 14 per cent below the pre-war level, it is 20 points, or 30

[1] When first presented to the President this report gave the October 1 estimates of crop yields. The figures have since been revised to agree with the final estimates made in December.

per cent, above the index for May, 1921, when the depression was in its worst period. Farmers have made crop readjustments which helped to bring the various lines of production into better balance.

The Crops of the Year

This year's harvest was the finest in five years. Though not the greatest in volume of products, it was the best balanced and represented the best income. The total acreage in all crops in 1924 is estimated to have been about 370,000,000 acres. This was a decline of about 3,000,000 acres from the area planted in 1923, and a decline of 6,000,000 acres from the area planted in 1919, when the last census

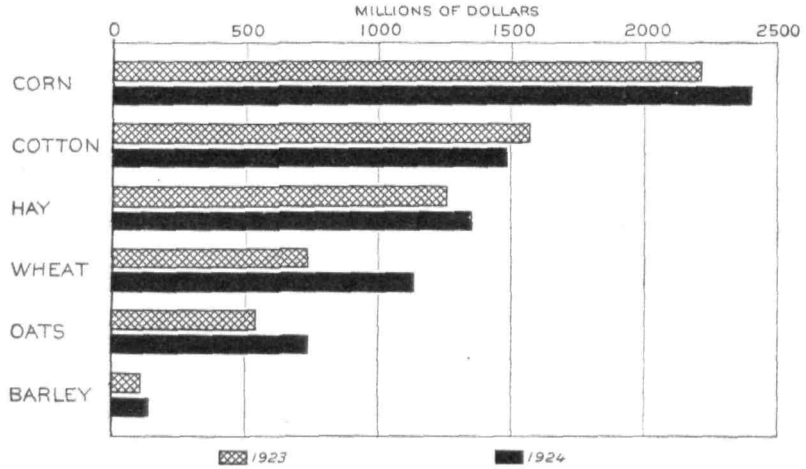


FIG. 1.—Value of the principal field crops in 1923–24

was taken. Indications on November 1 were that the final yield per acre of crops as a whole would be 1.9 per cent below the average during the last 10 years.

Yet it would be a mistake to conclude that the American farmer is done with the troubles of the depression period. If the readjustment is left to blind economic forces it will be many years before that can be said. Although farm commodity price levels are headed toward a better position, they have still a large gain to make before agricultural products will be on a parity with other products. This means that agriculture is still laboring under a heavy disadvantage.

The improvement that has taken place has not yet lasted long enough to produce any marked betterment in the finances of the farmer. As a matter of fact, the suffering of many farmers is perhaps as intense to-day as it was in the first years of the depression period, because the effects of the depression are cumulative. Present favorable possibilities will have to be turned into realities before it can fairly be said that agriculture is again enjoying normal prosperity. Nevertheless, the showing of 1924 brings prosperity nearer.

For wheat production the year was extraordinarily favorable. Large yields of good quality grain have been harvested almost everywhere. The wheat crop is estimated at 872,673,000 bushels, compared

with 797,381,000 bushels last year, or an increase of 75,292,000 bushels. Average annual wheat production for the previous five years (1918–1922) was 881,061,000 bushels.

Yields of wheat have been particularly satisfactory in the Great Plains area and in adjacent States from North Dakota to Texas. In the Pacific Coast States, however, severe drought curtailed production.

The spring wheat crop, including durum, has been extremely satisfactory. Yields in most sections have been so far above the average that in spite of a reduction of acreage estimated at 30 per cent since 1919 a crop of 282,636,000 bushels was produced, compared with 213,401,000 bushels last year and an average of 256,326,000 for the previous five years.

The corn crop is estimated at 2,436,513,000 bushels, as compared with 3,053,557,000 bushels in 1923 and 2,906,000,000 bushels in 1922. An unfavorable season brought about a greater percentage of soft corn than for many years. Good corn prices had encouraged heavier planting, and in March farmers reported an intention to increase their corn acreage by 3 per cent, but a wet spring hampered planting and reduced the effective area to 105,012,000 acres. Growing conditions were particularly unfavorable in the Middle Atlantic States, in Ohio, Indiana, Michigan, and Wisconsin, and in the Gulf States.

Cotton production was estimated at 13,153,000 bales, compared with 10,140,000 bales a year ago and a five-year average of 10,851,000 bales. The acreage harvested was about 8 per cent above that of 1923 and made a total of around 40,115,000 acres. Delayed planting, however, and replanting with inferior seed brought stands of cotton down below the average. On the other hand, boll-weevil and other pest damage was less than in the last three or four years, so that a fair crop was realized. Yields, moreover, were more evenly distributed than in 1923.

The potato crop is estimated at 454,784,000 bushels. This is slightly more than the crop of 1923 and considerably more than the five-year average of 390,616,000 bushels. Though the potato acreage was much less than in recent years, unusually favorable weather resulted in a larger crop. Sweet potatoes, however, are a very small crop this year, total production being estimated at 71,861,000 bushels, compared with 97,177,000 bushels last year and a five-year average of 99,405,000 bushels.

Indications are that tobacco production will be nearly 1,242,623,000 pounds. This is about 272,487,000 pounds less than last year's crop and about 118,038,000 pounds below the five-year average. The tobacco area was 157,000 acres below that of 1923 and 16,000 acres below the five-year average. But the income return from this reduced crop may be as profitable to the producers as the return would have been from a larger crop at lower prices.

Beet-sugar production was estimated at 1,087,000 short tons, compared with 881,000 short tons last year. The sugar-cane crop in Louisiana was short. Because of light yields and the necessity for holding cane for seed it is estimated that somewhat less than 105,000 tons of cane sugar will be made in Louisiana this year, compared with 162,000 tons last year and 295,000 tons in 1922.

sequently an increase in purchasing power of farm products in terms of nonagricultural products. Thus in November, 1924, the ratio of farm prices to wholesale prices of nonagricultural goods was 86, compared with 83 in November of 1923. While the average level of farm prices remained about the same, there were important changes in prices of some products. Farm purchasing power in some localities has been materially increased by large yields of crops that have brought good prices.

Improvement in Wheat Situation

Improvement in the wheat situation has been the outstanding event in the agricultural history of 1924. As the year began the world grain market situation was more favorable than at any time since the general price deflation of 1920–21. Apparent surpluses of

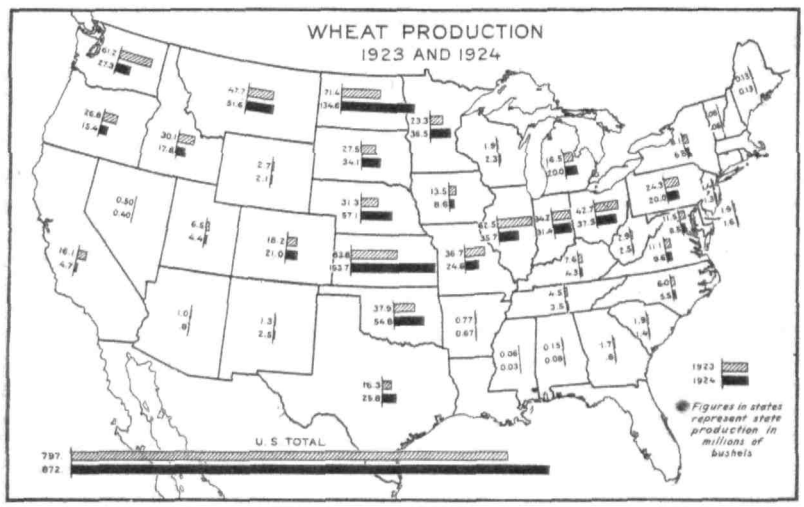


FIG. 2.—The great increase in wheat production 1924, as compared with the production in 1923, occurred in the central tier of wheat States. The larger crop was sold for a higher price, due to a shortage in the world crop. The farm price of wheat on December 15 was 141.1 cents a bushel as compared with 94.5 cents on December 15, 1923. However, much of the crop was marketed before the price made its greatest advance. As a result the average price received by farmers for all marketings from July 1 to December 31, during which period nearly three-fourths of the crop left the farms, was estimated to be only 124 cents a bushel

bread grains had been much reduced and the world's crop promised to be between 300,000,000 and 350,000,000 bushels below that of last year. Exportable surpluses in the principal producing countries were reduced and requirements of the importing countries were increased. Indications were that wheat would continue throughout the crop year on a price level considerably higher than that of the crop year 1923. Total production of wheat in the Northern Hemisphere outside of Russia and China was estimated to be about 2,750,000,000 bushels, compared with 3,045,000,000 bushels last year. Russia seemed unlikely to export wheat, whereas last year she exported about 25,000,000 bushels. Wheat crops of the Southern Hemisphere were estimated not to be larger than those of last year. The

world rye crop, an important factor in the world wheat market, was approximately 100,000,000 bushels short of last year. It is figured that the total world's supply of bread grains for 1924–25 will be probably 10 per cent less than that of the preceding crop year.

The demand for wheat from the United States should be stronger than it was last year. Europe, outside of Russia, is short more than 100,000,000 bushels of wheat and approximately 100,000,000 bushels of rye. North Africa and Russia are out of the market. Canada, our most important competitor, will have at least 150,000,000 bushels less wheat than last year. High prices may result in lessened consumption of wheat in importing countries, but Europe and the Orient together will undoubtedly take all the wheat available for export from the United States at prices considerably above those of a year ago.

Nature has been good to most of the wheat farmers of the United States this year. She has given them large yields per acre and a total crop larger than that of last year on a reduced acreage. Reduced yields in foreign countries have brought about a market situation in which the American farmers are receiving higher prices for a larger crop. It seems reasonable to expect that the price farmers will receive for this year's crop will average about $1.22 or better for the year. At this price the cash income from the wheat crop, as estimated October 1, would amount to about $900,000,000, compared with approximately $570,000,000 last year.

Nevertheless, the rise in the price of wheat has not yet sufficed to give a bushel of wheat its pre-war average purchasing power. A suit of clothes which cost the farmer of North Dakota 21 bushels of wheat in July, 1913, would have cost him 24 bushels in August, 1924. An average farm price of wheat in the United States on August 15 of $1.40 a bushel would have been necessary to give that grain its pre-war purchasing power. Moreover, not all the wheat farmers of the United States will share in the increase in income from wheat production. Although producers of hard red winter wheat in Kansas, Nebraska, and Oklahoma, and producers of spring wheat in the States east of the Rocky Mountains, may approximately double their 1923 cash income, the States west of the Rocky Mountains and the important wheat-growing regions east of the Mississippi will have lower incomes because of reduced production.

Probably the increased wheat production in the four spring wheat States east of the Rocky Mountains will nullify the effectiveness of the protective tariff on wheat. Most of the wheat produced in this region is purchased by American millers. Mills last year consumed 14,000,000 bushels of Canadian wheat, upon which duty was paid, in addition to 114,000,000 bushels of American spring wheat. The indicated supply of American spring wheat this year, however, considerably exceeds the probable domestic consumption. Spring wheat therefore rests on an export basis, with its prices determined in the world market. In the last few months prices at Minneapolis have been lower than at Winnipeg. Whether or not this relationship will continue throughout the year will depend largely on the n[illegible]

price collapse of 1919 and 1920. Cattlemen have had a harder time than any other group of livestock producers. Slow but steady liquidation has been going on in the cattle industry for three years. To-day, however, many of the war-time loans, with their high interest rates, have been paid. Money is available on more favorable terms, conditions in the cattle country are improving, and the prospective reduction in hog raising should strengthen the market for beef.

Conditions, however, are not yet satisfactory in the cattle industry. In August, 1924, beef-steer prices at Chicago were lower than in the corresponding month of either 1922 or 1923. They were only $2.60 a hundred pounds higher than the low point of 1921. When the collapse of markets came commercial banks and Government agencies joined in an effort to save the cattle industry from ruin. Loans were made and renewed, interest rates were reduced, and liquidation temporarily deferred in the hope that prices would again advance to a point at which the range cattleman could meet his obligations. This hope has not yet been realized.

The position of the beef-cattle producer has been hurt by expansion in the numbers of dairy cattle. All dairy cattle go to slaughter eventually, and the growth of the dairy industry makes a substantial addition to the meat supply. Heavy slaughter of hogs and the competition of cheap pork products have also been a handicap to the beef-cattle producer. With no export outlet for beef products, our present annual production of cattle seems to be larger than can be marketed at profitable prices. The best present policy for cattle producers would seem to be to raise fewer and better cattle.

Swine producers have grounds for encouragement. Price deflation in 1921 carried hog prices down almost to the pre-war level. Ordinarily this would have meant reduced hog raising. But though hogs were low, corn was lower. Hence hogs offered the most profitable outlet for corn. Hog production in the Corn Belt accordingly increased around 30 per cent in 1922 and another 5 per cent in 1923. Inspected slaughter in 1923 was 53,300,000 head, or 10,000,000 more than in any previous year. Inspected slaughter to date in 1924 has been even larger. In such an overbalanced supply position prices have naturally been unprofitable.

The period of excess production is now apparently ended. A survey made in June, 1924, indicated a decrease, compared with the previous year, of 21 per cent in the number of sows that farrowed. There was a reduction of 20 per cent in the number of pigs saved last spring compared with the number saved in the spring of 1923. A reduction of 6 per cent in the number of sows bred or to be bred to farrow this fall and of 10 to 15 per cent in fall pigs was also indicated. With such a reduction in supplies, and with prospects of a continued broad foreign demand for pork and pork products, the swine producer should soon again be able to set his records down on the profit side of the ledger.

Sheepmen in Good Condition

Sheepmen are in a much more favorable position than cattle or hog producers. Prices of wool, sheep, and lambs made a quick recovery from the 1921 slump and have since maintained a level not

only much above those of other agricultural commodities but above the price level of all commodities. This favorable situation has been largely due to the fact that breeding stock in the sheep industry was greatly reduced after the war, first by heavy marketing from the range country in 1919 on account of drought, then by heavy losses in the winter of 1919 and 1921, and afterwards by liquidation of breeding stock in the Eastern States on account of the depression of prices in 1921.

To-day world stocks of both sheep and wool are below normal. Wool prices are advancing in world markets and there is an excellent demand for both fat and feeder sheep and lambs. The price situation is encouraging expansion in the production of wool and lambs. Lamb prices in August, 1924, were about 58 per cent higher than during the low time of 1921 and wool prices were about 104 per cent higher. Sheepmen are accordingly in good shape. But it is important to bear in mind that the sheep industry is subject to cycles of large production and low prices, and reduced production with high prices. In periods of high prices, therefore, producers should be cautious about stocking up too heavily with the expectation that prices will remain high.

Wool producers have enjoyed prosperity in 1924. Present prices for the bulk of the wool clip are almost 100 per cent above the prices paid in the second half of 1920 and nearly 200 per cent above the prices of 1913. While these percentages of increase are less than those of some lower-priced farm commodities, they probably represent a larger net gain to the producer than that accruing from improved prices in most other agricultural activities.

Fine wool in October was worth $1 per scoured pound more than in the corresponding month of 1913 and 75 cents more than in the corresponding month of 1920. Nevertheless, the domestic price was below the world importing level. This was due to a temporary decline in the import demand for wool.

Normally the United States is a heavy importer of wool. When it is buying foreign wool in the usual quantity, the domestic price is naturally about equal to the foreign price plus the tariff. This condition did not exist in October, because in 1924 domestic consumption of wool materially declined. In the persistence of an import-price level above the domestic-price level American woolgrowers had a promise of still higher prices for their commodity as soon as the demand for it should once more compel the resumption of normal imports.

Consumption of wool in the United States in the first seven months of 1924 was 25 per cent less than in the corresponding period of 1923. Imports in the same period showed a decline of 47 per cent. Yet in spite of decreased mill consumption and slackened import, demand prices for wool advanced. With an increasing population in this country to be clothed and with world competition for the available supply of wool increasing, the American woolgrower has a good prospect of continuing prosperity.

It is worth noting that while the American woolgrower has in the last few months not been getting the full benefit of the tariff, he has benefited substantially from it in the last few years. Under the tariff act of 1922 most of the wool imported into the United States pays a duty of 31 cents per pound clean content. In the last two

years the price of fine territory staple wool in Boston has at times been as much as 32½ cents above the price of a comparable grade of wool in London. This margin is substantially the amount of the tariff plus the cost of transportation. In 1923 the average excess of the Boston price over the London price was about 23 cents per pound. This year the spread, owing to decreased wool consumption in the United States, has been greatly diminished. Obviously, however, this is an effect of the abnormally low import demand, which should pass away as American wool consumption increases. It should be borne in mind, moreover, that were the duty not in existence, foreign supplies of wool would be more readily available to importers. This would tend to depress the home market.

Dairy Prices Unsettled

Conditions in the dairy markets were unsettled during the first nine months of 1924. Prices in the early part of the year followed an uncertain course. The low point of the usual spring decline of

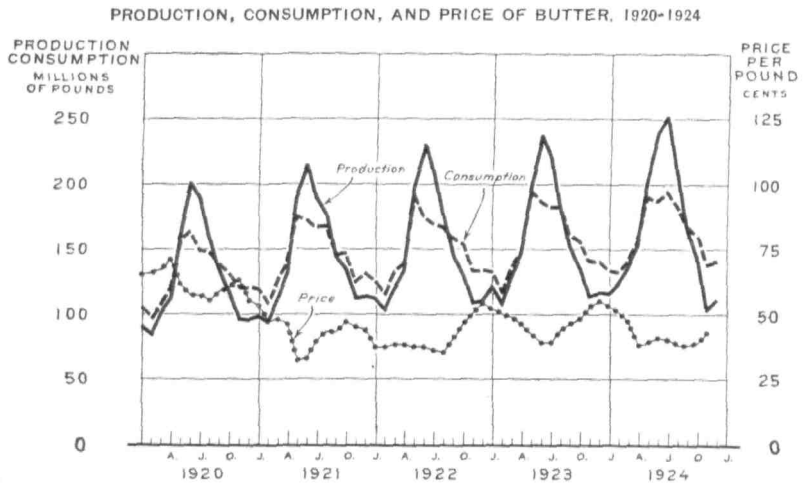


FIG. 3.—A steady increase in the production and consumption of creamery butter in the United States took place from 1920 to 1924, as will be seen from the peaks of the seasonal fluctuations shown in the chart. The increase in production, except during 1920 and the early part of 1921, when all commodity markets were depressed, was not accompanied by a decline in the trend of butter prices. On the contrary the tendency was upward. Indeed, butter prices moved upward faster than the price level of all commodities, although at the end of 1924 they were still below their pre-war parity

butter prices was reached in April, a month before flush production began. September opened with a quantity of butter in storage of 156,232,000 pounds, an increase over last year of 53,500,000 pounds. This heavy surplus was an occasion for concern, because up to October 1 prices remained below storing prices so that it was impossible to move storage holdings except at a loss.

An encouraging development toward the end of the year was the firm tone of foreign markets, which eliminated the possibility of large imports into the United States. In the early part of 1924 and during 1923 imported butter was a considerable factor in the market situation. Domestic production of butter, however, appears

to be running about 8 per cent heavier than a year ago. Thus, the heavy storage surplus, notwithstanding the prospect of diminished imports, means that consumption must be materially increased if the season ahead is to pass without a price decline. What has been said regarding butter pictures in a general way the trend of other dairy products. Dairymen, moreover, are beginning to feel the pressure of higher feed prices.

On the whole, however, dairying has been one of the bright spots of the agricultural situation since 1921. Though prices of dairy products slumped in that year they came to a stable basis on a higher level than that to which farm commodities generally sank. This was partly due to the fact that dairy products, unlike wheat and livestock, usually find a broad market at home and are therefore comparatively unaffected by conditions in other countries.

Progress continued in our dairy industry, with the result that the number of milk cows in the United States increased from 23,594,000 on January 1, 1921, to 24,675,000 on January 1, 1924. Milk production increased from nearly 90,000,000,000 pounds in 1920 to nearly 110,000,000,000 pounds in 1923. Total output of dairy products in the first eight months of 1924 showed an increase of between 7 and 8 per cent over the output of the price period of 1923.

The increased dairy production has been readily consumed, but at lower prices. Indeed, the United States last year, besides consuming practically all its domestic output of dairy products, imported the equivalent of 20,000,000 pounds of butter. In the first seven months of 1924 imports of butter were larger than in the same period of 1923. Dairying conditions were specially favorable in 1923. Farm value of dairy production in that year exceeded $2,500,000,000, or $115,000,000 more than in 1921. Though in the first eight months of 1924 the prices of butter and cheese were somewhat lower than in the corresponding period of 1923, the decline was not sufficient materially to hurt the industry. In the main the outlook continues favorable, because the domestic market for dairy products is extending and improving.

Dairy farmers, however, should keep an eye on the foreign situation. For the last 10 or 15 years the market for dairy products in this country has been to a considerable extent independent of the dairy markets of other countries, since our production has very nearly equaled our consumption. With the rehabilitation of European agriculture, now well under way, this position may undergo a change. Dairy production has been expanding in Europe as well as in the United States. High prices prevailing for dairy products in this country offer an attractive market for foreign producers which they will naturally seek to exploit. There is consequently a possibility that foreign competition will be an influence in our dairy product markets in the comparatively near future. While this possibility does not alter the fact that the immediate outlook for the American dairyman is favorable, it indicates that he should not consider the opportunity for expansion in dairying unlimited.

Market reports issued by the department on dairy products in the last four years have had a stabilizing influence on prices. Information published regarding production, supply and movement, demand and prices, not only in the United States but in leading foreign dairy countries, has facilitated orderly marketing and helped farm-

ers to plan their future production wisely. "Milk for health" campaigns carried on by the department have undoubtedly helped to increase the consumption of dairy products. The department has also assisted in the organization of cooperative associations for the distribution of dairy products. Near large cities, where the problem is primarily one of marketing milk through distributors and in some cases directly through producers' cooperative distributing plants, farmers have been aided in working out plans of organization, financing, and methods of operation. In butter and cheese producing territory the problem is frequently that of efficiently selling the output of cooperative creameries and cheese factories through associations or federations of similar organizations. The department has been able in many cases to assist in the federating process.

Foreign Market Situation

Nearly one-half of the export trade of the United States consists of agricultural products. This fact has sometimes led to the hasty assumption that the decline in prices of agricultural products in

TREND OF PRINCIPAL AGRICULTURAL EXPORTS

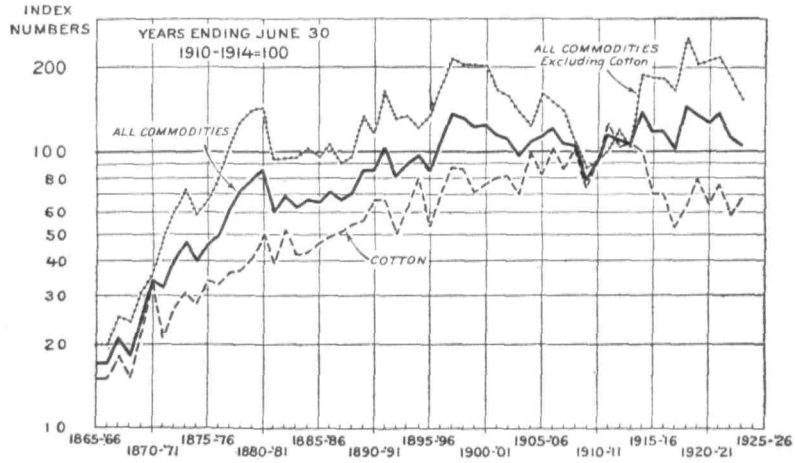


FIG. 4.—This chart shows the trend in the volume of the agricultural exports of the United States for the years ended June 30 in the period from 1866 to 1924. It is based on index numbers expressing the volume of the different farm products entering into our export trade. The primary line shows the trend of exports of all the principal agricultural products. The lower line shows the trend of cotton exports alone, which in many years constituted more than half of the total value of our agricultural exports. The upper line shows trend of exports of the important agricultural commodities, excluding cotton

1920–21 was due to the inability of Europe to buy its normal quota of our farm production. As a matter of fact, our agricultural exports, instead of declining, increased for a time after the war. Our exports of wheat, corn, and rye during the years of low prices not only averaged much greater than in the pre-war years but were even greater than during the war years. This was likewise true of pork and pork products which make up our largest meat exports. It was equally true of tobacco.

These figures dispose of the myth that the farm depression was due to loss of export markets. Europe bought our farm products all

the more freely because we were selling them at bottom prices. But we had more foodstuffs to sell than Europe could absorb at prices remunerative to our farmers. This overbalanced supply situation is now being corrected. The last two years have seen a decline in exports from the high levels of 1918 to 1922. In the year ended June 30, 1924, the volume of our agricultural exports was only 4 per cent above the average for the five pre-war years. Probably we must be prepared for a further decrease in our farm exports. European agriculture is getting back to its pre-war productiveness and the competition of other surplus food-producing nations whose land and labor are cheaper than ours is increasing in the European market.

How unlikely it is that an increase in the foreign demand for our farm products will by itself bring about better prices is apparent when we consider the competitive situation among food-exporting countries. Canada, which had an average crop of 197,000,000 bushels of wheat from 1909 to 1913, produced 301,000,000 bushels in 1921, 400,000,000 bushels in 1922, 470,000,000 bushels in 1923, and over 300,000,000 bushels this year. Argentina, whose average annual production from 1909 to 1913 was 147,000,000 bushels, has produced in the last four years an average of more than 200,000,000 bushels. The shortage of American cotton has led to systematic efforts in other producing countries to increase their output. There seems in short to be no basis for the hope that the economic rehabilitation of Europe will increase the market for our foodstuffs, because the tendency of this rehabilitation to increase the demand for American grain and meat and fibers is offset by the heightened competitive situation among the agricultural exporting nations.

Our two best foreign customers have been the United Kingdom and Germany. Probably the United Kingdom will continue to import from the United States cotton in decreased volume, tobacco in constant or perhaps increasing volume, pork products as long as the price remains low and in reduced quantities at higher prices, wheat

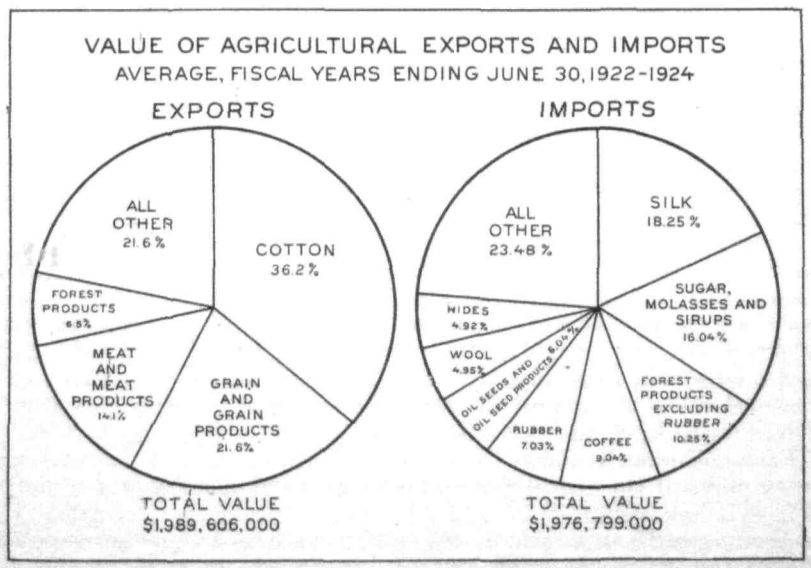


FIG. 5

and flour in small quantities varying with the competition from Canada and Argentina, foodstuffs when crops are short in competing countries, fresh fruits in relatively small quantities, dried fruits in fair volume, glucose and perhaps other specialized grain products. A study of German conditions leads to the conclusion that we may hope for a market in Germany during the next few years for perhaps eight hundred to nine hundred thousand bales of cotton. Probably the German market will be good for pork products and fats as long as prices remain low. German purchases of grain from us will probably depend on what Russia has to offer. Our tobacco exports to Germany should continue. On the whole, however, our sales to Germany will probably be less than during the five pre-war years. In 15 or 20 years we shall not have the same need for a foreign market. By that time our population should have grown large enough to consume most of what we produce. Meantime we must be careful not to build excessive hopes on the possibility of increased foreign sales.

Livestock Disease Outbreak

The outbreak of foot-and-mouth disease in California in February created the most urgent demand for the services of the department during the year. This outbreak was the most serious menace to American livestock in recent years. Fortunately the department was better prepared than ever before to deal with such an emergency. Plans had been worked out in advance and printed matter and other supplies provided. A picked force headed by trained and experienced veterinarians was placed at work in the affected territory. State and local authorities in California heartily cooperated with the Federal forces and supplied valuable assistance. On the few previous occasions when this highly contagious malady gained entrance into the United States it was brought under control and finally eradicated by methods of quarantine, disinfection, and slaughter. This policy was again followed. Strict quarantines were imposed, all affected and exposed animals were slaughtered and buried, and infected premises were disinfected. Indemnity based on appraised value was paid to owners of animals and property destroyed. By the end of June the outbreak had been brought under control. Only a few sporadic cases have since occurred.

In the fight against the disease up to June 30 there were slaughtered 49,781 cattle, 24,978 sheep, 20,996 swine, and 808 goats. Indemnity charges for animals and other property amounted to $3,800,000, chargeable half to the Federal Government and half to the State of California. Suppression of the disease presented unusual difficulties, because the infection spread to horses and flocks on the open range and in the rugged mountain country. In the more rocky regions the problem of burying large herds was especially perplexing. In some instances cattle were driven into a rocky canyon and there killed and the side of the canyon blasted down with dynamite to bury the carcasses.

Foot-and-mouth disease has ravaged the herds of Europe and other parts of the world for many years, causing tremendous losses. Where it has become firmly established its eradication has proved to be economically impossible. Scientific studies have so far failed to provide effective means of control. Hence the department has de-

clined to risk infection of the American livestock industry by permitting the harboring of the virus for purposes of experimentation and treatment. It has adhered rigorously to the effective policy of slaughter. The source of the latest outbreak in this country has not been discovered. The disease first appeared in hogs fed garbage shipped from the Mare Island Navy Yard in San Francisco Harbor. It therefore seems probable that the infection was carried by shipments from the Orient.

State of Agriculture During Past Four Years

In the administrative period now drawing to a close American agriculture has been faced with problems of unexampled seriousness and difficulty. It has suffered the shock of a major economic crisis, from which it sustained more damage than any other branch of production. This crisis was followed by an uneven price readjustment whereby the exchange of goods and services between town and country came to stand on a footing highly disadvantageous to the farmer. It now seems that the corner has been turned. Although the farmers as a class do not yet receive compensation for their services on a parity with that received by other economic groups, they are getting substantially more than when the present administration took office.

In these circumstances it seems advisable in this report to depart from the usual custom of reviewing only the agricultural history of the last 12 months and to glance instead at the entire period since the depression began in 1920, sketching briefly how the farmer has been affected and outlining the contributions of the department to the solution of the farm problem.

It is worth noting that the depression struck American agriculture in a transition period. Within a decade it had increased its production 15 per cent, not by increasing the number of farm workers, but by increased efficiency. Rejuvenation of equipment was in full swing. Road horses were being exchanged for automobiles. Some regions were introducing tractor power. A great program of pure breeding and disease control was under way in the livestock industry. Farmers everywhere were pushing ahead to a better living standard.

All this development was checked by the postwar crisis. The increased productive efficiency which normally would have meant prosperity brought bitter fruit instead. Buying of new materials and replenishment of equipment stopped. Farmers ceased to buy tractors and depended on horsepower. Great herds of livestock were dispersed. The South was handicapped in its fight against the boll weevil. Standards of living were reduced. Farmers drew on their cash reserves and on the equity in their land, and debt accumulated. In short, the condition by the end of a decade of extraordinary progress in agricultural efficiency was the reverse of what might have been logically expected.

The depression which began in 1920 was not merely a stretch of lean years, such as farmers have had to go through before. It was a financial catastrophe, the full effect of which can not yet be measured. Though all parts of the country have not felt this depression equally, no region has escaped. Some regions may yet have to experience its

full force. A large proportion of the most efficient and energetic producers occupying the best lands of the country have been hard hit through no fault of their own.

So extreme and one-sided was the drop in prices that the farmers were unable to believe it could last. This mistake, in which they were often confirmed by business men and bankers, aggravated the trouble. Farmers held on and in many cases borrowed money to pay interest and taxes and to meet current expenses. As the depression continued the load of debt increased. Many farmers became discouraged and turned over their property to creditors. From this situation the Nation suffered as well as the individual farmer. It is true that most farms whose ownership changed as a result of the depression continued to produce. Frequently, however, they were no longer cultivated by proprietors with a permanent interest in

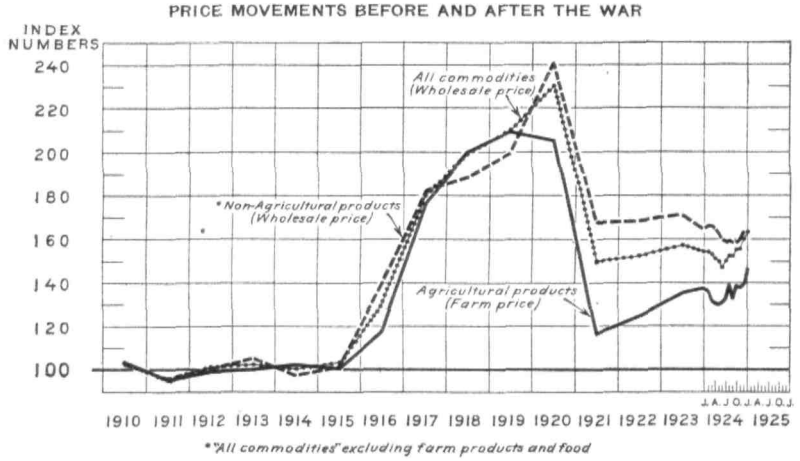


FIG. 6.—Prices of farm products in the post-war boom period did not rise as far above the pre-war level as did the prices of other commodities, and they suffered a greater decline in the depression of 1921. Although the spread between farm product prices and the prices of other goods has narrowed in the last two years, it is still considerable

maintaining soil fertility, but by renters, since most of the farms that were foreclosed passed into the hands of nonfarmers. An especially burdensome feature of the depression period was the fact that farm costs of production advanced while farm prices were declining.

Readjustment of prices after the war was inevitable and was expected. An equal readjustment, affecting the prices of the things the farmers have to buy in the same degree as it affected the prices of the things they have to sell, would have enabled agriculture to get through the readjustment period very well. But the uneven price readjustment that actually occurred left the farmers helpless. They were injured as much by this characteristic of the depression as by the speed and extent of the drop of prices. Three years of big crops did little to pull them out of their troubles. In fact, efficiency in farm production seemed to make matters worse. In 1922 the spread between the prices of farm products and the prices of factory goods widened. While industry was booming, agriculture sank to lower and lower levels of depression.

Now that the situation is on the mend, it will be worth while to record some of the effects of the depression because these effects can not be wiped out overnight. Total farm mortgage indebtedness in the United States has greatly increased since 1920. Some of the increase in mortgage debt probably represents new investment in land and in improvements. Most of it, however, has unquestionably been assumed to refund short-time loans to pay interest, taxes, and current expenses.

Tax delinquency has increased. This is especially significant because farmers do not willingly delay their tax payments but when possible borrow money to meet them. In some western areas local taxes have been delinquent for several years. An increase in taxes coincided with a decline in the means of payment. Total farm taxes absorbed in 1923 almost 7 per cent of the gross value of farm products compared with 4.9 per cent in 1913. Reports from 16,182 farmers in 1923 showed that their taxes averaged 17.6 per cent of their net farm returns. In most of the important farming regions of the country taxes on farm lands have gone up two to six times as rapidly as the value of the land. Taxes in the last few years have consumed from 10 to 50 per cent of the net farm income in large sections of the country. Tax burdens have been particularly heavy in the North and the West.

The increase in taxes has been partly due to increases in the cost of conducting public business. Other causes have been a natural tendency for Government activities to expand with the growth of population, and a drift toward extravagance growing out of optimism engendered by high commodity prices prior to 1920.

While a remedy is needed for this trouble, it is not clear that the best one is reduced public expenditures. In many cases taxes must be maintained at high levels to meet obligations already incurred. Nor should we profit in the long run by restricting the legitimate functions of Government.

Farmers often find their taxes too heavy because of the way in which they are raised. Taxes collected from farmers are usually based on a general property levy. They are levied upon the selling value of the property but are normally paid out of income. Too often the amount of the tax has little or no relation to the amount of the farmer's income. Selling values of land which serve as the basis for taxation do not rest only on current earnings but also on anticipations of future earnings. This often means that taxes have to be paid on fictitious values. Perhaps the general property tax system should be modified.

Another defect in our tax system which tends to increase the burden on agriculture is the fact that a large amount of personal property in urban centers escapes the tax assessor. Some tax evasions are unlawful and others have the sanction of law. Among the latter are those made possible by the enormous volume of tax-exempt securities that has been issued. Farmers' wealth is mainly in the form of land and other forms of personal property which can readily be assessed. Farmers are consequently forced to pay a larger part of the total tax bill than their share of the national wealth warrants. To ease the tax burden on agriculture new sources of revenue should be tapped. This means of relief, coupled with a wider diffusion of public burdens, should be sought at the earliest possible moment.

It is not necessary to cite all the evidence of damage done to agriculture by the economic depression. One measure of the trouble is the fact that in the last four years 16 per cent of all bankruptcy cases reported to the Department of Justice have been farm bankruptcies, whereas in the pre-war years only 5 per cent of all bankruptcy cases involved farmers.

The department estimates that the average value of plow lands in the United States as a whole declined 27 per cent between March, 1920, and March, 1924. This decline in land values is important in view of the ratio of debt to the approximate value of farm lands. This ratio for owner-operated farms, which in 1920 was 29 per cent, had increased by 1924 to probably more than 40 per cent.

It may be well to point out that the farmers were not the cause but the victims of the land speculation which carried land values in some regions up to impossible heights in 1919 and 1920. The land boom was nourished mainly by business men and bankers in the country towns. When commodity prices dropped in 1920 many thousands of producers on farms were unable to meet their payments. Sellers usually extended the time for payment. They wanted the money, not the farms. But the shrewder buyers took the loss of payments already made and turned back the farms. Others who hung on for two or three years merely increased their losses. Many farmers who sold one farm and bought another expecting to pay for the second with the money received for the first were wiped out financially. Many renters were heavy losers as a result of the land boom. They lost their lifetime savings which they had put into first payments on farms.

Many farmers whose debts are very heavy are determined to save their homes and meet their obligations if given an opportunity. These men deserve encouragement. Considerations of good business, as well as fairness, should prompt creditors to make every reasonable concession which will permit them to hold their farms. If an extension of time for payment, a reduction in interest charges, or even a cancellation of part of his debt will enable the farmer to liquidate a major part of his obligation, which he would otherwise have to default, both farmer and creditor should profit. On the other hand, the practice of encouraging farmers to keep on in the face of impossible odds, so that they continue making payments for a time only to be forced out when mortgages can be profitably foreclosed, must be disapproved.

The overproduction which brought about the collapse in farm prices resulted largely from the stimulus of advancing prices and from the response made by the farmer to patriotic appeals for increased production during the war. The stimulus to increase production did not cease when the armistice was signed. Some Government officials, economists, and commercial papers taught the doctrine of permanently high prices. Farmers were given every encouragement to maintain production at a high level. They were assured that a starving world overseas would take all they could produce at profitable prices. When this stimulus to production had resulted in a large accumulation of foodstuffs, the overbalanced supply position, aided by a campaign of price deflation, brought on a collapse of values.

In the slow and painful process of recovery from this situation perhaps the greatest single helpful influence has been the way farmers themselves have readjusted their production to correct the unbalanced position left by the expansion of the war period. There has been a decline in crop acreage marked by a tendency to return to the pre-war crop ratios. The acreage of wheat is gradually returning to the pre-war level. Since 1920 spring wheat acreage has been reduced about 20 per cent. Winter wheat acreage has been reduced about 8 per cent. In some parts of the Northwest flax has been substituted for wheat, and larger acreages of feed crops have been harvested generally. The area given over to wheat in the Corn Belt during the war period has been put back into corn.

Although overexpansion in certain branches of farming did not end until after the crops of 1920 had been planted, the readjustment process is now nearing completion. In the South the ravages of the boll weevil have encouraged a material increase in the cotton area, partly at the expense of corn acreage in that region. The decline of corn acreage in the South has tended partly to offset increased corn acreage elsewhere. Changes in livestock enterprises have kept pace with crop changes. Favorable returns from dairy and poultry products have brought about a great swing toward these enterprises, particularly marked in the case of dairying in the North Central and Western States. Swine and beef-cattle production has been increased to keep pace with the greater production of feed crops. These changes, although they have much improved the situation, have not yet brought about a normally stable agriculture. But, in the main, the farmers have done a courageous, thorough, and efficient job in rectifying a bad situation. Readjustment with respect to the proportion of different things produced, however, was by no means the whole solution of the problem, because the general price level of farm products was down in relation to other things and this could not be remedied by changing from the production of one thing to another.

Department Work Reorganized

Naturally the work of the Department of Agriculture has been profoundly influenced by this situation. The department has made important changes in its organization. It has developed new services and new lines of research in an effort to hasten the return of agricultural prosperity.

With a steady and rather rapid increase in the scope and importance of the work of the department to a point where it consisted of approximately 20,000 persons, it early appeared that a general reorganization should be brought about for the proper coordination of its main divisions and to promote efficiency and economy. Broadly speaking, the general organization as put into effect provided for the proper coordination and supervision of the three main classes of work, namely, research, extension, and regulatory work. Each division has been placed in charge of a directing head, responsible to the Secretary, who acts as a clearing house for department policies and projects.

The director of scientific work coordinates and supervises all department activities relating to the finding of new scientific facts.

The director of extension work has charge of branches active in sending out these new facts and other information to the public. This work is done largely through extension agents in cooperation with agricultural colleges and through separate offices handling motion pictures and exhibits. The director of regulatory work has charge of the administration of over 30 laws which have been placed in the department by Congress for administration. His work is very closely associated with scientific work, as research along scientific lines is necessary in the administration of many laws.

All forces of the department which are engaged in agricultural economic work were merged into the new Bureau of Agricultural Economics and greatly strengthened in order to better serve agriculture during the period of depression and readjustment. A full discussion of this phase of the reorganization scheme will be found later in this report.

The new plan of organization as put into effect greatly increased efficiency and economy in general administration and made possible the needed regrouping of certain phases of work. It made unnecessary the States Relations Service as such, and the Office of Cooperative Extension Work was placed under the director of extension work. It did away with the office of director of information and the Division of Publications, as such, and editorial and distribution work was attached to the Secretary's office. The Office of Experiment Stations was attached to the office of the director of scientific work. Work in motion pictures and exhibits was placed in charge of the director of extension work.

Scientific work in home economics was greatly strengthened by creation of the new Bureau of Home Economics. The establishment of this new bureau with a technically trained and experienced woman as chief will enable the department to extend its work in that field and render better service to the workers in the farm home and rural community.

Economic Work Merged

Agricultural problems in the readjustment period naturally centered more on prices and markets than on production. Accordingly, the department greatly expanded its economic work. A departmental reorganization effected in 1921 greatly increased the department's ability to provide information to the farmers as a guide in production and marketing. Under this reorganization plan three separate bureaus that formerly handled economic subjects independently were consolidated. These were the Bureau of Markets, the Bureau of Crop Estimates, and the Office of Farm Management and Farm Economics. Congress appropriated money for the creation of the Bureau of Agricultural Economics, and this organization came into existence in 1922 charged with the exercise of all the powers and the performance of all the duties formerly imposed by law on the three separate bureaus. As a result new studies were begun and new helpful services inaugurated. Investigations already under way were broadened and the efficiency of the department as a whole was increased through better coordination of work and closer cooperation of the pensonnel. Special attention was given

to economic research likely to afford a basis for practical recommendations in regard to land tenure, types of farming, and methods of distribution.

Some of the more outstanding consequences of this development, which will be discussed in greater detail later in this report, were improvements in farm products standardization and inspection, inauguration of a shipping point inspection service on fruits and vegetables, establishment of a radio news service, the upbuilding of a grain news service, and increased activities under the United States warehouse act. The crop reporting work of the department was revised and put on a more scientific basis. Machinery for issuing semiannual intention-to-plant reports based on information obtained from thousands of farmers in all parts of the country were set up and arrangements were made for the periodical publication of "outlook reports," the first of which was issued last spring.

Valuable assistance was given by the department to the Joint Congressional Commission of Agricultural Inquiry which in 1921

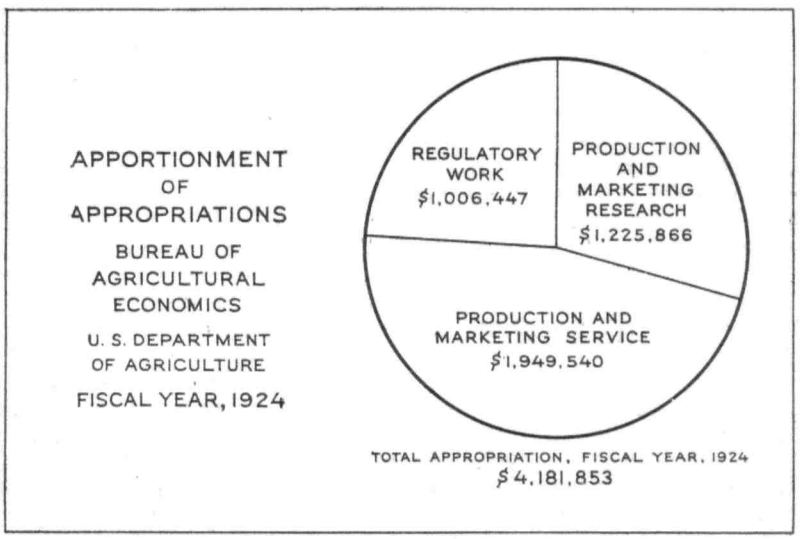


FIG. 7

made an exhaustive investigation into the state of agriculture and published a report in four volumes, and later to the National Agricultural Conference called by President Harding and held in Washington in January, 1922. Economists and statisticians in the department were called on for information and counsel by both these investigating bodies. Many of the recommendations of the agricultural conference have since been put in effect.

An outstanding recommendation was for better farm credit facilities. This recommendation has now been realized to a considerable extent through the agricultural credits act of 1923. Other recommendations of the conference that have since been carried out were the strengthening of the Federal warehouse act and the Federal farm loan act, the appointment of an agricultural representative on the Federal Reserve Board, the legalization of agricultural cooperation, provision for a five-year agricultural census, increased appro-

priations for the crop and market reporting services, and increased support for the International Institute of Agriculture at Rome.

Fair consideration of agriculture in the preparation of a permanent tariff bill was urged by the conference. The department assisted in working out the tariff act by supplying a large amount of data and furnishing experts to congressional committees working on tariff matters. The forecasting and outlook reports now made by the department were recommended at the agricultural conference.

Farmers were urged by the conference to reduce their costs of production and marketing as much as possible. Special departmental studies have since been started to indicate how this may be done. In the last few years the department has collected and published more comprehensive cost figures than have heretofore been available.

Another recommendation of the conference that has borne fruit in department activities was that better information should be made available as to foreign market conditions. In the last few years the foreign fact-finding service of the department has undergone the greatest expansion in its history. What is substantially a world-wide news service on agriculture has been developed. Investigators have studied conditions in all countries in Europe and in South America. They have made comprehensive inquiries into the trend of demand in foreign markets. Distribution of this information by telegraph and radio has greatly enhanced its value.

As a result of the investigations of the Joint Commission of Agricultural Inquiry and the National Agricultural Conference, agriculture came to be the most frequently considered subject in Congress. Reports and speeches made on the question fill hundreds of volumes. Never before had agriculture received so much attention. Out of the discussion there came a number of laws relating to agriculture. These laws, however, were in general a treatment of symptoms rather than an actual remedy for the disease from which agriculture was suffering. They did not recognize and attack the root cause of the trouble, namely, the fact that a surplus of agricultural products had been created by artificial stimulation of production, by high prices, and by unusually favorable crop seasons, and that this surplus could not be sold at remunerative prices, while other economic enterprises had so fortified themselves during the war years that they could resist price and wage reductions.

In other words, it was not seen that the need was for exceptional means of dealing with an exceptional situation. Nevertheless, substantial benefit has accrued to agriculture from legislative relief measures enacted by Congress. This is notably true of the tariff, which has been of manifest benefit to spring-wheat growers, wool producers, sugar producers, and to the dairying and livestock industries. Emergency credit measures passed in 1922 helped to relieve the stringent credit situation among the farmers. Appropriations for direct loans to farmers in areas where crops had failed gave needed relief. Congress extended certain debts owed by farmers to the Government and appropriated $10,000,000 to buy food for Russia. This last action probably had some effect in raising the price of grains. Credit advanced by Government agencies in 1921 and 1922 eased an acute credit situation in the West, and for a time prevented many banks from closing their doors.

Extensions of credit were not, however, in all cases a kindness to farmers and stockmen. Sometimes producers were encouraged to hold on for a year or two only to find they were engaged in a hopeless and losing struggle in which they were finally overcome. In the main, however, the emergency credit provided by the Government did good. It helped to hold down high interest rates and inspired confidence among bankers who were hard pressed and under severe strain.

In 1923 an agricultural credits act of a permanent character was passed, from which agriculture has already received important advantages and from which it may expect to benefit more and more as the full intent of the act is realized. This measure was designed to furnish intermediate credit. Intermediate credit is credit running for longer terms than ordinary bank loans but for shorter terms than mortgage loans. Lack of such credit had been a serious handicap on agriculture. There are many farm operations which need credit running from six months to three years. Such credit had formerly been supplied on the basis of short-term loans usually renewed but subject to withdrawal in any credit emergency. Under the agricultural credits act 12 intermediate-credit banks have been set up to provide financial accommodation for agriculture for terms corresponding to the farm turnover.

Loans by these banks up to October, 1924, totaled more than $55,000,000. Of this total rediscounts amounted to $20,000,000 and direct loans to $35,000,000. In the main the law seems to be working well. It may have to be amended from time to time. Doubtless it will work better as farmers learn how to take advantage of its provisions. A good feature of the measure is the protection it gives farmers against exorbitant interest rates by means of a provision requiring that the rate charged the farmer shall not be more than 1½ per cent greater than the rate at which the farmer's note is discounted.

Under the Capper-Volstead Act, enacted by Congress on the recommendation of the agricultural conference, legal obstacles to the free organization and proper functioning of farmers' cooperative associations were removed. There is no doubt that this act has assisted the development of agricultural cooperation in the last few years. The packers and stockyards act extended Government supervision over interstate meat packers, public stockyards, livestock commission merchants, and other market agencies. It put an end to many improper practices in the marketing of livestock.

An opportunity was given the Government for the first time under the future trading act to supervise and study the operations of grain exchanges. Already this law has had a wholesome effect. In time systematic studies now being made should enable us to form a reliable opinion as to the value and function of grain exchanges. Heretofore these institutions have been regarded in some quarters as wholly good and in other quarters as wholly bad. These conflicting opinions were not based on adequate knowledge. No one had the necessary information to form a trustworthy opinion as to the merits and demerits of grain exchanges. It is now possible to learn what takes place on grain exchanges, to determine the volume of business done and the relation of that business to the physical vol-

ume of crops marketed, and to form an idea of the effect of grain-exchange trading on prices. This study will be completed as soon as possible.

An important phase of the department's economic work in the last few years has been its study of land resources and land-tenure policies. This study has shown the need for a classification of undeveloped and underdeveloped lands. Without such a classification it will be difficult to bring about the use of these lands for the purposes to which they are best adapted. It will also be hard to prevent losses to settlers and to the public through attempts to use them for purposes to which they are not adapted.

Much of our agricultural distress has come from misfit land policies and systems of farming. This is particularly true of our great semiarid region, where attempts to cultivate small farms on land adapted by climatic conditions to grazing have helped to destroy the range-stock industry and brought little but disaster to the settlers. In this region agriculture should be based primarily on grazing. Our land laws should be revised to promote that end.

Much of our agricultural expansion in the future must take place on lands requiring reclamation either by drainage or irrigation. Department studies have shown that land reclamation projects heretofore undertaken have made much land available for cultivation before there was any need for it. Until there is a greater need for cultivated crops much of the land that it is proposed to reclaim should be left to produce pasture, timber, and game. Additional land reclamation at the present time will merely aggravate the adverse conditions under which our farmers are working. So far as reclamation is subsidized, it is subsidized in part at the farmer's own expense.

Useful studies of the relation between land income and land values have been made by the department. These studies have tended to make possible a more correct appraisal of land values. They help to furnish a basis for judgments as to land values for the purposes of purchase or sale and as a basis for loans or for taxation. Other studies by the department have dealt with the problem of tenancy. A considerable amount of tenancy is inevitable. It is therefore important that lease contracts should be fair to both owners and tenants. The department has made a study of prevailing types of tenant agreements and their operation with a view to promoting the use of the better types. Studies of the character of the farm labor supply, the conditions of labor agreements, and the progress of farm laborers have been made in typical districts for the double purpose of improving the farm labor supply and of helping farm laborers in their advancement toward farm ownership.

Statistical Work Strengthened

Readjustments in our agricultural program made necessary by postwar conditions have strongly emphasized the need for additional statistical and economic information. There has been a great increase in the demand for such information. To meet this demand the department has expanded its statistical and market news services.

Great improvement and advancement have been made in crop and livestock estimating and forecasting. Better statistical methods have been adopted and the number and scope of reports have been practically doubled. Special attention has been given to the gathering of information likely to aid producers in making plans for the future.

In an effort to bring about a more balanced program of planting, a system of reports on farmers' intentions to plant has been developed. "Intention to plant" information, collected in advance of planting and widely published, helps farmers to know whether there is a tendency to overplant or underplant various crops, and enables them to make a better adjustment of their own crops to probable market needs.

These "intention to plant" reports were begun in the spring of 1923. A report was issued on April 20 of that year covering spring-sown crops. Another was issued on August 15 covering wheat and rye. The third was given out in March of 1924, covering spring grains, and still another in August of this year covering the acreage intended to be sown to winter wheat and rye.

From certain sources there has been criticism of these reports. In the case of cotton this criticism was strong enough to bring about legislative prohibition against them. Nevertheless, the "intention to plant" reports are appreciated and used by farmers and extension workers everywhere.

In response to a general demand from all interests connected with the production and marketing of livestock products, the department about three years ago began to collect and publish more complete and timely information as to trends of production and market supplies. Previously the only estimates of livestock production made by the department were the January 1 estimate of animals on farms, the April 1 estimate of brood sows, and the September 1 estimate of stock hogs. No attempt was made to estimate the number of animals on feed or the seasonal movement of market supplies in important producing regions. Little information was available as to the States or regions of origin of livestock supplies. Few States had any dependable information as to seasonal or annual markets for the livestock produced. Information was lacking as to the volume of shipments from important feeding or breeding districts.

These wants have now been fairly well met. Extensive and valuable records have been compiled for the principal livestock States covering livestock movements by months and years since January, 1920. From this information, supplemented by more detailed statistics which will be obtained from the census soon to be taken, it will be possible to make a bookkeeping record of livestock production and marketing. A fairly complete program of reports dealing with various aspects of livestock production, seasonal market supplies, and probable market movements has been inaugurated.

Among the most important of these reports are those giving the results of the semiannual pig surveys made on the basis of material collected in cooperation with the Post Office Department through rural mail carriers. Five such reports have now been issued. Information obtained from these surveys as to the trend of hog production and market supplies has been remarkably accurate as measured by subsequent records of marketing and slaughter. Since the

pig surveys cover not only current production but future breeding intentions, they furnish producers with a guide in determining production plans. The records collected by rural carriers have been enlarged to include information on both dairy cattle and poultry. It is expected this information will make it possible to forecast the number of cows on farms one or two years in advance.

Similar information about cattle and sheep in the 17 western breeding States is furnished in reports covering the calf and lamb crops, and the estimated numbers to be marketed over seasonal

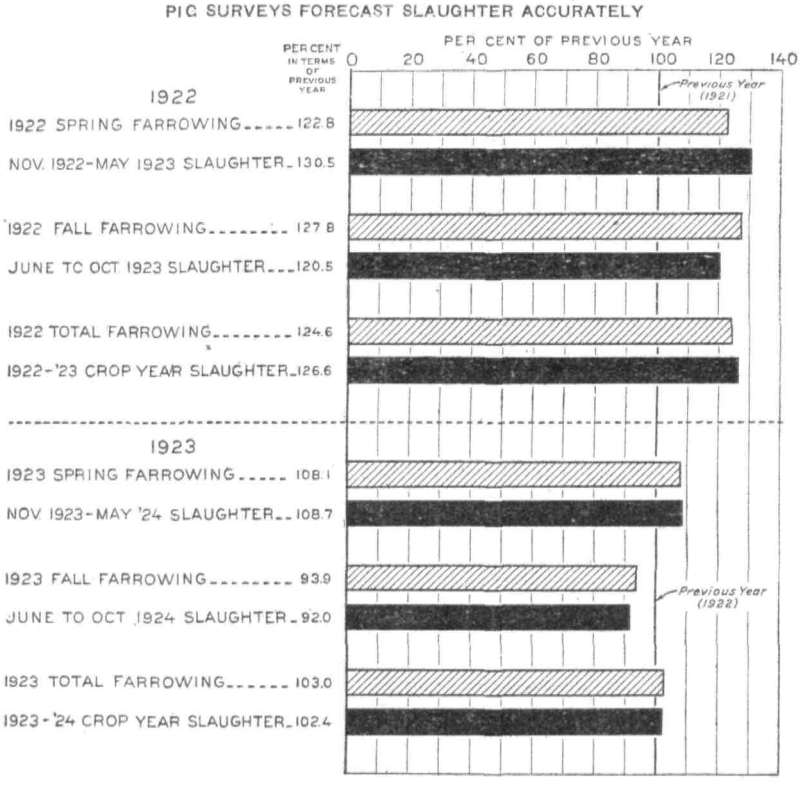


FIG. 8.—In 1922 the department started a system of pig surveys in cooperation with the Post Office Department through rural mail carriers. Among other data these surveys show the pig farrowings each spring and fall compared with the farrowings of the previous year. In the above graph are given the spring and fall farrowings of the Corn Belt as reported in the surveys. The slaughter figures are all inspected slaughter for the entire United States. However, between 95 and 90 per cent of the country's inspected hog slaughter represents hogs raised in the Corn Belt. It will be seen that the surveys yielded approximately accurate forecasts of slaughter. Pigs farrowed in the spring are practically all slaughtered from November to May, and fall pigs from June to November

periods. In gathering these data the voluntary reports from producers are supplemented with direct inquiries in the field by trained specialists.

Feeding cattle and feeding sheep for market are supplementary farming activities which involve peculiar risks. Accordingly special effort has been given to getting information as to cattle and sheep on feed. Regular estimates are made of the numbers on feed at different dates in the Corn Belt and in other important feeding areas.

Special reports are issued dealing with the movement of feeder cattle and sheep into important feeder States and with prevailing conditions affecting feeding activities. In the case of sheep these feeding estimates are followed by weekly reports on car loadings and by monthly estimates of the number still on feed. Crop and livestock reports issued by the department are available not only as a means of effecting a more orderly distribution of supplies, but are the basis of extended studies. Producers' organizations, stockyards companies, railroads, bankers, industrial information services, market reporters, agricultural research workers, and others are making more and more use of the department's information. The basic facts necessary to a better program of livestock production and to effective organized marketing are being accumulated. As this information becomes more complete and experience is gained in its interpretation, it ought to be possible to eliminate many of the ups and downs that heretofore have been the bane of the livestock industry.

In crop reporting, likewise, the department has made greater progress in the last four years than in any previous period. Accurate determination of acreage and of numbers of livestock on farms is essential to any satisfactory system of crop and livestock reporting. Up to four years ago little had been done toward gathering facts from farmers and others on which to base estimates of changes. Since then almost a revolution in statistical methods has taken place in the department's work. The department's statisticians now base their estimates not only on information furnished by thousands of individual farmers as to their own operations but also, in the case of acreage, on field counts and measurements. A crop meter has been invented which is attached to an automobile and records the number of lineal feet in each kind of crop over selected routes. The same routes are measured from year to year, and comparisons are made.

In September of this year nearly 800,000 schedules covering acreage information were sent out through rural-mail carriers to individual farmers. Results of this inquiry will be checked with the complete enumeration to be made in December and January, when

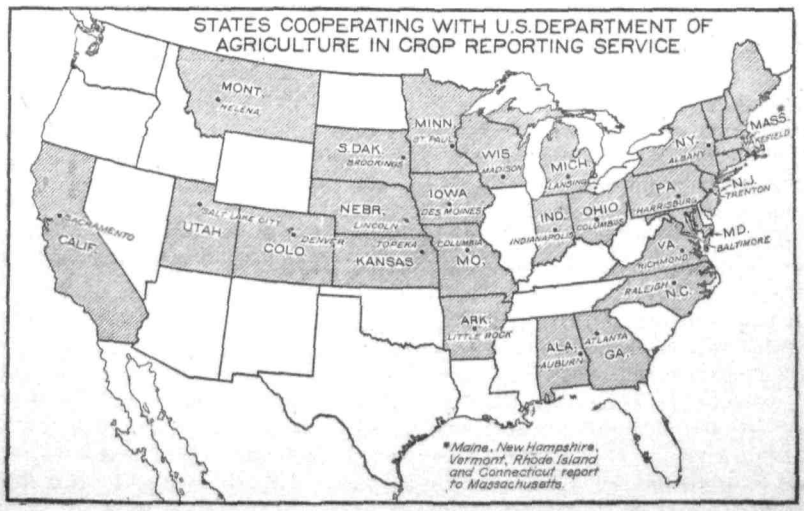


FIG. 9

the quinquennial census of agriculture is taken. It is proposed to make similar acreage surveys through the rural carriers each year. Closer annual figures on acreage ought to be obtainable by this method.

Research work is going on to develop better methods of forecasting yields. A revision of the estimates of acreage and production of crops and the annual reports of the numbers of livestock on farms is under way. After a careful analysis of all available information back to 1863, when the crop and livestock estimating work was started, the annual estimates will be revised. These revised statistics will be extremely useful.

Practically no crop reports are now issued by any State that do not form part of a unified State-Federal crop reporting system. Last year witnessed the signing up of cooperative crop reporting agreements with the Kansas Board of Agriculture and the Pennsylvania Department of Agriculture. Kansas and Pennsylvania were the only remaining States having a crop reporting system which had not entered into cooperation with this department. The joining of State crop reporting systems with that of the Federal Government has eliminated duplication of work and confusion due to conflicting reports. It has also made it possible to gather much more detailed information than formerly.

Warehouse System Expanded

One of the most important services of the department in the last four years has been its development and expansion of the Federal warehouse system. When the cotton exchanges closed in the summer of 1914, this country had fast maturing the largest cotton crop in its history. The New York Cotton Exchange closed on July 31, 1914. On that day the December option was quoted at 10.75. Prices declined rapidly thereafter until in October cotton was unofficially quoted at 7 cents. The decline of spot cotton had been still greater. These conditions suggested the need for a system of warehousing and a warehouse receipt which could be made the basis of sound financing of the cotton crop.

Accordingly, within two weeks after the closing of the New York Exchange, a bill authorizing the Secretary of Agriculture to license cotton warehouses was introduced in Congress. Similar bills were introduced shortly after. Finally, on August 11, 1916, the United States warehouse act, applying to cotton, grain, wool, and tobacco became law. By this time the crisis in cotton marketing had practically disappeared.

Hence, little was accomplished under the warehouse law during the first four and a half years after its passage, but the need for it again became urgent with the agricultural depression of 1920–21. In that period of falling prices the department felt that the United States warehouse act ought to relieve the situation by giving farmers a warehouse receipt which bankers would recognize as the best form of warehouse collateral on the market. An investigation was made by the department to see why more warehouses were not Federally licensed. It was soon discovered that important bankers were not acquainted with the warehouse law. Efforts were at once made

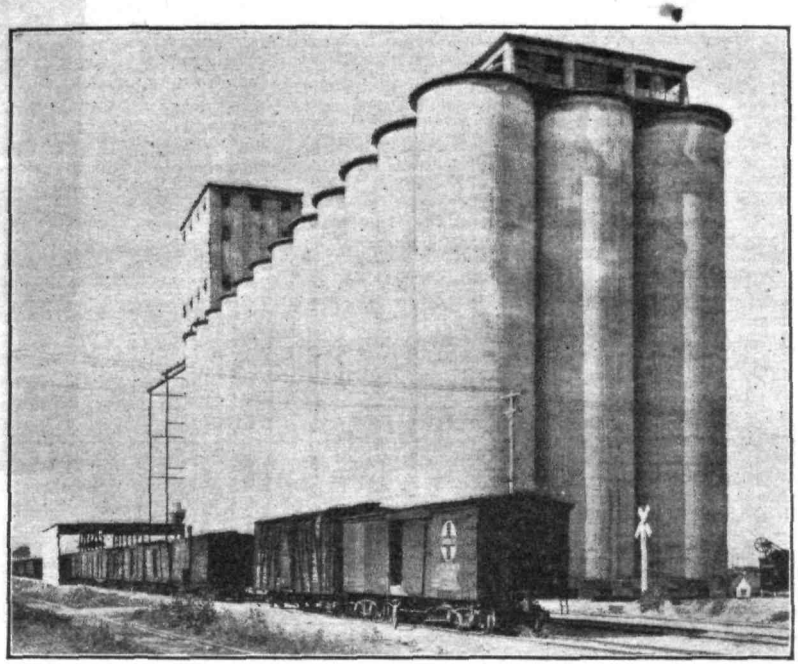


FIG. 10.—Grain elevator at Fort Worth, Tex., with a capacity of approximately 2,000,000 bushels. Registered under the United States warehouse act

to correct this situation, with the result that warehousemen in increasing numbers sought the advantage of Federal licensing.

The following table, contrasting licensed storage capacity available on April 1, 1921, with the amount available on October 1, 1924, shows the progress made:

Date	Cotton	Grain	Wool	Tobacco	Peanuts
	Bales	*Bushels*	*Pounds*	*Pounds*	*Tons*
Apr. 1, 1921	429, 975	2, 108, 400	24, 375 000	None.	None.
Oct. 1, 1924	2, 639, 996	36, 432, 795	23, 226, 250	551, 696, 000	4, 285

Cotton was the commodity in connection with which the need of improved warehouse collateral was first keenly recognized, and it was the commodity which offered the first demonstration of the value of the new system. During March, 1921, middling cotton on the New Orleans Exchange averaged 11.08 cents. At many interior points middling cotton was offered during the first six months of 1921 at 10 cents and less. Even at such prices it went without a buyer.

About this time cotton growers' cooperative marketing associations were coming into existence. In July, 1921, the Mississippi Staple Cotton Growers' Association asked the War Finance Corporation for a loan of $7,000,000. As security it offered warehouse receipts issued under the United States warehouse act. After studying the provisions of the warehouse act and the department's regulations and methods of administration the corporation announced it would grant

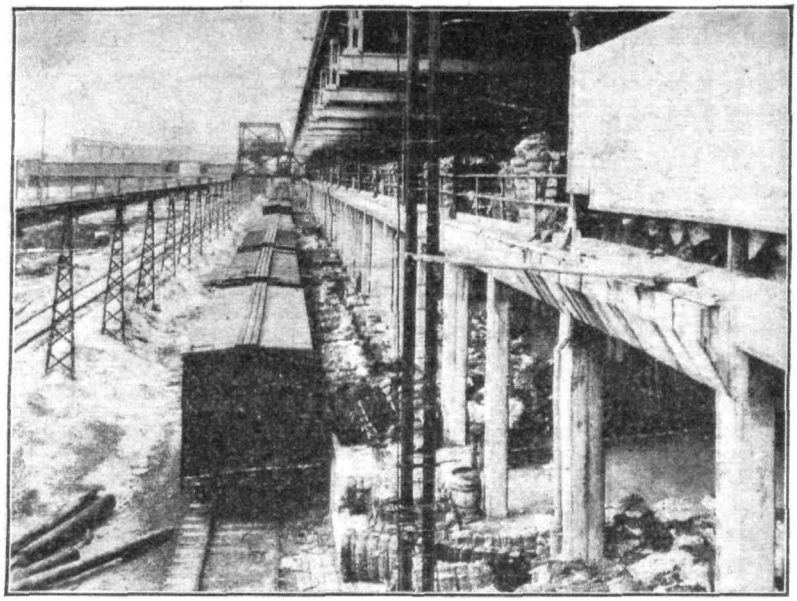


FIG. 11.—Loading cotton at Federally licensed public warehouses at New Orleans

the loan. Shortly afterwards it made other similar loans. This action not only helped to stabilize the cotton market but promoted an upward trend in cotton prices.

Middling cotton during September averaged 19.35 cents. Ever since that time cotton has been considerably above the low prices of the depression period. While, of course, the warehouse act and the financing done under it have not been the sole cause of this advance, they have favorably influenced the cotton market.

In the last two years 11 of the 13 cotton growers' cooperative associations operating on a State-wide basis have stored all their cotton in Federally licensed warehouses. Many leading cotton dealers and thousands of individual farmers who do not belong to growers' cooperative associations are also using the licensed warehouses. On other products also the act has had a marked influence. Millions of pounds of wool are shipped annually by farmers to large Federally licensed wool warehouses in San Francisco, Portland, Oreg., and Chicago. The tobacco produced by thousands of farmers in the

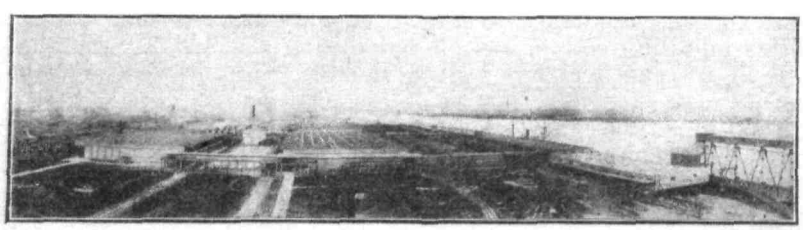


FIG. 12.—Public cotton warehouses, operating under Federal license, at New Orleans, La. These warehouses have a capacity of approximately 300,000 bales. They are among the largest in the world

growers' cooperative associations of the Carolinas, Kentucky, and Wisconsin is stored in Federally licensed warehouses.

Warehouse receipts issued under the act are coming more and more to be recognized by bankers as the best form of security for loans on agricultural products. This is evidenced by the action of the St. Louis Federal Reserve Bank, which on July 16 last adopted a resolution declaring that the "bank and its branches will not accept as collateral warehouse receipts for agricultural products as covered under the United States warehouse act unless such receipts are issued by a warehouse duly licensed under that act."

The act has enabled farmers individually, as well as through cooperative associations, to get loans on their products in larger amounts and at lower rates of interest. Sections where the banks had no money to loan have been relieved by farmers presenting Federal warehouse receipts to local banks, who in turn could pass along the paper either to their correspondent banks in some large city or to Federal reserve banks. All the leading banks in New York recognize the value of Federal warehouse receipts. Many of them have loaned millions of dollars to producers on such receipts. The intermediate credit banks established under the agricultural credits act of 1923 have all indicated that they prefer Federal warehouse receipts. While it is not possible to give the exact amount that has been loaned on Federal warehouse receipts, the total certainly exceeds $500,000,000 since 1921. Recently large amounts have been loaned on this collateral at interest rates as low as 4⅜ per cent.

Originally the law applied only to cotton, grain, wool, and tobacco. It was amended, at the request of the department, last February so as to give the Secretary of Agriculture authority to place under the law such products as he might consider properly storable. Since then peanuts, potatoes, broomcorn, and dry edible beans have been made eligible for storing under the warehouse law. In the near future the provisions of the law will be extended to dried fruits and nuts. With the principal financial institutions of the country recognizing the superiority of Federal warehouse receipts as collateral for loans, farmers, shippers, and dealers should no longer have any difficulty in obtaining the credit necessary for orderly marketing.

Market News Service

Growers of fruits and vegetables felt the agricultural depression less severely than grain and livestock farmers. Severe spring freezes greatly reduced the fruit crop of 1921 throughout most of the area east of the Rocky Mountains and north of the Gulf States. The production of vegetables that year was not excessive so that relatively higher prices were realized for the perishables than for other crops. The potato crop is generally conceded to have given the farmers of the Central Northwest practically the only profits of the season.

These conditions tended to stimulate truck-crop production in the following year, while at the same time the fruit crop was generally good throughout the country. Beginning with that season the volume of production has been such that market prices have generally remained close to, and often below, the cost of production. This condition has been aggravated as to fruits by the coming into bear-

ing of large orchards started during the era of high prices. Many of these were speculative plantings based upon the earlier success of relatively small orchards or groves.

The steady pressure of supplies upon the consuming capacity of the country has emphasized anew problems which had been felt before the war. Accordingly Congress, in the midst of a retrenchment program, nearly doubled the appropriation for the collection and distribution of market news, enabling the department to reestablish its leased wire system to the Pacific coast and Florida, and to increase somewhat its number of permanent stations and its field force, which serves in turn the areas of heaviest production. Every agency has been utilized for the general distribution of this information, including not only the metropolitan and local press but to an increasing degree the radio, telegraph, and telephone. In addition some 65,000 to 70,000 individuals most vitally concerned in the shipment and handling of perishables receive daily direct communications from our numerous branch offices and field stations. Never before has statistical and market information on our perishable crops been so easily and constantly available to so large a proportion of those interested. As a result prices generally have risen and fallen in large and small markets alike throughout the greater portion of the country.

New Market Grades Announced

Increased production has brought with it other problems. Faced with a potential oversupply and the certainty in many cases that the movement of the entire crop would inevitably lead to disastrous results, the grower has been compelled to cater to the demand of the market as never before and to discriminate closely between grades which could be marketed at a profit and those which could not. This has emphasized the need of the systematic and uniform grading of the produce from different regions which compete in the consuming centers. In 1921 the department had recommended market grades and standards for 13 of the principal perishables.

During the last three years investigation in this field has been pressed to such a point that we now have well-recognized national grades for more than 30 of these products. The use of the grades is not compulsory, but they have so met the conditions of production, the needs of the trade, and the demands of the consumer that they have come into very rapid and general use. In many States they have been given official sanction, and in several States the force of law. Cooperative associations have made possible a large part of the progress of the standardization program. Through them has come a determined effort to sell more largely at shipping points and to reduce so far as possible the volume of consigned goods.

Inspection Service Popular

The need for a disinterested inspection service was increasingly felt as standardization programs progressed. The inspection service rendered by this department at terminal markets was useful in the settlement of disputes, but was not a preventive. Congress, in the spring of 1922, authorized the department to begin a system of inspection for grade and quality of fruits and vegetables which

should be available at the shipping points as well as in the markets, provided only that the volume of business be such that the fees voluntarily paid therefor should approximate the cost of the service. This has made possible a practical application in the field of a comprehensive standardization program. The demand for this service from the day of its inception has exceeded the resources of the department. The work has been carried on by cooperation with the States. Congressional appropriations have represented only the cost of supervision, which has been returned to the United States Treasury practically in full.

Tens of thousands of carloads of fruits and vegetables conforming to specific grades are now sold f. o. b. loading point to distant buyers at an agreed price, under Government inspection, and with a copy of the certificate mailed with the bill of lading when desired. Seventy-three thousand cars were thus inspected during the fiscal year 1923, 128,000 cars in 1924. A further increase is in prospect for the current year.

A spectacular development following the introduction of this service was the organization of two marketing agencies known as f. o. b. auction companies, whose sales rooms in numerous cities are connected by leased telegraph lines. Here simultaneous auctions are conducted of carloads of fruits and vegetables loaded the day before and still often thousands of miles away. Competitive bids between cities are made over the wire and cars are auctioned at the rate of about one a minute. The business of a single company is sometimes over 200 cars per day. In these auctions buyers are guided entirely with respect to the kind and quality of the product by the summaries of the inspector's certificate which have been wired to the auction company and printed in the form of a catalogue of offerings. There are no samples shown at these auctions, the auctioneer and buyers being entirely dependent upon the ability and disinterestedness of our inspectors.

Fruit and vegetable shipments have largely increased in the last four years. Grape shipments have almost doubled, largely from California. Celery shipments have increased about 80 per cent, grapefruit 58 per cent, and many other products only slightly less. This has resulted in such a pressure upon the market that in spite of all aids in making f. o. b. sales a tremendous volume of perishables has moved to markets on open consignment for sale on commission. Returns have necessarily been disappointing in many cases and uniformly low throughout the greater part of the shipping season of most commodities. The grower realizes the disadvantage of his position in that he has no voice in the final sale of this produce, nor has he in most cases any assurance that his goods have been handled to the best advantage or that his returns are accurate and complete. The laws governing contracts and defining the duties of agents afford no adequate protection in transactions of this character.

Shipments can now be made under Government certification as to quality and condition, the grower thus surrendering the right to make representation as to the character of his goods. His agent, however, disposes of the goods in the markets at his own pleasure and none may know whether his returns represent the price actually received for the individual shipments, the average price of his sales for the day, or the price which conforms to the general market level

influenced largely by goods of inferior quality. Proposals looking toward the correction of these conditions have been approved by the department and are now before both Houses of Congress.

A problem of first importance in the fruit and vegetable industry has arisen out of the practice of buyers who purchase their supplies at the point of production but who, upon the arrival of the shipments at destination, refuse to accept and pay for them at the agreed contract price. Shippers contend that the rejection of their shipments usually occurs during market slumps, and that the grounds for rejection in such periods are often highly technical. Receivers declare that their general practice is to accept shipments as long as they can do so without sustaining losses, but that in periods of market depression good judgment dictates the rejection of shipments which fail to comply with contract terms. A study of this problem was made by the department covering the distribution in 1922–23 of more than 10,000 carloads of boxed apples, or well over one-third of the crop of the State of Washington.

It seems that a remedy for excessive rejections must be sought by reforms at both ends of the line. One year's study brought out the astounding fact that although boxed apples are a highly standardized crop moving through well-established trade channels, one car in seven became the subject for adjustment. Though the produce trade has attempted to settle its own disputes by arbitration, there has been a practical breakdown of available arbitration machinery. Recourse to the courts has been impracticable because of the cost and delay of court proceedings. There is need for official agencies which can not only adjudicate disputes between buyers and sellers on the basis of established trading rules, but which can assure growers of prompt and accurate accounting for shipments forwarded to city receivers on consignment.

Substantial service was given by the department to the Georgia peach growers in marketing their 1924 crop. This operation presented one of the most difficult problems ever faced by growers and shippers in this section. Early estimates indicated a possible movement of around 15,000 cars. The probability was that 10,000 cars would move within five weeks. The simultaneous movement of over 17,000 cars of California cantaloupes and 10,000 cars of southern watermelons complicated the task. It was evident that as many cars as possible would have to be shipped to small markets so as to avoid glutting large ones. A survey of available markets for carloads of peaches was made by the department. Information given by this survey, with daily telegraphic reports of shipments and market conditions, formed the basis of the daily distribution of unsold cars of peaches moving to market. This distribution was handled by the department's representatives and by representatives of the Georgia peach-growers' exchange and other shippers.

By this means smaller markets were utilized much more than in former years. Thus up to August 16 only 3,086 cars of peaches were unloaded in New York City compared with 3,233 unloaded there in 1921, when shipments were 3,000 cars lighter. New York received but 23 per cent of the carload shipments in 1924, compared with 30 per cent in 1921. Receipts in Philadelphia and Chicago were similarly reduced. In general, the movement to western markets was heavier and that to eastern markets lighter. Thirteen of the large

markets received only 56.2 per cent of the 1924 crop, compared with 64.3 per cent of the 1921 crop. It is certain that the efforts of the department to effect a wide distribution of the Georgia peach crop yielded substantial returns. While prices received by growers for a considerable portion of the season were not satisfactory, they would have been less satisfactory still had the crop been concentrated in a few large markets. A tremendous volume of peaches, approximately 13,500 cars, was shipped from Georgia this year. Approximately 75 per cent of the total moved to market in July. This is an unprecedented movement of a highly perishable crop in such a short time. It could not have been accomplished without much heavier losses had the distribution not been considerably broader than usual.

Egg Standards Favored

The department is undertaking a program of egg standardization. After a careful study of existing egg grades and of the various factors affecting egg quality, and with the cooperation of representatives of farmer organizations and others interested in the egg industry, two sets of uniform grades for eggs have been proposed. One is designed for use in wholesale channels of trade and is known as the United States wholesale grades. The other, a simpler set of grades, is known as the United States buying grades, and is designed for use in buying eggs from producers at country points. These grades offer a practical basis on which eggs can be purchased and sold and by means of which better prices can be paid to producers of the higher qualities.

To acquaint farmers with these grades the department has distributed thousands of circulars emphasizing the importance and advantages of their use. Extension services in more than 20 States are helping to bring the egg standardization program to the attention of farmers. Egg-inspection services have been established at New York and Chicago, where department egg inspectors are available to examine and report upon the condition and quality of egg shipments.

Grain Grades Aid Farmers

Grain growers have benefited materially in the last few years from modifications, improvements, and extensions that have been made in the Federal grain-grading system. It is difficult to measure this benefit, but it is undoubtedly substantial. Federal grain standardization, by establishing a uniform basis for interstate trading, lessens the chances for misunderstandings and disputes, gives confidence to buyers and sellers, and facilitates business at every stage in the movement of grain from the farm to consuming centers. It thus tends to reduce distribution costs. Reduction of distribution costs is of practical value to the farmer at any time. It is especially useful to him in times of low prices, when inefficient distribution may saddle him with an intolerable burden of expense.

It may, therefore, be fairly claimed that the Federal grain-grading system, though in effect before the depression period started and thus not in any sense an emergency relief measure, has been a valuable help to the farmer in his effort to deal with the problems of the readjustment process. The inspection service, which serves to insure

uniform application of the Federal grades, does not, it is true, reach all country shipping points. Yet farmers delivering grain at country points are not on that account shut out from its benefits. The Federal grain-grading system enables business to be done on smaller margins than would be necessary were country buyers forced to take their chances in a market lacking definite universally recognized standards of quality. Under chaotic grading conditions the risks of the country grain buyer would be greater than they are to-day and would naturally be reflected in the prices paid to producers.

It is generally conceded that the exportable surplus of grain in this country practically establishes the price paid for the entire crop. American grain during the first decade of this century fell into disrepute in Europe. This was not because the grain had deteriorated but was due to confusion created by the many systems of grading then existing in the United States. Prior to the passage of the United States grain standards act in 1916, grades in this country were established in the various States where State laws on the subject existed, and by commercial exchanges in States that had no grain grading laws.

In this situation dissatisfaction arose from an unavoidable lack of uniform application of grades. Federal grain grading, by removing this source of trouble, benefits the farmer, the country grain buyer, the elevator operator, the grain broker, the commission man, the shipper, the exporter, the foreign buyer—in short, everybody interested in the grain trade.

In the last three years protein in wheat has played an increasingly important part in the merchandising of the commodity. Bakers have taken to demanding flour of certain definite protein content, in the belief that with flour of standard strength of protein content more uniform and satisfactory bread can be made. Millers therefore buy wheat largely on the basis of its protein content as well as on the basis of its commercial grade. To determine the protein content of wheat necessitates the use of a highly technical chemical method and much costly apparatus. Requests have been made to the department for the incorporation of protein as a factor in Federal wheat grades, but the department does not believe this should be done. Country buyers could not determine the amount of protein in wheat offered by individual farmers for sale, and consequently could not reflect terminal market prices to farmers on a protein basis.

Nevertheless, the department in establishing Federal wheat grades has not been unmindful of the importance of protein. It has divided the various classes of wheat into subclasses, and the subclasses are then divided into numerical grades. The division of the classes into subclasses is based on content of "hard, vitreous" kernels. Such kernels are higher in protein content than kernels which are soft and starchy. Wheat experts are able to judge the protein strength of wheat from the hardness and vitreosity of the kernels. That this index, which is incorporated in the Federal grades, furnishes in a general way a true measure of the protein content of wheat is borne out by the fact that wheat falling into the subclass "dark northern spring" brings several cents a bushel more on the market than does wheat falling into the subclass "northern spring."

Wheat arriving from country points at Minneapolis and Duluth shows upon inspection and grading thereof that an enormous quan-

tity of weed seeds and other foreign material is marketed along with the wheat. Millers can not grind such wheat into flour without first removing the foreign material. The cost of this cleaning operation is reflected back to the farmer through the price paid at terminals. Clean wheat will always bring more money than wheat which is not clean. The department has observed this situation in the central Northwest in connection with its supervisory activities over the inspection and grading of grain received at the northwest terminal markets, Minneapolis and Duluth.

About 96 per cent of the spring-wheat farmers in 1922 sowed from one thousand to half a million weed seeds per acre with their wheat. Nearly 12,000,000 bushels of screenings (weed seeds and foreign material other than wheat, commonly known as dockage) were produced in 1923 by spring-wheat farmers in North Dakota, South Dakota, Minnesota, and Montana. Over $675,000 was paid for threshing this "dockage." Over 13,890 extra freight cars were used to haul it to market. This made the car shortage more acute. Over $800,000 freight was paid for transporting this dockage. More than 3,500,000 lambs could have been fed on these farms with the wheat screenings which the farmers of these four wheat States shipped with their wheat and for which they not only did not receive any pay but in the case of certain classes of dockage received a lower price for their wheat because of its presence. Screenings can be cleaned out of wheat and rye at the time of threshing or at the farm granaries at a cost of 2 or 3 cents per bushel.

Records of this department show that spring-wheat farmers who did clean their market wheat on the farm in 1923 gained over 5 cents per bushel as a result of the cleaning. As a result of the department's observations and studies a successful type of machine for cleaning grain at the threshing machine as a part of the threshing operation has been perfected. This is a portable cleaner especially designed for the cleaning of spring wheat and rye. It is mounted on a truck on which are also mounted a gas engine and two conveyors.

This cleaner has been tried out in connection with threshing machines operating at various points in South Dakota, North Dakota, and Minnesota. In operation the cleaner cleaned the grain as fast as it was threshed and delivered the clean grain into one wagon box, the wild oats into a second wagon box, and the fine seeds into sacks. Sixteen lots of grain containing from 3 to 24 per cent of dockage were cleaned to a dockage-free basis. In one lot of wheat containing as high as 15 per cent of dockage the dockage was reduced to 1 per cent. The results of such cleaning tests conducted by the department have been entirely successful. The type of cleaner referred to is being manufactured in a commercial way and put on the market.

Grain Market Service.

Lack of comprehensive information as to the real factors which go into the grain market has seriously added to the difficulty of the farmers' marketing problem. Much information has long been available through trade channels to dealers in grain, but these data have not been available to farmers. Newspapers and farm periodicals have carried reports. Such reports, however, have not given the farmer the right basis for an intelligent study of the market.

About a year ago a new grain market news service was incorporated by the department to convey market information promptly to farmers. This service is now reaching approximately four and one-half million farmers through the daily papers, the weekly and monthly farm press. In the spring-wheat territory about 50 publications are using the market news service. In the winter-wheat territory more than 100 daily and farm papers are using it. It is hoped that before long at least one paper in each leading agricultural county in the United States will be publishing the department's weekly grain market releases.

These reviews are forwarded by leased wire to branch offices in Minneapolis, Chicago, and Kansas City. They are mailed out from those cities to local points. Foreign crop and market information, as well as domestic news, is included in the reviews. Contacts have been established with market agencies in the important grain markets east of the Rocky Mountains, and comprehensive reviews describing the local grain-market situation are obtained regularly from them each Friday by wire.

Feed Prices are Studied

Feedstuffs represent, next to labor, the largest item of expense in the farmer's budget. The national feed bill totals several hundred million dollars annually. More efficient purchasing of feed would put millions of dollars in the farmers' pockets. To assist farmers in making their feed purchases on the best possible terms, the department since 1920 has issued detailed reports covering the market situation of the more important feedstuffs. These reports, supplemented by price tables, appear weekly in a department publication known as "Crops and Markets." They unquestionably help to stabilize feed prices.

It was thought, however, that better results could be obtained by getting market information to farmers as soon as possible after the close of markets. Accordingly the department sought to interest State marketing departments in a plan whereby the Federal department furnishes all the necessary material for a comprehensive review of the feed situation, including delivery prices for feedstuffs for the most important points. Reports under this plan are transmitted over the private wire service of the Federal department. They are printed or mimeographed by the State organizations for distribution to interested persons. New Jersey was the first State to act on the cooperative arrangement. The report was an instant success. Originally published as a weekly, it is now issued triweekly. Soon afterwards the State marketing agencies in New York and Pennsylvania, and New England States made arrangements to issue a similar report covering the feedstuffs situation in their States.

A branch office was established to comply with an urgent demand for similar reports covering Wisconsin, Minnesota, Michigan, Iowa, and Nebraska. These States are served from Minneapolis. Consumers as well as producers can take advantage of the cooperative Federal-State market reporting service on feedstuffs. Formerly, it was not an uncommon occurrence for feed buyers to pay excessive prices. Publication of delivered prices, representing the basic cost of feedstuffs at mills, plus freight charges to destinations, makes it possible for them to determine at a glance whether the quotations made to them are reasonable.

Though hay is usually the second agricultural crop of the United States in farm value, it has received less attention in regard to standardization and marketing methods than other major crops. Until recent years, no concerted efforts had been made by Federal and State organizations to improve hay-marketing methods. As a result the national trade in hay was in a chaotic condition.

An important step toward correcting this trouble was taken when the Department of Agriculture published and recommended United States grades for timothy and clover on February 1, 1924. This action followed public hearings held from time to time since 1922. At these hearings proposed grades for timothy and clover hay were submitted to representatives of producing and distributing interests. These grades were the outcome of investigations started in 1920, in the course of which thousands of samples of baled hay were assembled from many markets and shipping points. The investigations revealed simple grading factors by which it is possible to grade hay by approximately uniform methods.

Following the recommendation of timothy and clover grades, a demand arose in the Western, Northwestern, Southwestern, and Southern States for grades for alfalfa, wild hay, and Johnson grass hay. Studies are being made looking toward the establishment of standards for these kinds of hay.

The department in 1922 organized a hay-inspection service. Inspectors were licensed under cooperative agreements with States, trade organizations, and shippers' associations. At present the inspection service has 10 market inspectors located at Boston, New York, Philadelphia, Washington, Richmond, Va., Norfolk, Va., Birmingham, Ala., Cleveland, Chicago, and Kansas City. There are 11 shipping-point inspectors with headquarters at Augusta, Me., Auburn, N. Y., Trenton, N. J., College Park, Md., Richmond, Va., Raleigh, N. C., and Madison, Wis. When the new grades now under consideration are promulgated many hay markets in the East and South will undoubtedly desire inspection service.

Reports on Foreign Seed

Our farmers wish to buy dependable seeds as cheaply as possible and sell their surplus of other seeds to the best buyers. This means buying some seeds in Europe and selling other kinds to Europe. Accordingly the department has started services, in connection with reports issued covering conditions in the United States, that will keep the farmers informed as to seed production, seed movement, and seed prices in European countries. This information enhances the value of reports covering the domestic supply of and demand for seeds. The seed business is an international one. Information for the United States alone is therefore not a reliable index of market trends. Thus in 1923 the crop of red clover seed in the United States was only about half as much as in 1922. Yet prices for red clover in the spring of 1924 were only a little higher than during the preceding year. This was because Europe had produced a large crop in 1923. Information as to such facts obviously is of great value to the farmer.

Arrangements have been made by the department to get monthly reports from the correspondents of practically all the leading seed

markets of Europe. These reports will show where surpluses of seed exist, what districts produce the best seed, when seeds are ready to export to this country, and what countries are the chief competitors of the United States in the purchase or sale of seed. Since the war a number of countries have been exporting seed to the United States direct instead of through Germany. Seed movements to this country, however, are still more roundabout than they need be. Seed studies started by the department should help to shorten the movement.

Study of Cooperatives Made

Research and service activities relating to cooperative marketing have been maintained by the department since 1913. In the last four years this work has been greatly expanded. A period of rapid development in cooperation began about 1920, as a result of which the volume of business transacted by cooperative organizations approximately doubled. In an effort to help in placing this development on a sound basis the department decided to make a study of the conditions making for success or failure. As a first step, existing organizations were surveyed. Information has now been collected and tabulated regarding more than 10,500 farmers' cooperative organizations. This collection of information forms a source library on cooperation in the United States. It is a basis for detailed studies of particular organizations and for the investigation of operating problems. Economic analyses have been made of particular problems and of particular commodities.

Advantages of such studies are illustrated by the experience of the maple-sap producers of Vermont. Maple-sap products sank to low prices in 1921. Accordingly the producers sought relief through cooperation. An elaborate plan, involving large expenditure, was drawn up. Before adopting this plan the producers decided to ask the department for help in determining the basic facts affecting the marketing of their products. The department suggested a survey in which the department and the State college of agriculture cooperated. This survey showed that the demand for pure maple products was less active than had been supposed. Cane, corn, and blended sirups had preempted the retail market. A large part of the maple sirup and sugar produced was sold to tobacco manufacturers, through dealers possessing facilities to put the product in the form required for this purpose.

Conditions revealed by the survey, in short, indicated the necessity of caution. It was the object of the producers to reestablish the market for pure sirup and sugar. But the quantity of products an inexperienced organization could profitably market was limited. Accordingly the Vermont association handled only 15,000 gallons of sirup in 1922. It was able to handle this quantity at satisfactory prices. In the following year it succeeded in disposing of 25,000 gallons and this year 50,000 gallons.

This experience can be usefully contrasted with that of another maple-sap products cooperative organization, which was organized at the same time in another State. This concern went ahead without a preliminary analysis of its marketing problems. It received over 100,000 gallons in its first year. This quantity proved to be more

than the available machinery could handle. As a result, dissatisfaction arose from low prices and high costs of organization and operation, so that the receipts of the association declined to 50,000 gallons in 1923 and 20,000 gallons in 1924. These two cases show how important it is to have a careful preliminary analysis of conditions before launching into a cooperative enterprise.

Cooperative marketing is a logical development in the rural economy of a nation. The pioneer farmer to a large extent is self-supporting. As markets become larger and farther removed from the producers, the farmer has to depend on middlemen to transfer his products to the consumer. Cooperative marketing may be described as an effort on the part of the producer to recapture the understanding and control of the marketing process which his forefathers possessed. Perhaps the best example of the part cooperation may play in the development of an agricultural industry is furnished by the cooperative marketing of citrus fruits in California.

When California citrus growers first organized in 1893 the industry was extremely depressed. Prices received during the previous three years had as a rule been less than production costs. Packing and marketing charges were high. Shipments often arrived in eastern markets badly damaged. In the season of 1892–93 the marketing agencies employed by the growers failed to find a profitable market for that season's crop, when the total shipments were only 5,936 cars.

Cooperative marketing brought about an improved distribution of crops and better returns to the growers. Packing charges were reduced at least 10 cents a box. There was an equal reduction of marketing costs. Later there developed improved production, due largely to better control of insect and fungous pests. Through their marketing and affiliated organizations the growers undertook the cooperative purchase of supplies. Handling and grading of the fruit was improved. Modern packing and precooling plants were developed. Demand for citrus fruits was stimulated through advertising. So striking were the results obtained, that in 1922–23, out of approximately 60,000 cars of citrus fruits shipped from California, over 80 per cent was marketed cooperatively. The beneficent result of the better system of marketing is shown by the fact that a satisfactory market was found for the entire crop of 1922–23 when the total shipments were 59,707 carloads, which is ten times as large as the shipment of 20 years before.

Studies have been made by the department of the legal phases of cooperation and of its financial aspects. General problems involved in the cooperative marketing of fruits and vegetables have been investigated. Problems and experience of cooperative organizations in foreign countries have been studied and made the subject of department bulletins. Cooperative associations have been advised by representatives of the department in regard to details of organization, accounting, financing, and marketing. Officials of cooperative organizations have got into the way of discussing their problems freely with department representatives.

Good, sound growth in the cooperative movement has been somewhat retarded in recent years by overenthusiastic persons who have held it up as a panacea for all the ills from which the farmers are

suffering. The mere organization of a cooperative association is not the end to be attained. It is only the beginning. Success in cooperation depends on finding men capable of running cooperative associations, on the loyal support of the membership, and on getting a sufficient volume of business. Some converts to the cooperative movement urge that the Government should proceed to organize the farmers in cooperative associations. But if the Government should ask farmers to join some particular cooperative association it would put itself in the position of guaranteeing an enterprise without having an authoritative voice in its management. There is confusion in the minds of promoters of cooperative enterprises as to what the Government may properly do.

Bills have been introduced in Congress in the last two years which would put the Government squarely into the business of promoting cooperative associations. These bills would set up a great Federal overhead agency and secondary boards of control and would have these bodies assume control of a number of highly important activities such as the dissemination of market news, a service which is already carried on efficiently by the Federal Department of Agriculture and which in the interest of the farmers should be kept in the control of a well-organized impartial permanent Government department devoted to the service of agriculture and free from entangling business alliances.

The relationship of the Government to cooperation should be one of service. It should help the farmers market their crops just as it helps them to produce crops not by doing the work but by supplying information which the farmers can not get for themselves. To go further would be to injure rather than aid the cooperative movement. The need for strong cooperative marketing associations can not be overemphasized. They are absolutely necessary to bring about efficient and economical marketing and standardization of crops, but the movement should be truly cooperative. It should be controlled by its membership and kept free from domination of Government agencies or commercial interests.

Price Spread Investigated

Investigations have been made in the last few years by the department into the vitally important subject of the spread between the prices which the producer of agricultural products receives and the prices paid by the consumer. This subject has come into great prominence since the war largely because the spread between the producers' and consumers' prices has increased in the last decade. In the case of a number of important agricultural products the spread between the price received by the producer and the price paid by the consumer is roughly known. But the proportion of the spread absorbed by each step in the marketing process is little known. Hence much of the discussion which is taking place in the press on the subject has been founded on unreliable data.

Only fragmentary data regarding price spreads are available for periods even as recent as 1913–14. Studies on increases in the spread since that time, therefore, involve considerable difficulty. Results are necessarily only approximate and at the best can only measure a somewhat hypothetical case, in which some assumptions are made as

to the grade of the commodity and the marketing channel through which it has passed. Such studies as the department has made along this line indicate that the net profit taken by distributing agencies is insignificant when considered as part of the total spread. It rarely runs over 5 per cent of the consumer's price. Generally it is much less than 5 per cent. The cost of furnishing distributing services is the vital thing. This cost comes to about 95 per cent of the spread.

Efforts have been made by the department to ascertain what portion of the retail price accrues to each agency in the marketing chain in the case of bread, milk, potatoes, and apples. An interesting revelation is the fact that flour as a part of the cost of making bread is becoming less important. It is being overshadowed by the cost of labor and of power for operating machinery, and to some extent by the cost of other ingredients in bread. Thus the cost of other ingredients has doubled since 1913 and bakery labor has increased 43 per cent since that time. Since these other costs are relatively larger than the cost of flour in commercial bread making, changes in the price of bread can hardly be expected exactly to follow changes in the price of flour and wheat.

Service costs in the preparation and distribution of feed products, the department has found, have become such an important item that they outweigh commodity values. Consumers' prices are more affected by fluctuations in service costs than by fluctuations in the farm value of agricultural products. Service costs are therefore the important point of attack in any study of price spreads. These costs are affected by the efficiency of the methods used in handling commodities, by the business environment in which the particular distributing process is done and by the adequacy of the facilities used. It is figured, for example, that about 25 per cent of the trucking charge for handling fruits and vegetables in New York City is due to idle time occasioned by the use of out-of-date facilities. Again, in the retail meat business it seems to be true that a population of less than 1,000 persons for each store tends to a condition where store owners lose money.

Farm-management Studies of Value

Farm-management studies have been of particular value to agriculture in the last few years, because the most urgent agricultural problem was the readjustment of crops to meet the changed world market situation. Every effort has been exerted by the department to make its farm-management investigations practical. Thus it has analyzed conditions around growing cities to find out how far advantage is taken of local markets. It was discovered in the vicinity of Altoona, Pa., for example, that a good share of the potatoes shipped in from Boston points could be grown locally to advantage. Surveys on farms in the semiarid spring-wheat region have furnished a basis for recommending crop readjustments. Detailed studies of dairying methods have disclosed causes of high production costs, and pointed the way to more economical milk production.

Work done in a particular area will illustrate the character of the department's farm-management studies. In 1923 a survey was made of 400 farms in Chester County in southeastern Pennsylvania.

In this area dairying is the keystone enterprise. Under the price conditions then prevailing, profitable farming was directly dependent on economical milk production. It was shown by the study that some men in the county were feeding two and even three times as much feed for each pound of milk produced as the most efficient producers.

Ways by which farmers in the county could reduce their costs of milk production, as shown by an analysis of their own farm records, were pointed out in a special report. This report showed that much of the difference in efficiency was due to things wholly within the farmers' control, such as the quantity and quality of feed given and the grades of the cattle. County agents throughout the dairying regions of Pennsylvania used the report, which thus was of value throughout an area considerably wider than that covered by the study. Later investigations will show whether farm practices in Chester County have been modified usefully.

Foreign Service Work

The foreign service of the department is intimately bound up with its work as a whole. Successful farming means just as much successful marketing as successful production. Hence the farmer is vitally interested in everything influencing the foreign demand for his products. Since the principal outlet for the exportable surplus of our agricultural commodities is Europe, the department has built up a large organization to assemble information about the conditions our farmers have to meet in the European market. It also keeps in touch with agricultural production in the principal food-exporting countries.

The department has 154 employees in Alaska and our insular possessions and 82 in foreign countries outside American jurisdiction. Most of these representatives of the department study the physical and biological problems of agriculture. Experiment stations are maintained in Alaska, Hawaii, the Philippine Islands, the Virgin Islands, and Porto Rico, where scientists study problems of soil and climate and animal and plant diseases. Scientific workers search the world for new varieties of plants. They seek new methods of breeding and cultivation, and new methods of combating diseases and pests. They protect the interests of the American farmer in a great variety of ways. Investigations are now under way regarding potato varieties in Canada, plant diseases in Europe, rubber production in South America and tropical North America, forage grasses in Cuba, cotton and corn in Mexico, plant geography in Europe, cereal rust in India, Egypt, and the Orient, citrus-fruit culture in Japan, plant and seed introduction in Algeria, China, and Egypt, corn in Brazil and Argentina, forest pathology in Great Britain, and many other matters of concern to agriculture.

Another group of department workers in foreign countries has to do with the business operations of agriculture. These men investigate market conditions in countries that absorb our surplus cotton, wheat, and meat. They gather information regarding available supplies, crop acreage and production, demand and economic conditions generally in foreign countries. They also promote our foreign trade in agricultural products by the administration of

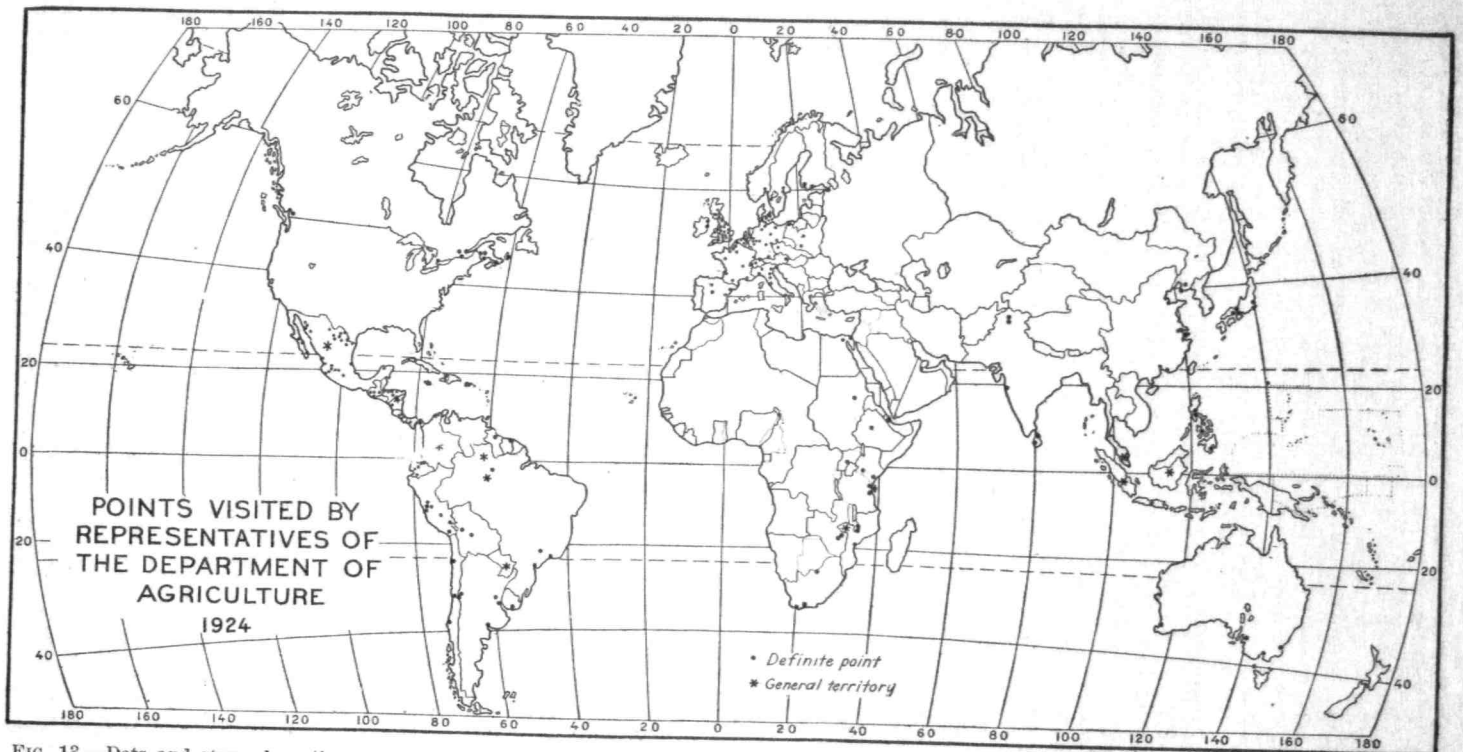


FIG. 13.—Dots and stars show the centers from which representatives of the department in foreign countries worked in the last fiscal year. The Department of Agriculture maintains permanent offices in London, Berlin, Marseille, Vienna, Rome, and Mexico City, through which the general work of the department in these countries is administered. During the fiscal year more than 75 specialists from the different bureaus were engaged in scientific and economic investigations abroad. Of this number 30 worked in Europe; 6 in Asia; 3 in Africa; 1 in Australia; 8 in South America; and 27 in Canada, Mexico, and Central American countries.

grades and standards, by developing new standards, and by fostering better trade relationships between foreign consumers and American producers. The department's economic work in Europe is under the direction of an assistant chief of the Bureau of Agricultural Economics who is stationed at Berlin. General administration of the work is conducted from London and Berlin. From London an agricultural commissioner surveys the situation in Great Britain, France, and Spain. Another commissioner at Berlin looks after the work in Germany, Poland, Scandinavia, Holland, and Belgium. A former employee of the department is the permanent delegate at Rome of the International Institute of Agriculture. He cooperates with the department. Although technically an organ of the Department of State, the International Institute of Agriculture serves as an arm of the Department of Agriculture.

Offices also are maintained at Vienna, where economists and statisticians watch the development of agriculture in the Danube Basin and in southern Russia. Another office at Marseille, France, maintains a research laboratory for combating insect pests. Men handling economic work are also attached to the Marseille office. A commissioner of agriculture at Buenos Aires has charge of investigations into South American competition in cereals, animal products, and fruits. Many laws exist directing the department to investigate and expand foreign markets for American agricultural products. The first of these laws was passed in 1883. In 1914 Congress established in the department an office of markets to foster general marketing and distribution of farm products, and in 1921 the department was authorized and given funds "to collect and disseminate to American producers, importers, exporters, and other interested persons, information relative to the world supply of and need for American agricultural products * * *."

In building up its foreign service to comply with this provision of Congress the department has cooperated with the Department of State. A center of the cooperative service is the International Institute of Agriculture at Rome. Through this institute information is collected by wire and mail from all the leading crop producing and consuming countries of the world. Nearly a third of the foreign information received by the department comes through the institute. Four hundred consuls of the State Department scattered over the world collect information not covered by the work of the International Institute. About 21 per cent of the department's foreign information originates with the consuls. Altogether, therefore, a full half of the foreign investigational and reporting work of the department is done through its affiliation with the Department of State. The department has also entered into reciprocal arrangements with foreign ministers of agriculture and with other organizations abroad for the exchange of economic information. About 10 per cent of its foreign data comes from these sources. Nearly an equal amount of valuable information concerning agriculture abroad comes from the commercial attachés of the Department of Commerce.

During the last four years an agricultural commissioner in London has reported on market conditions in the United Kingdom, the most important market for American farm products. A specialist in marketing meats was sent to the United Kingdom in February, 1922, to make a survey of conditions affecting the British demand

for our pork and lard. This survey was extended to methods of production and marketing in Denmark and Scandinavian countries, which compete with the United States in the British market. Later an agricultural commissioner was sent to Germany, the second most important market for our farm products.

The opening of the British market to American fresh pork has been accomplished by the department. Before the spring of 1922 Great Britain excluded American fresh pork, but since that time has admitted it under certification by our Government that the pork has been handled in the manner prescribed by British authorities. Since this arrangement British imports of both fresh and frozen pork have largely increased. In 1922 Germany was persuaded to allow the importation of several additional American-cured pork cuts. The Netherlands also has been persuaded recently to accept fresh pork through the combined efforts of the Department of Agriculture and the Department of State.

To remove prejudice from the minds of European consumers, a moving-picture film entitled "The Honor of the Little Purple Stamp," showing methods of handling and inspecting meat, has been circulated among hygienic and meat-inspection societies of England, France, and Germany. Another film intended to remove prejudice against American pork has been produced by the department for exhibition in Austria, Czechoslovakia, and Germany.

Bureau of Home Economics

Recognizing the necessity for more inclusive scientific study of the problems of home economics, if this subject is to develop and to make the contribution to our national life which it should make, the department established a new Bureau of Home Economics on July 1, 1923. In general the organization of the bureau has fol-

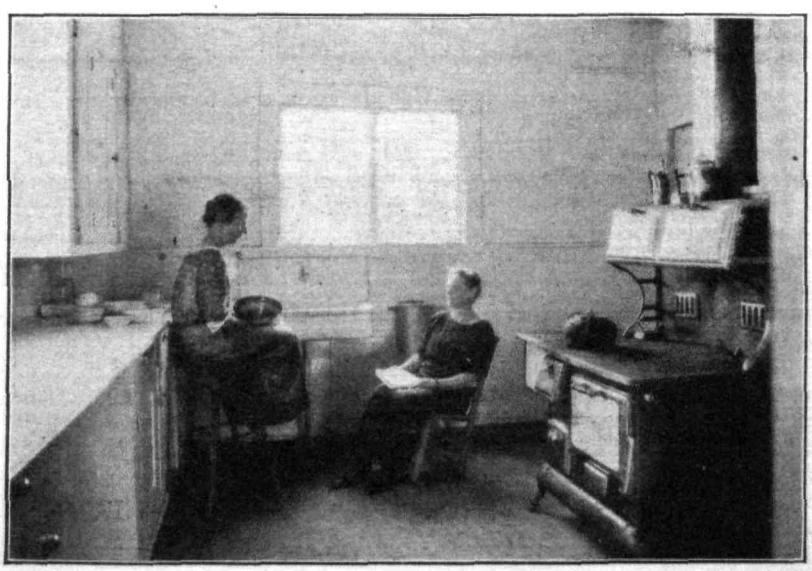


FIG. 14.—Home demonstration agent and farm woman discussing better kitchens (Cumberland County, N. C.)

lowed the lines laid down by a committee of technical workers called together in June, 1923, to outline its work. This committee recommended six lines of work for the bureau: (1) Food and nutrition; (2) clothing and textiles; (3) economics (including household management); (4) housing and equipment; (5) home relations; (6) art in the home (including the physical and psychological laws of color, line, and form).

In order that this program might be adapted as closely as possible to the needs of the women in the home, the presidents of several women's organizations were asked to send representatives to a conference held in Washington on December 14, 1923. This group agreed that the proposed plan covered the material or mechanical side of home life, but considered it important that the less tangible side should also be emphasized. Many agencies are telling women how to do their household tasks. It is equally important for them to know why certain practices are recommended. Clear-cut standards of value are needed. Such standards must be based on facts.

Expansion in the work of the bureau has been slow, due partly to limitation of funds. A large proportion of the home-economics work previously under way was in food and nutrition. This work has been continued. Farm standards of living have been investigated. This work has been expanded and forms an important part of the present work of a new division in the bureau. Research studies on textiles and clothing have been started. This work was made necessary to answer the questions of the housewife and adequately assist her in selecting and caring for the textiles and clothing used in her household. This division was organized near the close of the last fiscal year.

A study of oil burners for heating has been conducted and arrangements tentatively made for the preparation of bulletins on different phases of housing and home equipment.

Bureau of Dairying Established

As authorized by Congress the dairy work formerly conducted in the Bureau of Animal Industry was concentrated in the new Bureau of Dairying on July 1, 1924, and plans were made to expand dairy research work to keep pace with development of the industry.

In dairying one of the greatest needs is to improve the efficiency of our dairy cows. Although marvelous producers of milk and butterfat have been developed, many individual cows producing more than 30,000 pounds of milk and 1,000 pounds of butterfat a year, still the average production of all cows in the United States is only about 4,200 pounds of milk and 160 pounds of butterfat.

To improve this condition the department is making a comprehensive study of dairy-cattle breeding and has undertaken fundamental researches in nutrition of dairy animals. Over 1,500 dairy cattle are included in the breeding experiments. Of these, about 500 belong to the department, 500 are owned by State agricultural colleges and experiment stations cooperating in this project, for which the department supplies the sires, and about 500 are on 55 private dairy farms where department bulls are loaned for the purpose of proving their transmitting ability. The owners of these

private herds agree to keep all daughters of the bulls until they have completed one lactation period and to keep a record of the production of both dams and daughters.

In these experiments the effects of various forms of mating are being compared, such as close breeding compared with the mating of unrelated animals. The purpose is to determine the method of breeding that will enable the dairyman to breed cattle that will be pure for the hereditary factors which govern high production. Such animals will be able to reproduce offspring of uniformly high producing ability.

Much may also be learned in regard to the most economical feeds used and just what system of feeding will produce the greatest amount of production at the least cost. Little is known of just how feeds consumed are converted into milk and of the relation of feeding methods to the health of herds. Extensive research is under way which should lead to the solution of these problems. Laboratory facilities have been enlarged by the erection of a special building for nutrition investigations at the department's dairy farm near Beltsville, Md.

Development of Extension Work

The most important recent developments in the cooperative extension work conducted by the department and the State colleges of agriculture are in the training and use of community leaders and the building up of State and regional agricultural programs. The work of the county agents in agriculture and home economics has been greatly supplemented by enlisting the services of voluntary helpers and training these workers for effective community leadership. During the past year 182,380 such leaders assisted in presenting the extension programs. Greater progress has been made in the training and use of local leaders in the home economics and boys' and girls' club projects than in the agricultural projects for adults, although in some of the States local leadership is being developed among the men. Local leaders have been very effective in assisting paid extension workers in promoting such home-economics projects as home canning and preserving, gardening, and the home manufacture of clothing and millinery and in boys' and girls' club projects, such as poultry raising, feeding of calves and pigs, bread making, canning, and preserving.

In the earlier years of extension work much attention was given to community and county programs for agricultural and home economics extension. During the past two years these local programs for agriculture have been expanded to a State-wide basis in several States. The most successful development of State agricultural programs has been in those States where a thorough survey was made of all available facts on present and possible future production, marketing facilities, and other factors which influence the establishment and maintenance of successful agriculture. These facts, when assembled, are presented to a conference composed not only of agricultural leaders and representative farmers, but of representatives of bankers' associations, railroads, business interests, livestock associations, and all other agencies in any way related to agriculture. Committees of the conference then work out programs for particular phases of agriculture such as horticulture or dairying,



FIG. 15.—County agent showing boys' corn club members how to select seed corn (Spartanburg County, S. C.)

and finally the several committee reports are united into a unified agricultural program for the State. This State program is then taken back to the counties and is adapted there to local needs. Western extension workers have gone further than this and have outlined an extension program in dairying, human nutrition, and range livestock production in the 11 Western States.

At the end of the year the total forces engaged in cooperative extension work in the States numbered 4,744 persons. Of these, 3,427 were located in the counties, 2,174 being engaged in county agricultural agent work, 851 in home demonstration work, 133 in boys' and girls' club activities, and 269 in extension work with negroes. In addition, 696 full-time and 174 part-time subject-matter specialists, with headquarters at the State agricultural colleges, supplemented the work of the county extension forces. Supervisors, assistant supervisors, and administrative officers numbered 447. The States, counties, and local agencies now contribute about $1.70 to each dollar of Federal funds provided for extension work.

Radio Services Developed

Progress in the use of radio for the dissemination and reception of agricultural information during the past four years has kept pace with the general development of this new American industry. It is conservatively estimated that there are now about 375,000 radiophone receiving sets on farms in the United States, which is an increase of over 165 per cent in one year. In a short time agricultural communities, however remote they may be from ordinary communication facilities, probably will be on equal terms

with populous centers in obtaining market reports, weather reports, and other information essential to their welfare.

Following an experiment which was conducted in 1920, the department entered upon a program for the distribution of reports by the use of the radiotelegraph which, if there had been no radiophone broadcasting, would have placed within the reach of the farmers over the country a radiotelegraphic service as extensive, perhaps, as that now enjoyed by those who have access to the telegraph facilities of the country.

The advent of radiotelephone broadcasting in 1921 placed in the hands of the department a means of giving to the farmers of the United States, directly by the voice, a variety of information essential to agriculture. The value of this means of distribution, and the

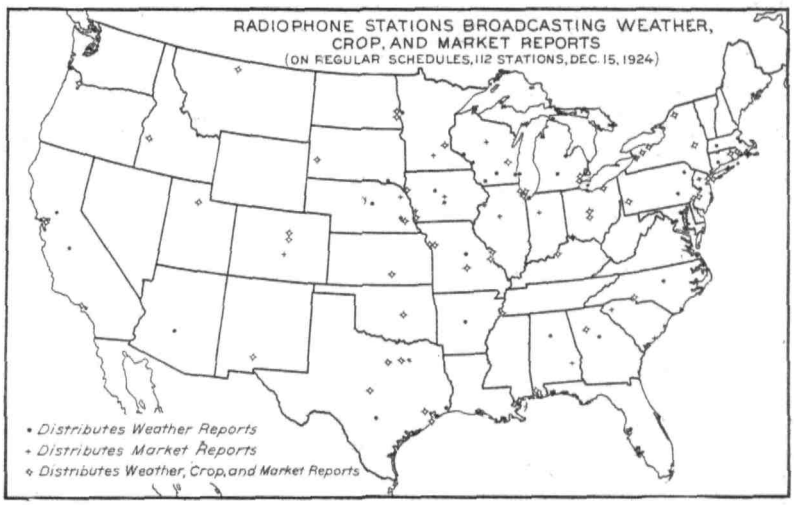


FIG. 16.—Market news and other reports of interest to farmers are distributed by 112 radio telephone broadcasting stations widely distributed throughout the United States. Their location is shown on the above map. This service is perhaps the most utilitarian purpose to which radio has been put. Thousands of letters have been received by the department showing that farmers appreciate the broadcasting service

fact that it works as rapidly as the passage of light or electricity, compelled us to confine our broadcasting material to reports and statements which required such a rapid style of transmission.

Market reports were first broadcast by radiotelephone from the University of Minnesota in February of 1921. The first regular schedule of reports was begun by station KDKA at East Pittsburgh, Pa., in June of that year. At the beginning of 1922, nine broadcasting stations were duly authorized to disseminate market reports from branch offices. During 1922 more than 100 stations requested the privilege of conducting the market news service by radio for the benefit of farmers. Regular schedules were organized and set in operation in more than 80 stations in different parts of the country.

During the two years that have followed new stations have been added, and some of those which originally took up the work have discontinued service. Although there are not now many more stations than there were at the close of 1922, the service which the 85

stations now in operation are rendering is much improved and is of real benefit to the people of the country.

Perhaps the most outstanding development in the broadcasting of market information in the last couple of years has been the appreciation on the part of those charged with the work of the need of suiting the type of material to the radio audience listening in. It has been found that much more general distribution and a wider reception of agricultural information can be developed by changing the style of broadcasting from that of detailed market quotations to a more generalized treatment of the information. Reports regarding the supply, demand, and prices of agricultural products can be made of interest to a larger number of people when the facts are presented



FIG. 17.—This is how radio in most cases reaches the farmer. Even the most humble farm homes find a use for the information and entertainment that radio brings

in an interesting way. This, however, does not discount the value of detailed quotations for those who have crops or livestock ready to ship or on the market.

The potential value of meteorological service to agriculture has long been recognized. For many years it was difficult to reach farmers with weather forecasts and warnings in time to be helpful to them. For this reason the benefits to commerce and navigation far exceeded those to agriculture. The rural mail service has been of great assistance, but during recent years the most direct and successful means of furnishing timely weather information to farmers has been through rural telephone systems. Weather forecasts and warnings issued about 9.30 a. m. daily are now made promptly available to over 7,000,000 rural telephone subscribers in the United States.

Radio, however, has reached a stage of development in which it bids fair to outstrip all other means of communicating weather information to farmers. Since January, 1921, when the first regular radiophone broadcasts were begun from the station operated by the University of Wisconsin at Madison, every opportunity to use the radio for broadcasting weather news has been utilized. The department now cooperates with 120 broadcasting stations in sending out weather reports, and practically all parts of the United States are within their range. The daily weather forecasts are radiocast from each of these stations on announced schedules at least once daily, and several times a day in many cases. Warnings of cold waves, frosts, floods, heavy snows, and other unusual weather conditions are included whenever they are issued. The stations now broadcasting have been selected with a view to rendering country-wide service.

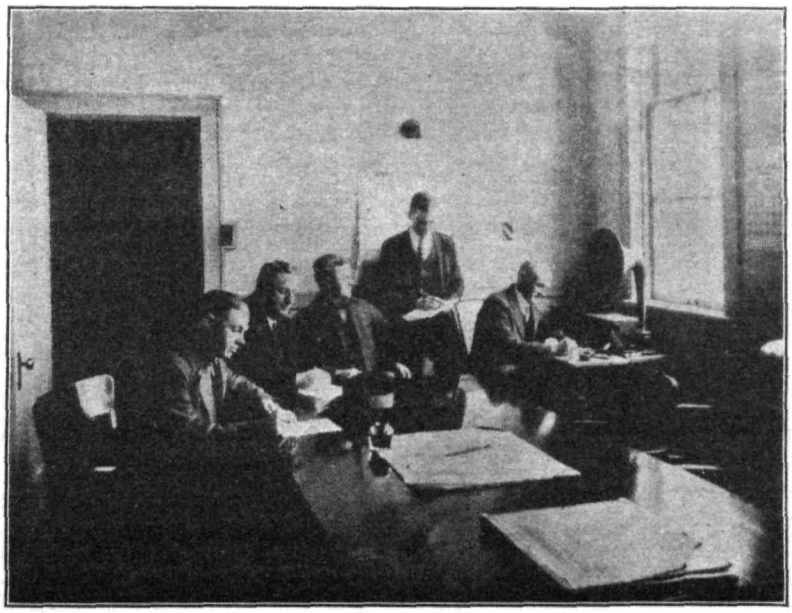


FIG. 18.—Farmers gather at the bank to get the latest market reports by radio. Many banks, like the First National Bank at Raymond, Ill., have installed radio receiving sets for the benefit of their patrons

In addition, the department is cooperating with a large number of stations in supplying digested agricultural news, special talks, and the preparation of material upon their direct request.

Federal Highway Construction

The Federal highway act, signed by the President on November 9, 1921, is one of the high-water marks of highway legislation in the United States. It is the logical outcome of the tendency toward scientific management and orderly procedure in the development of the roads of the country which began with the creation of the first State highway department in New Jersey in 1891 and which was

given renewed impetus by the Federal-aid road act of 1916. The effect of the earlier Federal legislation was to establish in every State an adequate highway department competent to deal with the difficult problems attending the upbuilding of the main roads of the country to make them fit for the use of the rapidly increasing number of motor vehicles.

The important provision of the Federal highway act is the establishment of a connected system of main interstate and intercounty highways, the improvement of which is to be accomplished with Federal aid. The law limits the extent of the system to 7 per cent of the existing mileage of record in the various State highway departments at the time the law became effective, and provides that the

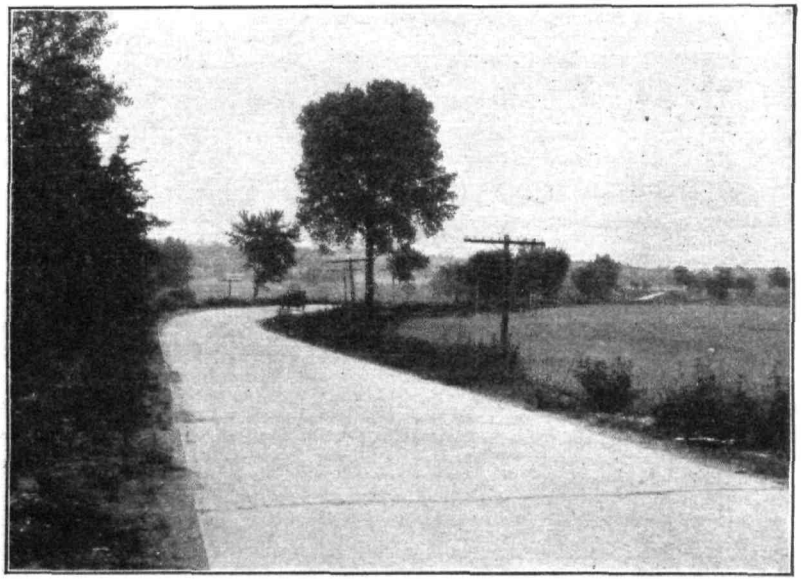


FIG. 19.—The Federal-aid highway between Philadelphia and Easton, Pa., is typical of thousands of miles of modern pavements constructed cooperatively by the States and the Federal Government

roads to be included in it shall be designated by the several State highway departments subject to the approval of the Secretary of Agriculture.

Within two years of the signing of the act the important work of selecting the roads had been completed and a map of the approved system, including 168,881 miles, was published on November 1, 1923. Since that time there have been additions in several States which bring the total approved mileage up to 171,687 miles.

It is estimated that the construction of the roads of the system will require approximately 10 years. In that time every city or town of at least 5,000 population will be connected by a network of modern roadways built in accordance with scientific principles, and every link designed to carry with safety and economy the traffic to which it will be subjected.

All highways upon which Federal-aid funds have been expended since the approval of the act are parts of the system, and practically

all Federal-aid roads previously improved are also included. At the close of the fiscal year the completed Federal-aid roads amounted to 35,157 miles, with 15,350 miles additional under construction reported as averaging 56 per cent complete. With the exception of a very limited mileage, improved before the passage of the Federal highway act, all of these roads are included in the system. In addition it is probable that more than an equal mileage has already been improved by the States and counties without Federal aid.

Already three States have completed the system originally designated and additions have been approved as provided by the law. In the country as a whole it is probable that the mileage improved is fully half the total mileage of the system.

No less important than the construction of roads under the Federal highway act are the fundamental scientific researches which have been conducted by the department during the past four years. It is impossible to overrate the importance of this work, the results of which constitute a large proportion of the considerable body of scientific knowledge that has been acquired in recent years. The researches of the Bureau of Public Roads cover the entire field of highway management, construction, maintenance, and finance.

Packers and Stockyards Administration

Through administration of the packers and stockyards act, passed on August 15, 1921, there has developed in the selling and handling of livestock a noticeably greater feeling of security and freedom of action against imposition and unfair practices, which alone has done much to accomplish the purposes of the law.

At the close of the fiscal year ended June 30, 1924, 77 public stockyards in 66 cities and 32 States had been found subject to the provisions of the act and posted accordingly. More than 4,000 dealers and 1,100 market agencies have registered, and approximately 500 packing concerns are subject to the act.

Stockyard companies, market agencies, and packers render periodical reports showing their income and expenses and financial condition. During this year audits have been made and statistical and financial reports obtained from 58 stockyard companies, and the work of valuing stockyard property in connection with determination of rates has been performed at several of the most important markets under the direction of competent valuation engineers and accountants. The accounts of 650 old-line commission firms and 25 cooperative organizations doing business at 51 markets have been audited. These markets handle approximately 98 per cent of the total livestock business at the markets subject to the packers and stockyards act. Financial statements were obtained for the year 1923 from packers subject to the act, the aggregate of whose slaughtering business represented approximately 98 per cent of all slaughtering done under Federal inspection during the year.

It should be noted that in all instances wherein the requirements of the act can be met informally the policy of the administration has been to proceed in this manner. This has resulted in the satisfactory disposition of many hundreds of matters without the delay and ex-

pense resulting when formal action is required. In numerous instances, however, the nature of the cases and the requirements of the act necessitated formal action, and 112 formal proceedings have been instituted by the administration, 65 of which have been disposed of, leaving 47 still pending.

As examples of some of the matters that have been dealt with, brief mention will be made of a few of the most important. The use of short-weight butter cartons, which actually contained only 15 ounces, but which were designed to hold 1 pound, was discontinued in certain sections of the country. Through cooperation with the Bureau of Animal Industry beneficial adjustment has taken place in connection with prices of reactor cattle resulting in increased returns aggregating many thousands of dollars to owners of this class of animals.

Through the efforts of the administration all livestock consigned for sale on the public markets is now placed on the open market, which was not always the case at all markets previous to the passage of the packers and stockyards act. Such practices as weighing-up, string sales, boycotting, and rebating, as well as similar objectionable practices, have been stopped in many instances.

Two of the members of the staff of this administration were agreed upon as arbitrators in connection with the determination of commission rates at four of the principal markets wherein complaints have been made by leading livestock organizations concerning these rates. This resulted in lower commission rates and direct annual savings to producers of approximately three-quarters of a million dollars.

All commission agencies are required to carry bonds to secure the faithful and prompt accounting for and remittance of the proceeds of sale of livestock consigned to them for sale. Shippers' proceeds accounts, which keep separate from funds used for other purposes all money received through the sale of consigned livestock, have been established by commission agencies at most markets, thereby doubly assuring payments to owners of livestock.

The way has been opened for farmers' cooperative selling agencies to operate in the terminal markets not by favoritism or partisanship but by enforcing the open-market principle. The number of cooperative commission companies has increased from 7 at the time the act was passed to 25, or an increase of 18.

Cases with reference to rates and charges of stockyard companies which involve the fundamental principles of proper rates, including such matters as the valuation of properties and the determination of properties that should be included in rate-valuation work, have been handled. There have been several cases of this kind, including one at Peoria, Ill., in which a material reduction in rates was upheld by the Federal court.

Scales in the stockyards are being standardized according to the actual needs of the business, and periodical testing under approved conditions is being brought about rapidly. The mistreatment and bruising or injury of animals at public markets have been materially reduced, thus resulting in a material economic saving. Payments for dead and crippled animals have been placed on a more systematic basis.

The formal dockets of the administration cover practices considered to be in violation of the act, including rebating, rendering

false account sales to shippers, wrongfully withholding funds from shippers, discrimination through boycotting, usually practiced by so-called old-line commission firms against cooperative selling agencies and other nonmembers of exchanges, and the acquisition of the properties, business, and goodwill of Morris & Co. by Armour & Co., thus combining the second and third largest packers in the country into the largest concern. The investigation and hearings in this case have covered a period of more than one year, and several hundred witnesses have been examined. The final hearing will be held in the near future.

Grain Futures Administration

The grain futures markets of the United States have now been under the supervision of this department for somewhat more than one year as provided by the grain futures act. This act went into full legal effect on April 16, 1923, when its constitutionality was finally affirmed by the Supreme Court of the United States.

The experience that has been had under the act is still brief, but it has sufficed nevertheless to indicate some of the landmarks by which the grain futures administration must be guided in carrying out the purposes of the act.

The oldest activity under the act has been carried on under section 8 which authorizes the Secretary of Agriculture to investigate grain marketing conditions, including the operations of boards of trade, and to publish the results, in statistical form or otherwise. This corresponds to one of two sections of the future trading act of 1921 which were not held unconstitutional. It was reenacted in the grain futures act of 1922, supported by provisions held constitutional in 1923 requiring members of boards of trade to keep certain records and to make certain reports. Experience is showing that this constitutes the central feature of the act.

The act itself is coming to be recognized as a milestone in the history of futures trading. This is growing because appreciation attaches to the declaration of Congress that trading in grain futures on boards of trade is affected with a national public interest and must be recognized and conducted accordingly. The primary responsibility for observance of the requirements of the act is imposed upon the boards of trade themselves in their organized capacity, subject to Government supervision. The boards of trade, in qualifying for designation as "contract markets," evidenced their acceptance of this responsibility by enacting rules in accordance with the act, providing, among other things, for the making of records and reports and forbidding their members to attempt to manipulate the market by the dissemination of misleading market information or in any other way. The result has been to put the whole business of trading in grain futures upon a new basis.

This new basis has been evidenced in judicial decision and in a more discriminating public opinion. Thus the supreme court of Kansas, building upon the case in which the Supreme Court of the United States upheld the constitutionality of the grain futures act, held on January 12, 1924, that a member of the Chicago and Kansas City Boards of Trade, both "contract markets," may not be prevented by State legislation from doing a grain futures

commission business according to the rules of those exchanges because Congress has undertaken the constitutional assumption of regulatory power. A discriminating public opinion is beginning to grow up on the basis of facts ascertained and published by the grain futures administration or known to be accessible to it now by reason of the act, the regulation adopted pursuant to the act, and the presence of Government supervisors at important "contract markets."

The intention of Congress as understood by this department has been to dispel the mystery which has always beset the public mind with reference to trading in grain futures. The dispassionate collection and analysis of exact and comprehensive information is accordingly being emphasized. Some of this information has been published, in forms suitable to serve the public interest but without violating those provisions of the act which forbid the separate disclosure of the transactions of individuals, trade secrets, or names of customers.

Thus the volume of trading in grain futures on each of the principal boards of trade has been currently published ever since December, 1923. For the Chicago Board of Trade, which handled during the years 1921 to 1923 over 87 per cent of the trading in grain futures, the total volume of trading for each day, beginning January 2, 1924, has been published on the following day. More recently the volume figures for Minneapolis and Duluth have been published daily. Information regarding aggregate commitments, as "long" or "short," and changes therein, hitherto unavailable, is also being published upon occasion, together with information concerning deliveries of grain on futures contracts. In short, the grain futures administration is laying before the public significant facts regarding the operation of the grain futures markets as rapidly as the administration can assemble such facts and determine their correctness.

The result of this policy is beginning to show itself in the tone of popular discussion. Guesswork and misrepresentation concerning the volume of trading in grain futures are beginning to give way to questions concerning the components of this volume, as pit trades, hedging trades, speculative trades, spreading operations, and the like, together with attempts to explain and interpret fluctuations in the volume which take place from time to time.

Among the facts which the public is accordingly able to observe for itself is that preliminary studies of the grain futures administration based on data for three and one-half years indicate that there is a close correlation between the volume of trading on the one hand and the range and frequency of price fluctuations on the other. Days, weeks, and months during which the volume of trading is large are almost always those during which price fluctuations are wide and frequent; when the volume of trading is small price fluctuations are narrow and infrequent. For the year ended June 30, 1924, the first of these conditions held during about seven months and the second during about five months. During June, 1924, when prices were advancing rapidly, the markets were more active than they have been for a year, and during July, 1924, the total trading for all markets (2,172,574,000 bushels) was greater than it had been during the month of July in any of the preceding three years.

When the grain futures act went into effect in April, 1923, a generally downward movement had been under way for fully two years, both in the prices of wheat futures and in the volume of trading therein. The downward price movement halted in July, 1923, but the generally downward tendency of the volume continued through December. At the end of 1923, however, according to the best estimates, the wheat-futures markets were carrying more than twice as many "hedges" as at the end of 1922.

It is noteworthy that the general tendency of wheat prices has been upward during harvest time, a time especially interesting to farmers, for both the seasons during which the grain futures act has been in effect. The price of wheat in the United States during the year July 1, 1923, to June 30, 1924, furthermore, was generally above the level of wheat prices in competing countries, a fact reflected in smaller exports of American wheat. The strength of the wheat-futures market was very generally given credit at the time for sustaining American wheat prices, and subsequent developments, notably increased European consumption and a short crop in 1924, have shown that if American wheat prices had been even higher last year, resulting in a larger carryover of American wheat to sell at price levels now current, better returns might in the end have been obtained by sellers. These developments of course were not adequately foreseen, but the light which they and other facts throw upon the preceding years shows that close observation and study must be carried on currently in order to determine in what particular respects the grain-futures markets, judged from the standpoint of the national public interest as price-determining or price-registering institutions, fall short of perfection and what remedies should be applied.

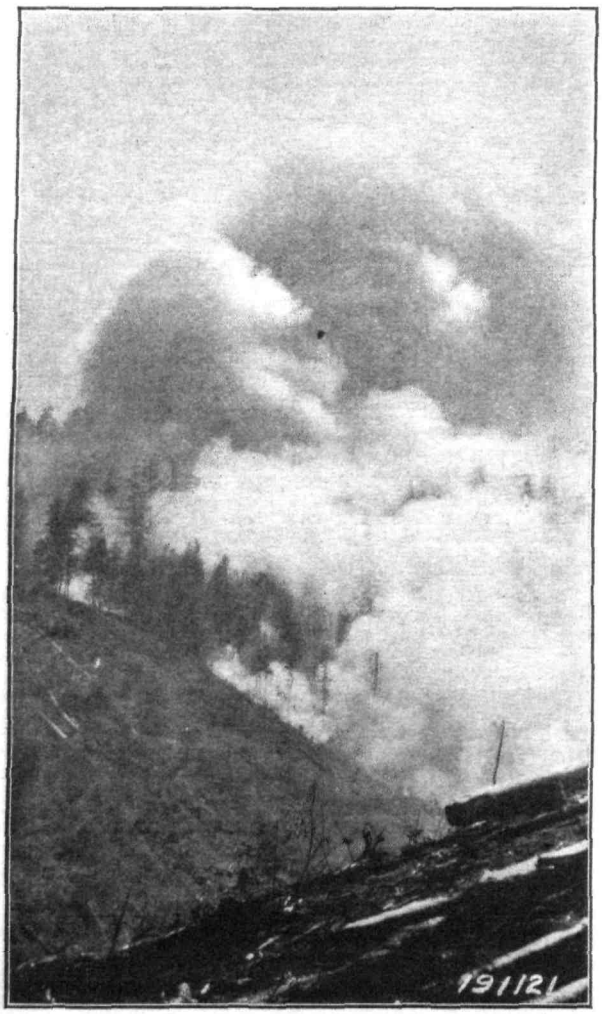
Progress in Forestry

A substantial advance in forestry has been made during the past four years. While many problems remain to be solved, large gains have been made in the public conception and appreciation of the necessity for forest conservation, the legislative groundwork for national and State forest policies, and the actual extension in the woods of forest protection and better forest practice.

The outstanding facts of our present situation as to timber supply and the idleness of lands suitable for forests have become common knowledge. Both the menace of far-reaching national losses and the lines of action that should be taken have been markedly clarified through comprehensive study and publications. The country has assimilated the facts and caught their significance. This in itself represents one of the large gains of recent years. The essential place of forestry in the land program of the United States is now widely recognized. Over 95 per cent of our total land area consists of farms, forests or potential forests, improved pasturage, and open ranges. Crop production, animal husbandry, and forestry are the three great uses which must be made of this vast soil resource to promote both individual and national prosperity. These three forms of land use are closely interrelated, and all are intimately related to the conservation and beneficial use of our water resources. About one-fourth of our total land area is forest or potential forest.

In addition to the vast areas of mountain and other nonagricultural lands which can be made of permanent utility only through the practice of forestry, timber culture is being more and more clearly recognized as an important factor in diversified agriculture.

The 470,000,000 acres of forest land in the United States can supply in perpetuity the timber products required to meet our economic needs. Right handling of our forests will also safeguard the water resources and provide for public recreation and other needs as concurrent uses of the land. Our forestry problem has resulted from the idleness or half use of enormous areas of forest-producing soil in the United States, and the fundamental solution is to bring about the full employment of all the land in the United States which is better adapted to timber crops than to other forms of use. We are now so far from making full use of the growing power of our forest lands that they replace each year not more than one-fourth of the current drain upon their timber, and at the same time idle forest lands are imposing oppressive burdens upon other property and upon rural welfare.



FOREST FIRE ON THE PLUMAS NATIONAL FOREST, CALIF.

FIG. 20.—The 1924 forest fire season was marked by extreme conditions, especially in California where 500,000 acres of national forest land was swept by flames. Human carelessness continues to be the chief cause of these devastating fires

To bring our consumption of wood and our production of wood into balance will necessarily be a long and difficult task. It can not be fully accomplished for several decades, and a shortage of timber must be faced in the meantime. That it has already begun is evi-

denced by the rise in lumber prices, by the heavy tolls imposed upon consumers for transporting lumber from great distances, by the decline in per capita use of lumber of nearly half within the last 20 years, and by the fact that for such an important forest product as paper the United States now depends upon foreign sources for more than half of its current consumption. With these salient facts the American public has now become generally conversant. The discriminating support of national, State, and local movements and developments toward forest conservation was never so widespread or effective as at present. A specific result of this growing national interest and concern was the enactment of the Clarke-McNary law on June 7, following several years of Nation-wide discussion and investigation.

Public Ownership and Management of Timber Lands

The policy of permanent Federal ownership of forest properties was begun about 33 years ago, with hesitation. At first there was much doubt of the wisdom of substituting for the traditional policy

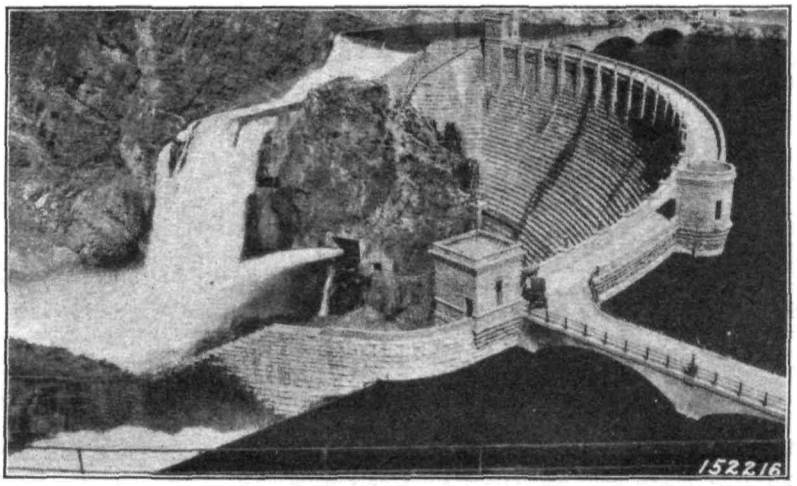


FIG. 21.—The Roosevelt Dam, Tonto National Forest, Ariz. This wonder of the Southwest forms a lake 30 miles long. The waters which fill this vast reservoir come from the timbered slopes of the Tonto Forest

of disposing of the public lands a program that put the Government into the business of land management and the growing and marketing of timber on a huge scale. The general application of the new principle to the public lands suitable for timber production was sought by President Roosevelt but denied by Congress because of its conflict with the settled tradition of distributing public lands for private use and because of many questions raised as to the success of a public enterprise of this nature. The national forests had to justify themselves by their results.

The Clarke-McNary law has given added scope to this feature of our national-forest policy. Provision is made by its terms for ex-

tending the national forests over lands already in public ownership adapted to this form of administration, (1) through the classification of such portions of the remaining public domain as are adapted primarily to the production of timber or the protection of watersheds, and (2) through the creation of national forests covering such parts of military and other reservations as are also primarily adapted to this form of use. The same law authorizes an important expansion in the policy of purchasing forest lands under the Weeks law through the extension of such purchases, within the watersheds of navigable streams, to include areas needed primarily for the growing of timber as well as areas needed for protecting the watersheds of rivers. Other means are provided for the extension of national forests through the acceptance of gifts or bequests of lands adapted

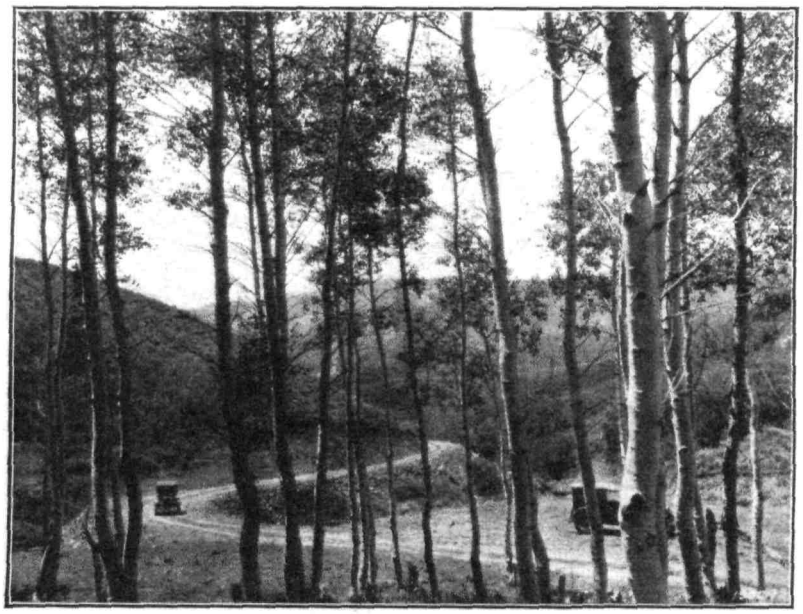


FIG. 22.—Montpelier-Afton road, Caribou National Forest, Idaho. Road and trail development on the national forests facilitates protection and increases use of the resources. The standard of construction varies to fit the character of use and public need, but many of the projects are important links in the system of Federal-aid State and county roads

to this public use, subject to reasonable and suitable reservations. By this act the policy of national ownership and administration of forest lands has not only received specific confirmation but has been afforded the basis for a material expansion in the future. The national-forest system now embraces about one-quarter of the timber-producing lands in the United States.

Forest ownership by other public agencies has always been sought by advocates of conservation, as there is every reason why States and municipalities should share this important function with the National Government. Significant and promising developments in this field have taken place within the past four years on the part of several States and also through the creation of a considerable number

of town or county forests, particularly in New England. Both of these developments are indications of the extent to which the idea of better use of our forest land is extending among the American people. The State forests now exceed five and one-half million acres, with every prospect of being rapidly enlarged under the State programs now in effect or proposed.

Animal-disease Work Pushed

The scientific study of animal diseases and parasites has yielded information of practical value in combating these enemies of the livestock industry. A new and very effective immunizing agent against hemorrhagic septicemia has been developed. This infectious disease, which attacks especially cattle, sheep, and swine, is attended with a very high mortality. The protecting product is what is known as an agressin. In the experiments cattle which had been immunized with this agressin were given five hundred times the fatal dose of hemorrhagic septicemia virus with no ill effects, while all untreated cattle given the same dose of virus died within 48 hours. Field experiments in the control of hemorrhagic septicemia are being carried out at several stockyard centers.

Incomplete experiments in applying the anti-hog-cholera serum treatment to very young pigs indicate that this can be done safely at an early age and that under normal conditions the pigs will be protected against hog cholera until the usual market age.

In recent years an effective method of controlling stomach worms in sheep by means of repeated dosing at intervals has been worked out. Carbon tetrachloride, which was found by the department to be effective against hookworms of dogs, has since come into very extensive use in human medicine for the removal of hookworms and has been used with great success in hundreds of thousands of cases in various parts of the world.

War on Plant Diseases Goes Forward

During the past four years further stimulation has been given the campaigns being waged against the host of plant diseases which menace certain important crops and present a serious economic problem in American agriculture. A brief résumé of the work being done with a few major diseases will illustrate this phase of the department's activities.

Continued progress has been made in the control of the white pine blister rust. This destructive disease is established in the United States and its rapid spread threatens the destruction of five-needled pine forests containing over 78,000,000,000 board feet of timber, valued at approximately $500,000,000. The harvesting and utilization of this timber sustains many industries and gives employment to thousands of wage earners. Therefore, continued production of this forest crop is of vital regional and national concern because of its present economic value and its relation to sustained forest productivity.

Local control measures consisting of systematic eradication of the alternate host plants (currants and gooseberries) within 900 feet of pine stands were developed early, and thorough test proved them adequate for use in northeastern United States. In cooperation with

A total of 3,074,587 bushes, seedlings, and sprouting bushes was treated. During the fiscal year 1924, an area equivalent to approximately 183 counties was covered in the original survey, 271 counties in the resurvey, and about 53 counties in the second survey. A grand total for the year of 4,041,575 bushes, seedlings, and sprouting bushes was found and 4,012,258 were eradicated.

The cooperative campaign for the eradication of citrus canker, conducted in cooperation with the Gulf States, is making satisfactory progress. In the eight years that the department and the Gulf States have been cooperating in the eradication of citrus canker Florida, Alabama, and Mississippi have been practically freed from this destructive disease, and the infections in Texas and Louisiana are now much less serious than in earlier years.

The methods of eradication are more extreme than have been found necessary in fighting any other plant disease on account of the extreme infectiousness of citrus canker. All infected trees found by the inspectors are burned, and additional safeguards such as requiring the inspectors to wear outer suits, shoes, and hats that are thoroughly disinfected both upon entering and leaving citrus properties are employed. The success of this campaign may be said to have established a new era in preventive and control work in dealing with plant diseases.

Damaging Insects Held in Check

Equally important as plant diseases in their economic relation to agriculture in this country are insect pests. The warfare against these pests grows more tense and more scientific year by year. To prevent the entry of new plant pests of all kinds, some 22 quarantines, either prohibiting or restricting and safeguarding the entry of products known to be likely to carry such pests, are now being enforced. This enforcement involves the maintenance of a port inspection service at all important ocean and border ports of entry into this country. The important products thus brought under restrictions as to entry include cotton, various cereals, nursery and ornamental stock, and all fruits and vegetables. This service has been largely developed during the past four years and it is significant to note that since the plant quarantine law was passed not a single new major pest has entered this country.

The work of enforcing the Federal quarantine on account of the European corn borer, in cooperation with the several States, has been excellent and has prevented the spreading of the pest through commerce in affected products. More than a million individuals of a useful parasite have been brought from Europe and liberated in the infested regions. Other promising introduced parasites have been established in New England and have been liberated on the eastern edge of the Corn Belt in Ohio, where the corn borer has become established comparatively recently.

By inspection of products likely to carry the gipsy moth, its spread has been checked and no new colonies have become established at long distances from the generally infested New England area. In New Jersey no injury to foliage has resulted since the first year, and the area has now been reduced more than one-half. The area in New

England infested by the brown-tail moth has decreased nearly 3,000 square miles during the past four years.

Experiments have resulted in the development of more efficient methods of control, and the introduction of many thousands of parasites and other natural enemies from Europe and Japan has aided in gradually reducing the increase of both gipsy moth and brown-tail moth in the sections of New England that have been longest infested. The area defoliated this year is much less than in previous years.



FIG. 25.—Gypsy moth caterpillars under sticky band on tree

The department has been attempting to determine the principles in the cotton plant that cause the boll weevil to feed on this plant alone, but it is only recently that any great measure of success was gained. Large quantities of cotton plants were collected and either distilled or otherwise processed to obtain a complete understanding of the chemistry of the cotton plant. Some of the most promising of the substances isolated have been tested in the field during the past summer, and certain of them possess attractive qualities apparently slightly superior to those of the cotton plant itself. Experiments are still going on, and definite conclusions may not be reached for another year, but the outlook is hopeful. Once in possession of such an attractant, a promising new line of remedial work at once becomes available.

The pink bollworm of cotton is generally recognized as one of the worst of all cotton pests. It originated in India and is now generally established in practically all the important cotton-producing countries of the world except in the United States. About 1915 it gained entrance from Mexico into Texas and later spread to portions

of Louisiana. It also obtained some foothold in western Texas and New Mexico directly from Mexico.

A hard fight to eradicate it has been in progress since its first discovery in Texas in 1917. No new areas of infestation have been located during the last two years, and except in the western districts of Texas and in New Mexico no reinfestation has developed in any of the territory where the insect previously had been established. This means that the more important areas originally infested, in central and eastern Texas and in Louisiana, are apparently free from this pest and this freedom has now continued for three years.

In western Texas and in New Mexico no continued effort has been made to eradicate the pink bollworm, for the reason that the proximity to the Mexican border makes reinfestation almost certain. The danger of infestation spreading from the western areas eastward is, however, being controlled by quarantine, by the installation of seed-disinfection machines in all gins, and by the separation of these areas from central and eastern Texas. It is not believed that the risk of spread from these areas of infestation is greater than that from the infested areas in Mexico.



FIG. 26.—Peach attacked by Japanese beetles

To prevent the further entry of this pest from Mexico, all commercial and other border traffic into the United States is safeguarded by inspection and disinfection. This has involved the inspection, during the past year, of upward of 29,000 freight cars and the fumigation of nearly 17,000 of these. In addition, all vehicular and other movement out of Mexico is inspected and safeguarded. A fee covering actual cost of labor and chemicals is charged for the disinfection of such cars and vehicles, and the receipts are turned into the Treasury, amounting during the year to $67,730.50.

Although the Japanese beetle has continued gradually to enlarge its territory by annual dispersal, the quarantine and other operations carried out in cooperation with the States of New Jersey and Pennsylvania have been instrumental in preventing the spread of the insect to other parts of the country. Search for the parasites of the

Japanese beetle was begun in 1920 in Japan, China, and Korea, and numerous large shipments of natural enemies have been introduced, some of which have become established.

More Profitable Use of Crops

The application of science to the improvement of manufacturing processes in those industries that use agricultural products as raw materials, and the development of new manufacturing uses for products and by-products of the farm, provide a more profitable outlet for farm crops. The chemists of the department have developed and patented processes for the manufacture from corn cobs of an adhesive and of furfural, which is a chemical that can be used extensively in the manufacture of many useful appliances. These processes may soon be in use on a commercial scale that will provide a market for many corn cobs that are now practically a waste by-product.

A process has been developed by the specialists of the department for the manufacture of a palatable beverage resembling tea from cassina, a plant that grows wild abundantly along the Atlantic and Gulf coasts from North Carolina to Texas. A flavoring extract for use in making carbonated beverages has also been made in the laboratory from cassina and may soon be manufactured commercially. The cured cassina leaves suitable for making beverages are now manufactured commercially and are on the market.

A laboratory established at Los Angeles, Calif., has developed processes for making citric acid, citrate of lime, lemon and orange oils, marmalades, pectin, and other commercial products from cull and surplus lemons and oranges. These processes are now being used profitably by commercial concerns that purchase large quantities of cull oranges and lemons which were formerly wasted.

An improved process for the manufacture of a cane sirup that will not readily crystallize or ferment has been developed by the chemists and is now in successful operation in a large number of sirup manufacturing plants. The market for cane sirup has heretofore been restricted by the tendency of the sirup either to crystallize or ferment before it reached consumers. By developing a method that removes this difficulty the specialists of the department have made it possible for the market for cane sirup to be greatly extended. Improvements have likewise been made in methods for the manufacture of sorgo and maple sirups. The department specialists are now engaged in studies looking to certain improvements in the manufacture of beet and of cane sugar which it is hoped will aid in the extension of the domestic sugar industry.

Improved processes for the dehydration of fruits and vegetables have been developed and are in successful commercial use. Dehydrated fruits and vegetables much superior in appearance and flavor to the products dried by the old methods are now on the market. The extension of this most economical method for preserving and transporting fruits and vegetables is assured.

How to utilize profitably on the farm certain vegetables in the manufacture of pickles and of sauerkraut and certain fruits in the manufacture of vinegar has been worked out in the laboratory and the methods published.

A process for making a crystalline maltose sugar from cornstarch has been developed. The cost of producing maltose sugar from cornstarch is lower than the cost of producing cane sugar. The new process has yet to be industrialized, so that it is too early to realize its bearing on the utilization of corn. The investigational work is not entirely complete but has proceeded far enough to demonstrate that it is entirely practicable to make an excellent grade of crystalline maltose sugar from cornstarch or hominy.

The Hunt for New Plants

Continued success during the past few years in introducing plants from all corners of the earth goes to confirm the belief that numerous possibilities still exist in this field of research. Many alien plants have been introduced and developed to a point where they have found a profitable place in our agriculture. Curiously enough the faith prevails in every district, however poor the soil may be, that it needs only the finding of the proper plants to make the land greatly more productive. The success with new forage plants goes far to give validity to this belief. One has only to consider such plants as alfalfa, the sorghums, Sudan grass, sweet clover, lespedeza, and velvet beans, all of comparatively recent introduction and utilization, to realize what a profound effect they have had in this country.

The agricultural explorations carried on by the department during the past four years have been especially important. They have included extended travel in Africa, Asia, and South America and have resulted in the importation of many valuable new plants. Explorations in southern China, Burma, and Siam resulted in the collection of trees from which chaulmoogra oil, a successful specific for leprosy, is obtained, and the establishment of these trees in the American tropics. Seeds of the gorli shrub, from Sierra Leone, Africa, also contain chaulmoogric acid, and as this shrub is of quicker growth than the Asiatic tree from which the oil is obtained, it has been introduced as another source of this material.

Numerous varieties of Chinese chestnuts have been imported for testing for blight resistance in the hope that they will replace the rapidly disappearing American species. Many native Chinese apples, pears, cherries, plums, and roses were also obtained which, because of their vigor and hardiness, will be of special interest to plant breeders.

One of the department's explorers has recently returned from a trip to northern Africa, Abyssinia, and the Kashmir section of British India, where he went especially to obtain varieties of barley and wheat likely to prove of value at high altitudes, or for growing under dry-farming conditions in the Western States. Another explorer traversed Africa from south to north, obtaining many native plants of interest and value, some of which are likely to prove adapted to our Southern States. This explorer is an expert plant geographer and through his visits to Africa we have been able to obtain much valuable information about the agricultural possibilities of that continent.

During the past year the department sent its chief corn specialist to South America to obtain samples of corn from the Indian tribes in the high Andean country of Bolivia, Peru, Chile, and Argentina

Cornell University cooperated in this exploration by sending a member of its faculty who is one of the best known plant breeders in the United States. Many samples of corn were obtained which should prove of value to corn breeders, especially those who are developing early strains for the Northern States, and drouth-resistant varieties for the Southwest.

Near La Paz, Bolivia, and in the vicinity of Cuzco, Calca, and Huancayo, Peru, varieties were obtained that have been grown there since long before the discovery of America by the white man. These varieties possess many characteristics which make them of interest and possible value as breeding stocks in the United States. Those districts are located near the Equator, or from 12° to 17° south latitude, and so have a long frost-free period except at the highest altitudes. For the same reason the length of the days and nights is more nearly equal than in our Corn Belt. Because of the altitude, however, the temperature is relatively low, particularly during the night. These conditions have resulted in varieties of corn differing markedly from those grown in the United States.

The most important feature of barley investigations has been an extensive exploration for breeding stocks in Africa and Asia. In addition to barleys a large number of samples of other grains, legumes, and the various cultivated and wild plants were obtained. The barleys of the western United States undoubtedly were introduced into America from Mexico, where they had been grown by the Spaniards. These barleys are all of the types commonly grown throughout North Africa, especially in the region from Tunis west to the Atlantic. It is certain that many types common in North Africa were not introduced by the early settlers and have not yet found their way to this country. The selections made in Algeria and Tunis and later in northern Spain were barleys similar to the Coast variety of America.

In all there were 19 accessions of barley from Algeria and Tunis, 19 from Spain, 32 from Egypt, 30 from India, and 33 from Abyssinia. This does not in any way indicate the total number of barleys procured. Wherever the fields were in head all of the types from a single set of adjoining fields were selected, but placed under a single field accession number. The barleys from Algeria, Tunis, Egypt, and India were sown in November, 1923, at Sacaton, Ariz. In addition to the bulk samples there were over 700 rows grown from heads selected in fields of North Africa and India. Many of these gave very high yields. The selections from Egypt were particularly promising. There were some hundreds of selections of the two forms of Mariout, and it is hoped that some of these may be superior to the original introductions. The barleys from Kashmir gave surprisingly high yields. It is thought that the Kashmir type has not been previously tested at experiment stations in America.

Several new grasses from the Tropics give promise for southern conditions. These include molasses grass, which succeeds wonderfully on any of the well-drained soils, however sandy, of southern Florida; Bahia grass, the best grass yet found for permanent pastures in Florida and along the Gulf coast on the relatively dry lands; Guatemala grass, a tall, coarse grass with thick, juicy stems, very valuable for soiling; and Tracy grass, accidentally introduced

long days will cause profuse and indefinite vegetative development without flowering. Other plants, however, tend to remain in the vegetative stage when exposed to short days and are quickly forced into flowering by the action of long days. Formation of tubers and bulbs, falling of the leaves, the condition of dormancy, development of branches, and extent of root growth also are subject to regulation by the prevailing length of day. Moreover, plants vary widely in their sensibility to this factor.

Through field and greenhouse studies it has been possible to establish the relationship of the length of day to early and late maturing varieties of crop plants, the comparative development of the vegetative and fruiting portions of the plant, the distribution of the growing and fruiting periods through the year, the everblooming or everbearing condition, the adaptability of different varieties and species of crop plants to different latitudes, and the natural distribution of plants.

In many species flowering and fruiting can be induced or suppressed at will by artificial control of the daily period of illumination. For this purpose the daily exposure to light during the long days of summer may be shortened by use of dark houses, and in winter artificial light may be used to lengthen the daily illumination period. It has been found, moreover, that plants can be readily grown to maturity with artificial light as the only source of illumination. Flowering and fruiting and other characteristic responses to differences in duration of the daily illumination period are brought about as easily with artificial light as with sunlight.

Wheat Breeding Tests

The varieties of wheat grown in the United States number more than 200, known by more than 800 different names. A concerted effort has been made toward the standardization of varieties by communities and a reduction in the number and acreage of the poorer varieties. Improved varieties are being developed. A recent production is Nodak, a high-yielding, rust-resistant durum variety of excellent quality, developed as a selection from Kubanka in cooperation with the North Dakota Agricultural Experiment Station, which is distributing the new variety.

Kubanka was introduced by the department from Russia and is now the best adapted variety for all of the varying conditions in the durum wheat sections. It is a high-yielding wheat, fairly resistant to rust, of good milling quality, and well liked for the manufacture of macaroni and other products. Nodak has outyielded Kubanka at the Dickinson substation, where it was selected, by 1.3 bushels per acre during the seven years from 1918 to 1924, inclusive.

Karmont is a new, high-yielding, hardy variety of hard red winter wheat, selected from Kharkof, which is being distributed by the Montana Agricultural Experiment Station, with which it was developed cooperatively. Kharkof, which also was introduced by the department from Russia, is the highest yielding and most widely grown variety of hard red winter wheat in Montana and Wyoming. At the Moccasin (Mont.) substation, where Karmont was selected, it has outyielded Kharkof by 1.6 bushels per acre during the six years from 1918 to 1923, inclusive.

The early efforts at wheat improvement by the department consisted largely of trials of introduced varieties. These were followed by improvement through selections of pure-line strains. As more difficult and specialized problems arose, the breeding of wheats by hybridization has been undertaken. This now offers the most scientific and reliable method for further improvement. Varietal trials with standard and new varieties are being continued at Federal and State agricultural experiment stations to determine their agronomic value.

Kota is a bearded variety of hard red spring wheat which is resistant to black stem rust. It was introduced from Russia and developed concurrently by the department and the North Dakota Agricultural Experiment Station. The rust resistance of the variety was first determined in 1918. In 84 trials, during the five years from 1919 to 1923, Kota averaged 9.6 per cent of rust infection, while Marquis in the same trials rusted 47.9 per cent and Kubanka durum 23.9 per cent. The acre yields of Kota have averaged considerably higher in North Dakota and South Dakota than those of Marquis, the standard variety of hard red spring wheat.

About 1,000 varieties and strains of wheat have been tested for bunt resistance cooperatively in California, Oregon, Washington, and Kansas. Of these a few have proved highly resistant. Hybrids of these resistant strains are proving very promising. Ridit, one of the most desirable of these, developed at the Washington Agricultural Experiment Station, has now been distributed to farmers. Two immune strains have been derived from the Hussar and Martin varieties, respectively. While these are not desirable strains for commercial growing, they have been crossed with good commercial varieties susceptible to bunt, and from these hybrids it is expected to develop commercially desirable bunt-free strains. Resistance also is being developed through pure-line selections of resistant plants from susceptible commercially desirable varieties. Several highly resistant strains of excellent quality have been obtained by this method.

New Corn Varieties Tested

In all commercial open-fertilized varieties of corn various deleterious characters are present which tend to reduce production. Among these injurious characters are barrenness, weak stalks, weak roots, twisted and crinkled leaves, deficient chlorophyl, poor silks or tassels, and susceptibility to different diseases, which reduce the stands and yields of open-fertilized corn. In corn-breeding investigations, self-pollinated strains free from these harmful factors have been isolated by continued selection. As a rule, however, strains inbred for several successive years are materially reduced in size and productivity. The recombination of these pure strains, after eliminating undesirable characters, is necessary in order to restore vigor and consequent high production. The hybrids from some of the recombinations of these strains, when grown in the field in comparison with the best commercial varieties, have already produced substantial increases in yield.

Numerous "selfed" strains of important commercial varieties of corn have been subjected to artificial smut infections during the past four years. A few strains have proved very resistant to infection.

These strains, when grown in different localities, have shown the same comparative degrees of resistance. Hybrids from crosses of two resistant strains have shown consistently high resistance, while hybrids from crosses between a resistant and a susceptible strain and hybrids from crosses between two susceptible strains all are susceptible, showing that susceptibility is dominant.

Sugar-cane Investigations

The gradually diminishing yields of sugar cane in recent years due to the failure of native varieties to resist mosaic disease, root rots, storage rots, and other diseases, are being successfully met by the introduction, selection, and breeding of new varieties.

About five years ago, when it became evident that the injurious mosaic disease was spreading at an alarming rate and would soon seriously affect our sugar industry as it had already affected that of several other countries, varieties known to be resistant to this disease were introduced. Ten varieties of cane were obtained from Argentina during 1919, but only two were found to be of any value. These were Kavangire (Uba), which is immune, and 234 P. O. J., which is tolerant to mosaic. At about the same time it was found that Cayana–10, a variety of cane previously imported from Brazil for sirup-production studies, was also immune from mosaic disease.

Steps were immediately taken to increase these three varieties and to test them throughout the sirup and sugar-producing sections. For sirup purposes, Cayana–10 has practically supplanted the old varieties in the heavily infected areas. P. O. J. 234 and several subsequent introductions promise to do the same thing in the sugar-producing sections. Although these varieties are of great importance for increasing the present yields of sugar cane, they are only distributed as a means of tiding over the industry until they can be replaced by still better varieties now under observation.

Foreign Clover Seed Studied

A study, commencing in 1915, but interrupted by the war, of the reasons for red-clover failures showed that one of the causes of failure was the use of nonadapted seed. A large part of the red-clover seed used was found to be imported, chiefly from Italy and France.

The studies of the department in cooperation with the various experiment stations show that red-clover seed grown in Italy produces a plant not winter-hardy enough to withstand our climate in the severe sections of the clover belt, as Iowa and Minnesota, and that this strain of red clover is also much more susceptible to the anthracnose disease so prevalent in the southern and southeastern portions of the clover belt. The weakness of this type of clover is so pronounced that the use of Italian clover seed is to be discouraged throughout the clover belt east of the Rocky Mountains.

Red-clover seed grown in other European countries and in Chile has not yet been so thoroughly tested, but it is already evident that red-clover seed produced anywhere in Europe west of Poland and south of the Baltic is not reliably hardy in those parts of our clover belt having very severe winters or where the snow cover is often scant. During less severe winters clover from seed produced in Bo-

hemia and in northern France has come through the winter without serious injury. In the Ohio Valley and the States immediately surrounding the Great Lakes, except perhaps in New York, European clover seed, with the exception of Italian, has, so far as tested, given reasonable satisfaction. In the southeastern and southern portions of the clover belt, all European seed so far tested has produced a rather indifferent second crop, this weakness appearing to be due to a greater susceptibility to anthracnose.

Predatory Animal Control

Considerable progress has been made during the past four years in the control of predatory animals. During this period 2,542 wolves, 695 mountain lions, 11,625 bobcats and lynxes, 497 bears, and about 380,000 coyotes have been destroyed in these campaigns. This represents a direct gross saving to stock growers of not less than $23,000,000, at a cost of $1,101,820 to the department, and $1,040,276 to cooperators. A few years ago when the department began its systematic campaign against predatory animals in the public-land States the estimated annual losses from these pests were placed at more than $20,000,000.

To this direct saving of livestock should be added the benefits from the suppression of rabies and the prompt control of outbreaks of this disease among coyotes and other predatory wild animals. This work has been conducted with such effectiveness that from its general spread in six of the Western States rabies has been reduced to small sporadic outbreaks which are immediately suppressed by the concentration of trained men wherever the disease is reported. Without this prompt work in suppressing outbreaks it might spread rapidly over the entire Rocky Mountain region with appalling human suffering and loss of livestock.

General Administration

During the past four years the general administrative staff of the department has been materially strengthened. A budget officer has been appointed to supervise and coordinate the fiscal and business affairs of the department and to assist in the preparation and handling of the department budget as provided by the budget and accounting act. Participating in the fixed policy of the Government in this respect, notable advances have been made in improving the business administration of the department. A director of purchase and sales has been appointed to supervise and coordinate the procurement of supplies and services for the department and to supervise the disposition of surplus property in the several branches. A traffic manager has been appointed to function in a similar manner in connection with all transportation matters. Representatives of the department have been assigned to the various boards set up under the Bureau of the Budget, including the traffic board, the purchasing board, the real-estate board, the joint conference on printing, the board of contracts and adjustments, the specifications board, and other similar agencies. Radical departures in business procedure have been adopted, but these have involved nothing more than the correct application of modern business methods to the work of the

department, with the thought always in mind of getting full value received for the expenditure of every dollar of the taxpayers' money.

The highest commendation is due the personnel of the department for the spirit in which they have entered into the plan to conduct the business of the Government on the most economical and efficient basis possible. I have found on every hand a full appreciation of the fact that every dollar spent had to be earned by some one, and that its expenditure under our management must always be with that fact clearly in mind.

Further progress needs to be made in the improvement of the general business administration. A review of the results accomplished during the past four years indicates conclusively that for every dollar additional expended in strengthening the general administration many dollars more are saved to the Government in increased efficiency and specific economies effected. In order to establish a sound basis for greater advance along this line, the United States Bureau of Efficiency recently, at the request of the department, assigned a trained investigator to make a study of the general business organization with a view to suggest such further changes as may appear beneficial.

Personnel of the Department

The personnel of the department on June 30, 1924, numbered approximately 20,000, of whom 5,000 were located in Washington and 15,000 were engaged in work outside of Washington. The turnover in the personnel during the fiscal year 1924 was 13.81 per cent, or 2.32 per cent less than for the preceding year.

The duty of coordinating and supervising the intricate work incident to the classification of the department personnel has continued to be discharged by the personnel classification officer specially appointed for this purpose a year ago. The salary classification act became effective July 1, 1924. By its terms it applies only to the personnel in the District of Columbia. As a result of the operations of this law 79 of the employees of the department in Washington on July 1, 1924, suffered reductions in compensation; in 1,436 cases the salaries remained unchanged, and the remainder received moderate salary increases. The average salary increase under the classification act for the total number of employees in Washington was 4.56 per cent. The classification of employees of the department as made effective July 1, 1924, has not eliminated all disparities in compensation. Under the provisions of the act, however, which make possible advancement in salary within the various grades on the basis of merit, it is hoped that within a reasonable time equitable and satisfactory adjustments may be made.

The employment situation in the department has been vastly improved by the adjustments under the classification act and by the better opportunities presented for advancement under the provisions of the act, assuming funds will be made available for this purpose from time to time. Certain details which have developed in connection with the administration of the act as applied to actual working problems present the need for changes which doubtless will be made as conditions permit. Provision should be made for the employment where needed of at least a limited number of experts in special

scientific and technical problems at salaries higher than now is permitted for this purpose.

In addition to the benefits under the salary classification act the personnel situation has been improved by the application of the retirement act. The status of the civil service in this department would be improved if the provisions of the retirement act were amended so as to assure the payment of a larger annuity to employees who become eligible for retirement from the higher grades. At present all employees have 2½ per cent deducted from their salaries for the purpose of annuity, but the maximum annuity is $720 per annum regardless of whether the deduction has been made from a salary of $1,200 or from a salary of $6,000 per annum. Retirement from the military branches of this Government and retirement from the civil branches of certain foreign governments is on a basis which takes into account the grade of the employee concerned, and in the present case it would seem altogether reasonable to apply the same principle, since the employees themselves contribute the funds from which the annuities are paid. Modification of the retirement act in this way would make the Federal service more attractive as a career for the outstanding men in scientific research.

Further improvement in the personnel situation has been effected by the establishment in the department under the director of scientific work of a graduate school for research workers and by the department making it possible for men engaged in scientific work to take advanced work on the problems in which they are engaged at the various universities without separating themselves from the department service. The proper development of the personnel work of the department, especially in view of the present procedure involved under the salary classification act, in the matter of efficiency ratings, etc., represents one of the most important branches of our general administration, and it is contemplated that increased attention will need to be given to this work in the future, preferably under an officer of the department who will function as director of personnel.

Housing Situation Serious

In previous reports attention has been called to the deplorable housing situation of this department and the need for action as soon as feasible to improve it. Of the more than 40 buildings occupied in various parts of Washington, some of them at considerable distance from the department, to which reference was made in the annual reports for 1922 and 1923, none have been abandoned. On the contrary, two additional locations were necessary in order to handle the work.

In the study of administrative operations the department constantly finds that costs are excessive because of the number and scattered locations of the buildings occupied. Almost inestimable savings and increased efficiency could be effective if the department were housed in fewer buildings more closely related to the central administration, with consequent greater ease of intercommunication, closer supervision, and lessening of expense for guarding, cleaning, messenger service, and trucking service. Unquestionably this is the greatest need of the department at the present time. Conferences

recently have been held with the chairman of the Fine Arts Commission and the architects who planned the buildings of the department constructed in 1908, as a result of which revised sketches have been made and a rough estimate submitted covering the construction of a central unit to join the two wings already completed. Nothing will be more helpful to the department than the resumption of the building program, which I hope will be possible during the coming year.

Appropriations

As in past years, a summary of the department appropriations appears at the end of this report. An analysis of the regular appro-

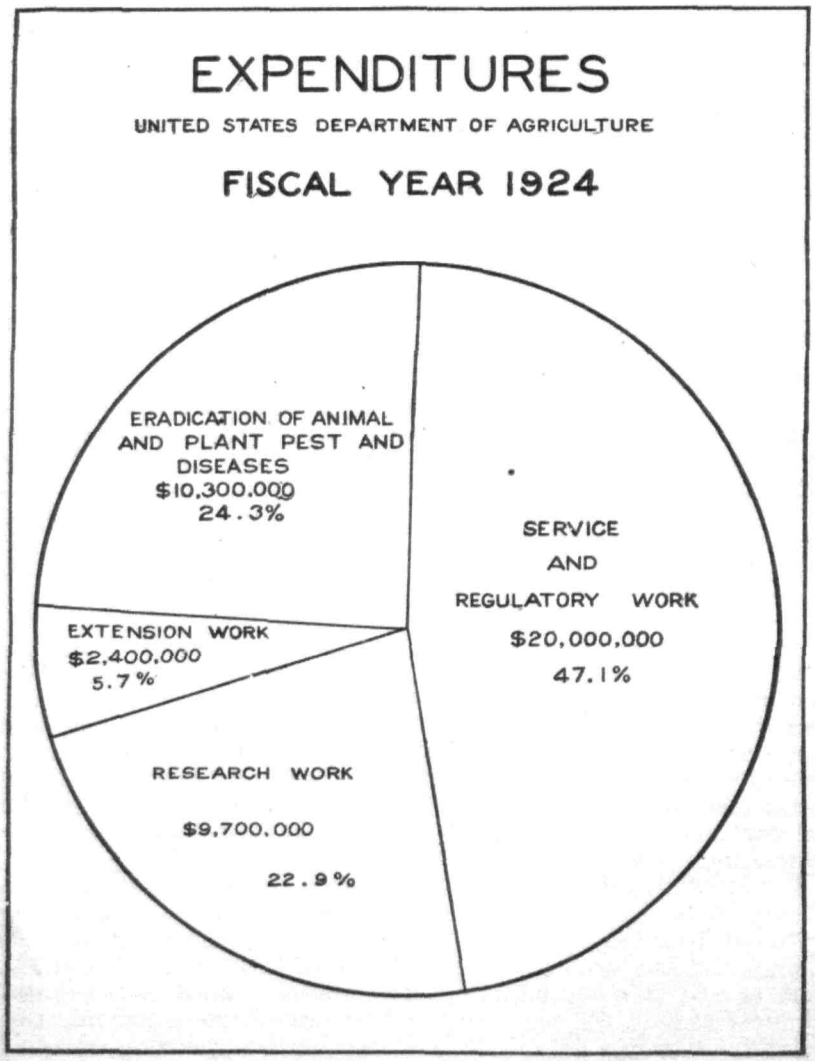


FIG. 27.—Approximately one-half of the expenditures of the Department of Agriculture covers public service and regulatory work. Less than one-fourth is devoted to research.

priations of the department for the fiscal year 1924 indicates that about one-half of the money was spent for regulatory and service work which is conducted not alone in the interest of the producers on the farm but for the benefit of all classes of our citizens. The maintenance of the national forests and the Federal meat inspection are typical activities in this group. On the other hand, less than one-fourth of the funds available for the ordinary activities of the department, or approximately $9,700,000, was available for scientific research. During the past four years the basic importance of agricultural research, upon the results of which the success of the department's other activities is dependent, has been particularly stressed in these reports. The funds annually provided for this purpose, however, have not increased materially during this period. A type of work which has yielded such vast additions to our national welfare is deserving of the most liberal financial support from the Government. The money so used may be regarded as in the nature of an investment in the national interest, from which, in the light of past experience, continuous returns to the public in value greatly exceeding the outlay may be expected.

Adequate expansion of the department's activities has been effected by the policy of retrenchment in Government expenditures necessarily adopted at the close of the war. This is a service and creative department. It should keep pace with the country's agricultural and industrial development and with the changing needs of our complex population, constituting as it does an integral and inevitable part of this development. The amount involved for all the activities of the department, except Federal aid to the States in road construction, is much less than 2 per cent of the total expenditures of the Government, and adequate support of the basic scientific research work would not materially alter this ratio. As the fiscal situation of the Government permits growing, support should be given to these activities.

Review of Agricultural Production and Exports

Acreage of crops in the United States

[Thousands of acres; i. e., 000 omitted]

Crop	Annual acreage 1910–1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924 [1]
CEREALS											
Corn	105,240	106,197	105,296	116,730	104,467	97,170	101,699	103,740	102,846	104,324	105,012
Wheat	48,953	60,469	52,316	45,089	59,181	75,694	61,143	63,696	62,317	59,659	54,209
Oats	38,014	40,996	41,527	43,553	44,349	40,359	42,491	45,495	40,790	40,981	42,452
Barley	7,593	7,148	7,757	8,933	9,740	6,720	7,600	7,414	7,317	7,835	7,086
Rye	2,305	3,129	3,213	4,317	6,391	6,307	4,409	4,528	6,672	5,171	4,173
Buckwheat	826	769	828	924	1,027	700	701	680	764	739	816
Rice	733	803	869	981	1,119	1,063	1,336	921	1,055	895	892
Grain sorghums		4,153	3,944	5,153	6,036	5,060	5,120	4,635	5,064	5,792	5,085
Total	203,664	223,664	215,750	225,680	232,310	233,073	224,499	231,109	226,825	225,396	219,725
VEGETABLES											
Potatoes	3,686	3,734	3,565	4,384	4,295	3,542	3,657	3,941	4,307	3,816	3,662
Sweet potatoes	611	731	774	919	940	941	992	1,066	1,117	993	938
Beans (commercial)		928	1,167	1,821	1,744	1,060	847	777	1,079	1,320	1,376
Onions (commercial)				65	65	53	65	57	63	62	60
Cabbage (commercial)				93	112	92	119	100	134	105	110
Total	4,297	5,393	5,446	7,282	7,156	5,688	5,680	5,941	6,700	6,296	6,146
MISCELLANEOUS											
Cranberries (3 States)		23	26	18	25	25	25	25	25	28	28
Flaxseed	2,402	1,387	1,474	1,984	1,910	1,503	1,757	1,108	1,113	2,014	3,289
Sugar beets	498	611	665	665	594	692	872	815	530	657	842
Tobacco	1,209	1,370	1,413	1,518	1,647	1,951	1,960	1,427	1,695	1,877	1,720
All hay	66,356	67,904	72,356	71,415	71,120	74,038	73,888	74,401	77,030	75,424	76,385
Cotton	35,330	31,412	34,985	33,841	36,008	33,566	35,878	30,509	33,036	37,123	40,115
Sorghum cane for sirup				415	422	487	536	518	447	380	404
Peanuts			1,043	1,842	1,865	1,132	1,181	1,214	1,005	896	986
Broomcorn		230	235	345	366	352	276	222	275	536	442
Clover seed			939	821	820	942	1,082	889	1,170	775	747
Grand total	313,756	331,994	334,333	354,826	354,243	353,449	347,634	348,178	349,851	351,402	350,829

[1] Subject to revision in December.

Crop production in the United States

[Thousands; i. e., 000 omitted]

Crop	Annual acreage 1910–1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924 [1]
CEREALS											
Corn.....bushels	2,732,457	2,994,793	2,566,927	3,065,233	2,502,665	2,811,302	3,208,584	3,068,569	2,906,020	3,053,557	2,436,513
Wheat.....do	728,225	1,025,801	636,318	636,655	921,438	967,979	833,027	814,905	867,598	797,381	872,673
Oats.....do	1,157,961	1,549,030	1,251,837	1,592,740	1,528,124	1,184,030	1,496,281	1,078,341	1,215,803	1,305,883	1,541,900
Barley.....do	186,208	228,851	182,309	211,759	256,225	147,608	189,332	154,946	182,068	197,691	187,875
Rye.....do	37,568	54,050	48,862	62,933	91,041	75,483	60,490	61,675	103,362	63,077	68,446
Buckwheat.....do	17,022	15,056	11,662	16,022	16,905	14,399	13,142	14,207	14,564	13,965	15,956
Rice.....do	24,378	28,947	40,861	34,739	38,606	41,985	52,066	37,612	41,405	33,717	33,956
Grain sorghums.....do		114,460	53,858	61,409	73,241	130,734	137,408	113,990	90,524	105,835	114,231
Total.....	4,883,819	6,010,988	4,792,634	5,681,490	5,438,245	5,373,520	5,990,330	5,344,245	5,421,344	5,571,106	5,266,550
VEGETABLES											
Potatoes.....bushels	360,772	359,721	286,953	442,108	411,860	322,867	403,296	361,659	453,396	416,105	454,784
Sweet potatoes.....do	57,117	75,639	70,955	83,822	87,924	97,126	103,925	98,654	109,394	97,177	71,861
Beans (commercial).....do		10,321	10,715	16,045	17,397	13,349	9,185	9,150	12,793	16,004	13,327
Onions (commercial).....do		7,664	8,562	12,376	19,621	14,548	21,343	14,165	18,763	17,306	17,627
Cabbage (commercial).....do		671	255	475	842	614	1,062	654	1,089	806	973
FRUITS											
Peaches.....bushels	45,842	64,097	37,505	48,765	33,094	53,178	45,620	32,602	55,852	45,382	51,679
Pears.....do	11,184	11,216	11,874	13,281	13,362	15,006	16,805	11,297	20,705	17,845	17,961
Apples.....do	197,898	230,011	193,905	166,749	169,625	142,086	223,677	99,002	202,702	202,842	179,443
Cranberries (3 States).....do		441	471	249	352	549	449	384	560	652	523
MISCELLANEOUS											
Flaxseed.....bushels	18,353	14,030	14,296	9,164	13,369	7,178	10,752	8,029	10,375	17,060	30,173
Sugar beets.....tons	5,391	6,511	6,228	5,980	5,949	6,421	8,538	7,782	5,183	7,006	7,478
Tobacco.....pounds	991,958	1,062,237	1,153,278	1,249,276	1,439,071	1,465,481	1,582,225	1,069,693	1,246,837	1,515,110	1,242,623
All hay.....tons	81,640	107,263	110,992	98,439	91,139	104,760	105,315	97,770	112,013	106,611	112,450
Cotton.....bales	14,259	11,192	11,450	11,302	12,041	11,421	13,440	7,954	9,762	10,140	13,153
Sorghum sirup.....gallons	14,974	14,823	13,668	37,472	33,387	39,413	49,505	45,566	36,440	32,001	27,339
Peanuts.....pounds			919,028	1,432,581	1,240,102	783,273	841,474	829,307	633,114	647,762	616,200
Broomcorn.....tons		52	39	57	62	53	36	38	37	81	76
Clover seed.....bushels			1,706	1,488	1,197	1,484	1,944	1,538	1,955	1,228	977

[1] Subject to revision in December.

Exports of domestic foodstuffs, cotton, and tobacco from the United States

[Foreign Commerce and Navigation of the United States, 1910–1918, and monthly summaries of the Bureau of Foreign and Domestic Commerce, June, 1921, 1922, 1923, and 1924]

Article exported	Unit	Average 1910–1914	Year ended June 30—									
			1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
		Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Wheat, including flour	Bushel	104, 967	332, 465	243, 117	203, 574	132, 579	287, 402	219, 865	366, 077	279, 407	221, 923	156, 430
Corn, including meal	do	41, 409	50, 668	39, 897	66, 753	49, 073	23, 019	16, 729	70, 906	179, 490	96, 596	23, 135
Oats, including oatmeal	do	9, 655	100, 609	98, 960	95, 106	125, 091	109, 005	43, 436	9, 391	21, 237	25, 413	8, 796
Barley, excluding flour	do	7, 896	26, 755	27, 473	16, 381	26, 285	20, 458	26, 571	20, 457	22, 400	18, 193	11, 209
Rye, including flour	do	888	13, 027	15, 250	13, 703	17, 186	36, 467	41, 531	47, 337	29, 944	51, 663	19, 902
Rice, including flour, meal, and broken Rice	Pound	18, 489	75, 449	120, 695	181, 372	196, 363	193, 128	483, 385	440, 855	741, 509	370, 670	227, 757
Dairy products:												
Butter	do	4, 278	9, 851	13, 487	26, 835	17, 736	33, 740	27, 156	7, 829	7, 512	9, 410	5, 425
Cheese	do	4, 915	55, 363	44, 394	66, 050	44, 303	18, 692	19, 378	10, 826	7, 471	8, 446	3, 938
Milk, condensed, evaporated, and powdered	do	15, 774	37, 236	159, 578	259, 141	528, 759	728, 740	710, 533	266, 506	288, 629	159, 957	216, 319
Total dairy products	do	24, 967	102, 450	217, 459	352, 026	590, 798	781, 272	757, 067	85, 161	303, 612	177, 812	225, 682
Meat and meat products:												
Pickled beef	do	32, 873	31, 875	38, 114	58, 054	54, 468	45, 065	32, 384	23, 313	26, 774	24, 185	21, 851
Fresh beef	do	29, 452	170, 441	231, 214	197, 177	370, 033	332, 205	153, 561	21, 084	3, 993	4, 017	2, 817
Canned beef	do	9, 392	75, 243	50, 804	67, 536	97, 343	108, 460	31, 133	10, 763	3, 749	2, 312	1, 592
Total beef	do	71, 717	277, 559	320, 132	322, 767	521, 844	385, 730	217, 078	55, 160	34, 516	30, 514	26, 260
Bacon	do	182, 474	346, 718	579, 809	667, 152	815, 294	1, 238, 247	803, 667	489, 298	350, 549	408, 334	423, 500
Hams and shoulders	do	166, 813	203, 701	282, 208	266, 656	419, 572	667, 240	275, 456	172, 012	271, 642	319, 269	381, 564
Pickled pork	do	48, 275	45, 656	63, 461	46, 993	33, 222	31, 504	41, 643	33, 286	33, 510	40, 934	37, 469
Canned pork	do	4, 227	4, 645	9, 611	5, 896	5, 195	5, 273	3, 262	1, 119	2, 263	2, 699	2, 725
Fresh pork	do	2, 024	3, 908	63, 005	50, 436	21, 390	19, 645	27, 225	57, 075	25, 911	43, 772	49, 113
Total pork	do	403, 813	604, 628	998, 094	1, 037, 133	1, 294, 673	1, 961, 909	1, 151, 253	752, 790	683, 875	815, 008	894, 371
Mutton and lamb	do	3, 539	3, 877	5, 553	3, 196	2, 098	2, 174	3, 958	7, 255	2, 502	1, 769	1, 633
Lard and neutral lard	do	[1] 517, 927	501, 553	461, 438	462, 346	396, 765	742, 167	610, 427	768, 702	831, 952	979, 136	1, 039, 137
Oleo oil	do	[2] 116, 225	80, 482	102, 646	67, 110	56, 603	59, 191	74, 529	106, 415	117, 174	104, 956	92, 965
Tallow	do	29, 009	20, 240	16, 289	15, 209	5, 015	16, 172	32, 937	16, 844	27, 658	25, 665	37, 372
Other meat products	do	115, 019	125, 895	104, 617	98, 963	69, 834	190, 634	134, 750	107, 473	102, 312	63, 589	64, 446
Total meat and meat products	do	1, 257, 249	1, 614, 234	2, 008, 771	2, 006, 724	2, 346, 834	3, 458, 078	2, 224, 932	1, 814, 638	1, 799, 989	2, 020, 637	2, 156, 184

Apples [3]	Barrel	1,551	2,352	1,466	1,740	635	1,576	1,051	2,665	1,094	1,756	4,098
Cotton	500-pound bale.	8,840	8,807	6,168	6,176	4,641	5,526	7,087	5,623	6,718	5,253	5,899
Tobacco, leaf (including stems and trimmings)	Pound	392,183	348,346	443,293	411,599	289,171	629,288	648,038	506,526	463,389	454,364	597,630
Total agricultural exports, including forest products	Dollar	1,143,642	1,528,491	1,586,227	2,037,172	2,367,647	3,693,193	4,051,560	2,749,518	2,009,981	1,929,150	2,029,686
Total agricultural exports, excluding forest products	do	1,038,041	1,475,938	1,518,071	1,968,253	2,280,466	3,579,918	3,861,511	2,607,642	1,915,866	1,799,168	1,866,897
Index of volume of exports, excluding forest products	Index No.	100	138	118	118	101	145	134	127	137	112	104

[1] Five-year average for lard and four-year average for neutral lard; neutral lard included with "oleo oil" in 1910.
[2] Includes neutral lard for 1910.
[3] Includes boxed apples, boxes reduced to barrels on the basis of three boxes to the barrel.

Financial Statement

The net cost to the Federal Government of the regular activities of the department during the fiscal year 1924 was approximately $36,900,000, as indicated by the following table:

Federal Funds for Regular Work of Department

	Appropriations available, fiscal year 1924	Expenditures, fiscal year 1924	Outstanding obligations, June 30, 1924	Unobligated balances
Agricultural appropriation act, 1924 (exclusive of appropriations made direct to States for research work under the Hatch and Adams Acts and for extension work under the Smith-Lever Act, and appropriations for the acquisition of lands by the National Forest Reservation Commission, for Federal highway and forest road and trail construction, for collection of seed-grain loans made to farmers in drought-striken areas, and for printing and binding for congressional distribution publications on diseases of the horse and diseases of cattle)	$33, 826, 653. 00	$29, 308, 434. 94	$3, 640, 833. 50	$877, 384. 56
Deficiency appropriation acts (Apr. 2, 1924, and Apr. 26, 1924)	2, 675, 950. 00	1, 251, 675. 48	1, 417, 208. 98	7, 065. 54
Supplemental appropriation for increase of compensation (act of Mar. 4, 1923)	3, 304, 800. 00	2, 944, 564. 82	234, 454. 03	125, 781. 15
Permanent annual appropriation for meat inspection (act of June 30, 1906)	3, 000, 000. 00	2, 669, 213. 85	219, 521. 85	111, 264. 36
Revolving fund for classification of cotton	145, 823. 07	80, 151. 26		65, 671. 81
Revolving fund for sale of cotton standards	1, 326. 40	30. 30		1, 296. 10
Allotment for fixed nitrogen research (unexpended balance of allotment previously transferred from appropriation placed at disposal of the President by the national defense act of June 3, 1916)	562, 927. 29	194, 737. 10	5, 587. 54	362, 602. 65
Eradication of foot-and-mouth and other contagious diseases of animals (reappropriation of unexpended balance from 1923)	300, 532. 44	298, 725. 82	1, 806. 62	
Boll-weevil poisoning through use of airplanes (available balance of appropriation made for the fiscal years 1923 and 1924)	10, 792. 46	7, 640. 49	3, 150. 17	1. 80
Investigating sources of crude rubber (available balance of appropriation made for the fiscal years 1923 and 1924)	95, 604. 43	61, 246. 85	33, 944. 82	412. 76
Control of white-pine blister rust (available balance of continuing appropriation made in 1922)	4, 850. 40	830. 06	36. 55	3, 983. 79
Control of insect infestations on national forests (available balance of continuing appropriation made in 1922)	69, 810. 95	27, 596. 76	13, 255. 12	28, 959. 07
Other continuing appropriations for regular work	81, 937. 84	6, 366. 33	1, 154. 38	74, 417. 13
Total	44, 081, 008. 28	36, 851, 214. 00	5, 570, 953. 56	1, 658, 840. 72

Expenditures, as shown above		$36, 851, 214. 00
Outstanding obligations, as shown above		5, 570, 953. 56
Total expenditure for year when all obligations are paid		42, 422, 167. 56
Less:		
Receipts, 1924, deposited in United States Treasury to credit of miscellaneous receipts fund (see below)	$5, 426, 953. 54	
Reimbursement by dealers for cost of classifying cotton	91, 572. 41	
		5, 518, 525. 95
Net cost of regular work		36, 903, 641. 61

Of the total expenditure of $42,400,000 for the regular work of the department, approximately $9,700,000, or 22.9 per cent, was used for research; $2,400,000, or 5.7 per cent, for extension; $20,000,000, or 47.1 per cent, for service and regulatory activities; and $10,300,000, or 24.3 per cent, for the direct eradication or control of various animal and plant diseases and pests.

Direct Income to Government in Connection with Work of Department of Agriculture, Fiscal Year 1924

Incident to the department's work during the fiscal year 1924, direct receipts aggregating $10,065,160.28 were covered into the Treasury, and fines were imposed and judgments recovered by the courts amounting to $157,536.60 in connection with the enforcement by the department of the regulatory acts which devolve upon it for administration and execution, as follows:

Receipts:		
Deposited to credit of miscellaneous receipts fund—		
From business on the national forests	$4, 731, 163. 19	
From other sources	695, 790. 35	
		$5, 426, 953. 54
Deposited to credit of miscellaneous receipts fund but subsequently appropriated as special funds for use of Forest Service—		
10 per cent of net receipts from business on the national forests, for forest road and trail construction in 1925	520, 739. 92	
Contributions from private sources, used mainly for the construction of forest roads and trails	2, 618, 441. 59	
		3, 139, 181. 51
Deposited to credit of appropriations for regular work of department		494, 971. 24
Deposited to credit of appropriations administered by but not used in prosecuting regular work of department—		
Reimbursement for cost of distributing surplus war materials to States for use in road-construction work	781, 745. 60	
Repayments by farmers of seed grain loans	222, 308. 39	
		1, 004, 053. 99
Total receipts		10, 065, 160. 28
Fines imposed and judgments recovered by the courts in connection with violations of statutes intrusted to Department of Agriculture for enforcement		157, 536. 60
Total direct income to Government resulting from activities of Department of Agriculture		10, 222, 696. 88

Federal Funds Administered by Department but not Used for its Regular Work

In addition to the expenditures for conducting the investigative, regulatory, and other regular activities of the department, $102,051,027.36 was expended during the fiscal year 1924 from appropriations administered by the department other than those used for the prosecution of its regular work, as follows:

	Appropriation available, fiscal year 1924	Expenditure, fiscal year 1924	Unexpended balance, June 30, 1924
Extension work in agriculture and home economics:			
Provided by Smith-Lever Act of May 8, 1914	$4, 580, 000. 00		
Supplementary fund provided by agricultural appropriation act for 1924	1, 300, 000. 00		
Balances from prior years	175, 601. 05		
	6, 055, 601. 05	[1] $5, 820, 816. 89	$234, 784. 16

[1] Paid direct to States by Treasury Department.

	Appropriation available, fiscal year 1924	Expenditure, fiscal year 1924	Unexpended balance, June 30, 1924
Research work of State agricultural experiment stations (provided by agricultural appropriation act for 1924)	$1,440,000.00		
Balances from prior years	8.49		
	1,440,008.49	[1] $1,440,000.41	$8.08
Federal-aid road construction (provided by acts of July 11, 1916; Feb. 28, 1919; Nov. 9, 1921; Jan. 22, 1923; and Feb. 26, 1923):			
Rural post roads—			
Appropriated for fiscal year 1924	29,300,000.00		
Balances from prior years	132,079,279.99		
	161,379,279.99	80,380,925.10	80,998,354.89
Roads and trails within or adjacent to national forests—			
Appropriated for fiscal year 1924	4,000,000.00		
Ten per cent of national forest receipts for 1923, available for road and trail building in 1924	528,569.06		
Balances from prior years	11,279,523.79		
	15,808,092.85	9,252,120.99	6,555,971.86
Payments to States from national forest receipts for benefit of county schools and roads	1,371,550.15	[1] 1,371,550.15	
Refunds to users of national forest resources of moneys deposited by them in excess of amounts required to secure purchase price of timber, use of lands, etc	115,085.38	115,085.38	
Acquisition of land by National Forest Reservation Commission for protection of forested watersheds of navigable streams:			
Provided by agricultural appropriation act for 1924	450,000.00		
Balances from prior years	1,140,063.51		
	1,590,063.51	866,819.21	723,244.30
Expenses of National Forest Reservation Commission (provided by act of Mar. 1, 1911):			
Appropriation for fiscal year 1924	25,000.00		
Balances from prior years	49,277.36		
	74,277.36	321.31	73,956.05

[1] Paid direct to States by Treasury Department.

	Appropriation available, fiscal year 1924	Expenditure, fiscal year 1924	Unexpended balance, June 30, 1924
Cooperative work, Forest Service, consisting principally of forest road and trail construction (paid from contributions from private sources):			
Amount contributed dur- 1924	$2, 618, 441. 59		
Balances from prior years	599, 180. 33		
	3, 217, 621. 92	$2, 221, 962. 72	$995, 659. 20
Loans to farmers in drought-stricken areas:			
Appropriation provided by joint resolution of Apr. 26, 1924, for seed and feed loans to farmers in New Mexico	1, 000, 000. 00		
Appropriations provided by agricultural act for 1924 and deficiency act of Apr. 2, 1924, for collection of loans	33, 000. 00		
Loans to farmers in drought-stricken areas—Continued.			
Balance of appropriation provided by deficiency act of Mar. 4, 1923, for collection of loans	$5, 773. 34		
Collections during 1924 of loans made in 1921 and 1922	222, 308. 39		
Previously collected	2, 081, 368. 04		
	3, 342, 449. 77	$410, 881. 56	$2, 931, 568. 21
Work done by Department of Agriculture for other departments at their request, under authority of sec. 7, fortifications act of May 21, 1920:			
Allotments from other departments, fiscal year 1924	72, 860. 00		
Balance of allotments made in prior years	1, 886. 73		
	74, 746. 73	70, 543. 64	4, 203. 09
Printing and binding, for congressional distribution, publication on Diseases of the Horse and Diseases of Cattle (provided by the agricultural act for 1924)	200, 000. 00	100, 000. 00	100, 000. 00
Total Federal appropriations administered by department but not used for its regular work	194, 668, 777. 20	102, 051, 027. 36	92, 617, 749. 84

Summary of All Appropriations Available to Department During Fiscal Year 1924

	Appropriation available, fiscal year 1924	Expenditure, fiscal year 1924	Unexpended balance, June 30, 1924
Federal funds for regular work of department during fiscal year 1924	$44, 081, 008. 28	$36, 851, 214. 00	[1] $7, 229, 794. 28
Federal funds administered by department but not used for its regular work	194, 668, 777. 20	102, 051, 027. 36	92, 617, 749. 84
Total for work of fiscal year 1924	238, 749, 785. 48	138, 902, 241. 36	99, 847, 544. 12
Federal funds remaining available for payment of outstanding obligations incurred in conducting regular work of department during fiscal years 1922 and 1923	7, 001, 980. 09	4, 155, 706. 19	2, 846, 273. 90
Total	245, 751, 765. 57	143, 057, 947. 55	102, 693, 818. 02

[1] Including $5,570,953.56 for outstanding obligations, as of June 30, 1924.

Statement of appropriations, expenditures, and balances for fiscal year 1924

Title of appropriation	Amount appropriated	Expenditures to June 30, 1924	Unexpended balance, June 30, 1924	Amount turned into surplus fund	Balance available for fiscal year 1925
Appropriations and funds for fiscal year 1924:					
Agricultural appropriation act for fiscal year 1924 (exclusive of $29,300,000 for rural post roads and $3,000,000 for forest roads, shown below)	$37, 236, 653. 00	$32, 311, 707. 45	$4, 924, 945. 55	----------	$4, 924, 945. 5
Supplemental appropriations made in deficiency act of Apr. 2, 1924, and joint resolution of Apr. 26, 1924—					
Eradication of foot-and-mouth disease	2, 500, 000. 00	1, 172, 439. 51	1, 327, 560. 49	----------	1, 327, 560. 49
Farmers' seed and feed loans, New Mexico	1, 000, 000. 00	378, 805. 17	621, 194. 83	----------	621, 194. 83
Preventing spread of moths	70, 000. 00	1, 148. 69	68, 851. 31	----------	68, 851. 31
Fighting forest fires	55, 000. 00	55, 000. 00	----------	----------	----------
Protection of lands in Oregon and California railroad forfeiture suits	11, 900. 00	2, 429. 90	9, 470. 10	----------	9, 470. 10
Enforcement of cotton standards act	25, 550. 00	17, 157. 38	8, 392. 62	----------	8, 392. 62
Administration of warehouse act	10, 000. 00	----------	10, 000. 00	----------	10, 000. 00
Experiment station, Island of Guam	3, 500. 00	3, 500. 00	----------	----------	----------
Collection of seed-grain loans	13, 000. 00	7, 628. 51	5, 371. 49	----------	5, 371. 49
Supplemental appropriation for increase of compensation (act of Mar. 4, 1923)	3, 304, 800. 00	2, 944, 564. 82	360, 235. 18	----------	360, 235. 18
Permanent specific appropriations—					
Meat inspection (act of June 30, 1906)	3, 000, 000. 00	2, 669, 213. 79	330, 786. 21	----------	330, 786. 21
Cooperative agricultural extension work (act of May 8, 1914)	4, 580, 000. 00	4, 520, 816. 89	59, 183. 11	----------	59, 183. 11
Cooperative construction of roads and trails, national forests (act of July 11, 1916)	1, 000, 000. 00	----------	1, 000, 000. 00	----------	1, 000, 000. 00
National Forest Reservation Commission (act of Mar. 1, 1911)	25, 000. 00	315. 27	24, 684. 73	----------	24, 684. 73

Statement of appropriations, expenditures, and balances for fiscal year 1924—Continued

Title of appropriation	Amount appropriated	Expenditures to June 30, 1924	Unexpended balance, June 30, 1924	Amount turned into surplus fund	Balance available for fiscal year 1925
Appropriation and funds for fiscal year 1924—Continued.					
Continuing appropriations—					
Cooperative construction of rural post roads (agricultural act, fiscal year 1924)	$29,300,000.00		$29,300,000.00		$29,300,000.00
Forest highways (agricultural act, fiscal year 1924)	1,500,000.00		1,500,000.00		1,500,000.00
Forest road development (agricultural act, fiscal year 1924)	1,500,000.00	$625,707.88	874,292.12		874,292.12
Indefinite appropriations and funds—					
Refunds to depositors, national forests fund	115,085.38	115,085.38			
Roads and trails for States, national forests fund	528,569.06	27,424.03	501,145.03		501,145.03
Payments to States and Territories, national forests fund	1,321,422.66	1,321,422.66			
Payments to school funds, Arizona and New Mexico, national forests fund	50,127.49	50,127.49			
Cooperative work, Forest Service	2,618,441.59	1,622,782.39	995,659.20		995,659.20
Revolving fund for classification of cotton	91,572.41	25,900.60	65,671.81		65,671.81
Revolving fund for sales of cotton standards	1,326.40	30.30	1,296.10		1,296.10
Fund from seed-grain loans collected during 1924	222,308.39	23.79	222,284.60	$110,002.39	112,282.21
Allotments from other departments—					
Collecting statistics, Bureau of Census	5,000.00	2,829.91	2,170.09		2,170.09
Air Service, Army	10,000.00	9,795.32	204.68		204.68
Breeding experimental animals, Army	850.00	727.20	122.80		122.80
Investigations for Federal Power Commission	1,010.00	1,000.04	9.96		9.96
Aviation, Navy	55,000.00	53,637.06	1,362.94		1,362.94
Construction and repair, Navy	1,000.00	982.75	17.25		17.25
Total, current appropriations and funds (exclusive of balances from prior years)	90,157,116.38	47,942,204.18	42,214,912.20	110,002.39	42,104,909.81

Title of appropriation	Amount available for fiscal year 1924	Expenditures during fiscal year 1924	Unexpended balance, June 30, 1924	Amount turned into surplus fund	Balance available for fiscal year 1925
Unexpended balances of appropriations and funds for prior fiscal years remaining available for expenditure or other disposition during fiscal year 1924:					
Appropriations in agricultural act for fiscal year 1922	$1,947,055.19	$558,907.48	$1,388,147.71	$1,388,147.71	
Appropriations in agricultural act for fiscal year 1923	5,385,836.03	3,980,216.63	1,405,619.40		$1,405,619.40
Reappropriation of unexpended balance for eradication of foot-and-mouth disease, etc	300,532.44	298,725.82	1,806.62		1,806.62

Statement of appropriations, expenditures, and balances for fiscal year 1924—Continued

Title of appropriation	Amount available for fiscal year 1924	Expenditures during fiscal year 1924	Unexpended balance, June 30, 1924	Amount turned into surplus fund	Balance available for fiscal year 1925
Unexpended balances of appropriations and funds for prior fiscal years remaining available for expenditure or other disposition during fiscal year 1924—Con.					
Reappropriation of Federal-aid road administrative funds for road-materials investigations	$22,488.72	$12,455.66	$10,033.06	$10,033.66	
Supplemental appropriations for fiscal years 1922 and 1923:					
White-pine blister rust control	4,850.40	830.06	4,020.34		$4,020.34
Insect infestations, national forests	69,810.95	27,596.76	42,214.19		42,214.19
Enforcement of packers and stockyards act	26,913.66	105.18	26,808.48	26,808.48	
Enforcement of future trading act	27,311.41		27,311.41	27,311.41	
Operation of Center Market	22,332.66	203.43	22,129.23	22,129.23	
Salaries and expenses, wool division, War Industries Board	2,500.00		2,500.00	2,500.00	
Protection of lands in Oregon and California railroad forfeiture suits	2,492.39		2,492.39	2,492.39	
Motor boat for Alaskan forests	8,500.00	8,500.00			
Investigating sources of crude rubber	95,604.43	61,246.85	34,357.58		34,357.58
Boll-weevil poisoning through use of airplanes	10,792.46	7,640.49	3,151.97		3,151.97
Preventing spread of Japanese beetle	6,268.71	5,975.48	293.23		293.23
Collection of seed-grain loans	5,773.34	4,424.09	1,349.25		1,349.25
Consolidating addressing and duplicating work	33.94		33.94	33.94	
Blowdown of timber, Olympic National Forest	8,421.63		8,421.63	8,421.63	
Supplemental appropriation for increase of compensation for fiscal year 1923	297,000.04	207,314.21	89,685.83		89,685.83
Unexpended balances of permanent specific appropriations for fiscal years 1922 and 1923—					
Meat inspection	108,899.53	6.93	108,892.60	108,892.60	
Cooperative agricultural extension work	175,601.05		175,601.05	106,050.50	69,550.55
Cooperative construction of roads and trails, national forests	1,484,820.31	1,057,671.20	427,149.11		427,149.11
National Forest Reservation Commission	49,277.36	6.04	49,271.32	24,774.05	24,497.27
Unexpended balances of continuing appropriations for 1923, 1922, and prior fiscal years—					
Cooperative construction of rural post roads	132,079,279.99	80,380,925.10	51,698,354.89		51,698,354.89
Forest highways	6,657,495.47	4,608,436.45	2,049,059.02		2,049,059.02
Forest road development	2,140,080.78	2,140,080.78			
Federal forest road construction	475,746.18	271,419.60	204,326.58		204,326.58
Acquisition of lands for protection of forested watersheds of navigable streams	275,998.18	105,568.30	170,429.88		170,429.88
Enforcement of grain standards act	1,063.59	160.89	902.70		902.70
Administration of warehouse act	525.94	309.76	216.18		216.18

Statement of appropriations, expenditures, and balances for fiscal year 1924—Continued

Title of appropriation	Amount available for fiscal year 1924	Expenditures during fiscal year 1924	Unexpended balance, June 30, 1924	Amount turned into surplus fund	Balance available for fiscal year 1925
Unexpended balances of appropriations and funds for prior fiscal years remaining available for expenditure or other disposition during fiscal year 1924—Con.					
Unexpended balances of continuing appropriations for 1923, 1922, and prior fiscal years—Continued.					
Determining cotton standards and spot markets	$234.81	$200.00	$34.81		$34.81
Sullys Hill National Park game preserve	4,494.19	4,494.19			
Wind Cave National Park game preserve	1,241.52	1,201.49	40.03		40.03
Laboratory building for Bureau of Public Roads, Arlington farm	74,377.79		74,377.79		74,377.79
Unexpended balances of indefinite appropriations and funds for 1923, 1922, and prior fiscal years:					
Roads and trails for States, national forests fund	521,381.05	521,381.05			
Cooperative work, Forest Service	599,180.33	599,180.33			
Revolving fund for classification of cotton	54,250.66	54,250.66			
Fund from seed-grain loans collected during 1922 and 1923	2,081,368.04		2,081,368.04	$1,150,281.60	931,086.44
Unexpended balance of allotment for nitrate plants	562,927.29	194,737.10	368,190.19		368,190.19
Unexpended balances of allotments from other departments for 1922 and 1923—					
Air Service, Army	202.91	199.50	3.41	[1] 3.41	
Breeding experimental animals, Army	246.43	47.88	198.55	[1] 198.55	
Manufacture of arms	32.37		32.37	[1] 32.37	
Investigations for Federal Power Commission	405.62	324.58	81.04	[1] 81.04	
Aviation, Navy	999.40	999.40			
Total, balances of appropriations and funds for prior fiscal years	155,594,649.19	95,115,743.37	60,478,905.82	2,878,191.97	57,600,713.85

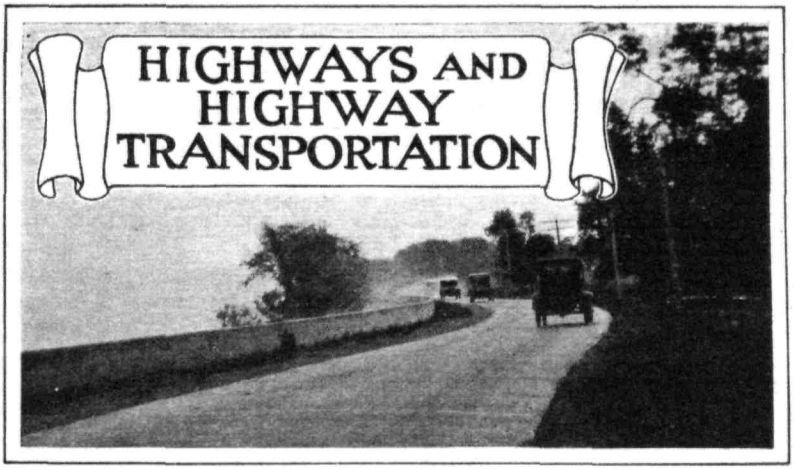
SUMMARY

Current appropriations and funds	$90,157,116.38	$47,942,204.18	$42,214,912.20	$110,002.39	$42,104,909.81
Balances of appropriations and funds for prior fiscal years	155,594,649.19	95,115,743.37	60,478,905.82	2,878,191.97	57,600,713.85
Total	245,751,765.57	143,057,947.55	102,693,818.02	2,988,194.36	99,705,623.66

[1] These balances, no longer available for expenditure, totaling $315.37, were returned to departments *from which allotments originated for transfer to surplus fund.*

Publications Issued

Series	New		Reprinted		New and reprinted	
	Number of titles	Number of copies	Number of titles	Number of copies	Number of titles	Number of copies
Farmers' Bulletins	77	3,973,643	318	6,781,374	395	10,755,017
Department Bulletins	74	380,500	45	116,000	119	496,500
Department Circulars	42	392,500	15	174,000	57	566,500
Secretary and Miscellaneous Circulars	16	1,330,500	5	40,500	21	1,371,000
Statistical Bulletins	3	13,500			3	13,500
Yearbook separates	14	120,500	7	11,500	21	132,000
Soil Surveys	34	34,000			34	34,000
Service and Regulatory Announcements	47	296,500	6	12,000	53	308,500
Journal of Agricultural Research reprints	92	134,126			92	134,126
Farmers' Bulletin lists			3	10,700,000	3	10,700,000
Miscellaneous	136	983,265	27	74,110	163	1,057,375
Total	535	7,659,034	426	17,909,484	961	25,568,518
Periodical publications:						
Journal of Agricultural Research	45	90,000			45	90,000
Experiment Station Record	18	122,850			18	122,850
Weather, Crops and Markets	26	3,033,000			26	3,033,000
Crops and Markets	31	1,287,000			31	1,287,000
Public Roads Magazine	4	12,000			4	12,000
Official Record	51	816,000			51	816,000
Clip Sheet	51	255,000			51	255,000
Weather Review	13	20,800			13	20,800
Total	239	5,636,650			239	5,636,650
Grand total	774	13,295,684	426	17,909,484	1,200	31,205,168



By T. Warren Allen, A. B. Fletcher, A. T. Goldbeck, E. W. James, J. Gordon McKay, H. R. Trumbower, and H. S. Fairbank, *Bureau of Public Roads*

IT WAS just 33 years ago that New Jersey, the first State to depart from the prevailing custom, passed a law providing for a certain measure of State participation in road building. Prior to that time full jurisdiction over the highways of all States had been lodged in the counties or equivalent units of government. Under the original New Jersey law, the State was not given entire control over any of the roads. The purpose of its framers was to establish a State department, employing skilled engineers, which would act in an advisory capacity to the county officials with a view to improving the character of the road-construction work of the State. The initiative in drawing the State into participation was carefully vested in the local authorities, who could request State aid or not, as they might see fit. If they invited the aid of the State, the highway department was to be prepared to develop plans and specifications and to inspect and supervise the construction of the roads, but contracts were to be let by the counties, and the roads, after construction, were to remain as county roads subject to maintenance by the county. More as an inducement for the county authorities to seek the aid of the State department than from any recognition of responsibility on the part of the State, funds were appropriated by the State legislature from which to pay one-third of the cost of the roads constructed.

This was the first establishment of the principle of State aid for highway construction. With minor modification it was subsequently adopted as the first step in State participation by every other State. The New England and Middle Atlantic States, with California, Delaware, Maryland, and North Carolina were quick to follow New Jersey's lead. Nearly all of these States had adopted the policy of State aid by the end of the first decade after its initial adoption. By 1910 it had been accepted in nearly a score of States in the West, Middle West, and South, and year by year it was adopted by others.

TABLE 1.—*Dates of passage of State-aid highway laws*

State	Year in which first State-aid law was passed	State	Year in which first State-aid law was passed	State	Year in which first State-aid law was passed	State	Year in which first State-aid law was passed
Alabama	1911	Kansas	1911	Nevada	1911	Rhode Island	1902
Arizona	1909	Kentucky	1912	New Hampshire	1903	South Carolina	1917
Arkansas	1913	Louisiana	1910	New Jersey	1891	South Dakota	1911
California	1895	Maine	1901	New Mexico	1909	Tennessee	1915
Colorado	1909	Maryland	1898	New York	1898	Texas	1917
Connecticut	1895	Massachusetts	1892	North Carolina	1901	Utah	1909
Delaware	1903	Michigan	1905	North Dakota	1909	Vermont	1898
Florida	1915	Minnesota	1905	Ohio	1904	Virginia	1906
Georgia	1908	Mississippi	1915	Oklahoma	1911	Washington	1905
Idaho	1905	Missouri	1907	Oregon	1913	West Virginia	1909
Illinois	1905	Montana	1913	Pennsylvania	1903	Wisconsin	1911
Indiana	1917	Nebraska	1911			Wyoming	1911
Iowa	1904						

State Participation in Road Building

The State-aid policy as adopted by the various States took a number of forms. In some States the aid offered consisted only of advice which might be accepted or rejected by the local authorities who retained absolute control over all the roads. In such States no financial aid was extended. In those States which provided for financial aid its acceptance generally implied an agreement on the part of the county to accept the supervision of the State authorities until the work of construction was completed, after which the road reverted to full county control. In other States the joint participation of the State and county in the construction of certain classes of roads, generally the most important ones, was made mandatory; and there were still other variations which differentiated the systems as adopted by the several States.

Many of the States still retain the State-aid policy for certain classes of roads in conjunction with the policy of complete State control of the principal State roads; in some States it remains as the only form of State participation.

The experience of the States which have operated for the longest periods indicates that not many years elapse after the adoption of the State-aid principle before it begins to be realized that for the problem presented by a certain class of roads—the main roads—the only adequate solution is complete State control. Massachusetts was the first State to define this principle upon which the most successful continuous road building effort in the country has been based. As in the case of the State-aid policy the New England and Middle Atlantic States with Maryland and California were first to adopt it, the only except in this group being Vermont. They have since been followed by many others.

State Control Over State System the Most Satisfactory Policy

Not a single State that has adopted this principle has receded from it. The State-aid principle has not been entirely abandoned in these States. In practically every one it is retained and employed as a means of developing the more important lateral roads; but their

experience indicates that the only hope of developing a connected system of main State arteries is for the State to assume full control and financial responsibility for the construction and maintenance.

There are several compelling reasons for this, which will eventually lead all the States to adopt the plan. It has been definitely proved that complete connection of main arteries can not be made so long as there is any dependence upon county cooperation. The sections of the roads in the various counties are not invariably the roads in which the county has the greatest interest, and in such cases it is practically impossible to effect the appropriate improvement with county assistance.

By their very nature the roads of the State system are the most heavily traveled roads of the State; their traffic demands a higher type of improvement than is required for most other roads. In many instances the traffic which demands the improvement is largely extra-county traffic and the county is unwilling and often financially unable to assume its share of the cost of improvement.

The heavy traffic on the main roads is frequently made up largely of vehicles passing from city to city; not infrequently the city origins and destinations are not included in the county through which a large portion of the route runs, and such a county almost invariably demurs to the proposal that it appropriate a goodly portion of its construction funds for the improvement of the road.

There is an insistent county demand for the distribution of the State-aid funds in proportion to the incidence of the taxes or the mileage of road or the area or on some such proportionate basis which will secure to each county its full proportion of the State aid. Seldom is a system of State roads so selected that the length of road in each county is proportioned on any such basis. The prime consideration in the location of State roads is to serve the State needs; county lines are ignored, or should be. Here then is another obstacle in the way of a proper development of State roads under the State-aid system.

Lack of Maintenance the Rock Upon Which State Aid Founders

Finally, and this perhaps is the most fatal defect of the State-aid system as a means of developing connected main roads, it has been found that the counties can not be depended upon to maintain the roads after completion. Even if the county which lies in the path of intercity traffic can be prevailed upon to appropriate its proportion of the cost of construction it soon wearies of the burden of maintaining the road for the use of the extracounty traffic.

This, then, is the way we have come to the present situation. Beginning 33 years ago, from a condition of complete county control over all roads, there has been a development of some measure of State aid in every State. As a rule the policy, in its inception, has provided for little more than State advice; some few States have not progressed further than this stage; the majority have moved on to the requirement of compulsory State supervision over the construction of the aided roads and the appropriation of State revenues to pay a portion of the cost of construction. In all States the maintenance of the State-aid roads is a duty devolving upon the counties, and the performance of the duty generally falls short of com-

plete effectiveness. One State, Maryland, has seriously considered assuming the maintenance of the aided roads as a State charge, but has not done so.

From this position 32 States have progressed to the point of providing full State control over the construction and maintenance of main State roads built entirely or largely at State expense. In several of these States the designated system is completed or nearly completed and is being maintained effectively by the State highway department. With one or two conspicuous exceptions no State operating under any other system has approached the goal of a completed system.

Federal Aid An Important Factor

The consummation that is the desire of everyone is a connected system of highways which will permit the free flow of travel from point to point without the annoyance of frequent interruptions by unimproved roads. We began moving toward that end in 1891, when New Jersey passed its State-aid law. The movement was accelerated and the ultimate attainment of the end was assured when, on July 11, 1916, the President signed the Federal-aid road act.

A hundred years before the Federal Government had been active in the construction of roads. Many of the principal roads of the West and Middle West were originally laid out and built as military roads connecting the forts which dotted what was then a wild and sparsely settled country. In 1811 it began the construction of the great National Pike, which was to extend from Cumberland, Md., to St. Louis, on the Mississippi, and serve as one of the principal arteries of communication for the settlement of the great Northwest Territory. The improvement of this road was carried on more or less actively until 1840, and the road was built and surfaced with stone throughout practically the entire distance from Cumberland to the western Indiana line, when it became apparent that the newly constructed railways would rapidly replace the highways as the ties which would unite the far-flung settlements that were springing up over a vast area. So strong was the conviction that the highway would be practically entirely displaced by the new kind of transportation that the National Pike for the rest of its length, from the Indiana line across Illinois to St. Louis, was not surfaced with stone, but was graded, in the belief that the grade would eventually serve a railroad. The last Federal appropriation for the National Pike or Cumberland Road, as it was called, was made in 1838. From that time until 1893 the National Government took no part whatever in the construction and maintenance of the roads.

In that year there was created in the Department of Agriculture a small office with an annual appropriation of $10,000, which was assigned the task of studying the existing highway situation and reporting upon the best methods of road construction and maintenance. This Office of Road Inquiry, as it was called, was destined to continue its work of study and research from year to year, imparting to the local road builders the knowledge it gained by building as models short sections of road, known as object-lesson roads, in numerous counties.

When, finally, in 1916 the passage of the Federal-aid road act provided for resumption of active Federal participation in road con-

struction the former Office of Road Inquiry, then grown into the Bureau of Public Roads, was given the duty of supervising for the Government the construction of the Federal-aid roads, and its long study of road conditions throughout the country enabled it to perform that duty with intelligence and efficiency.

To the extent of the money it appropriated, the Federal-aid road act authorized the Secretary of Agriculture to participate in the improvement of post roads up to 50 per cent of the cost of the improvement, providing that the aid granted to any particular project did not exceed $10,000 a mile, exclusive of the cost of bridges more than 20 feet long. But the most important and far-reaching provision of the law was its requirement that the States desiring to receive the Federal aid would first have to create a State highway department adequate in authority and equipment to cooperate with the Federal Government and assume the responsibility for the immediate supervision of the construction. Up to the year before its passage there were still six States which had no State highway department, and a number of the departments that had been created had been given only nominal authority. As the wisdom of the policy of State control had been thoroughly proved through a score of years, the Federal act made its adoption a condition of the receipt of the Federal aid and thus at one stroke brought about the creation of departments in the laggard States and made State control a real factor in highway construction in a number in which it had hitherto been only nominal. The first Federal act, therefore, had the effect of accelerating a tendency toward State control which had already been proved to be the wisest course by the experience of the leading States.

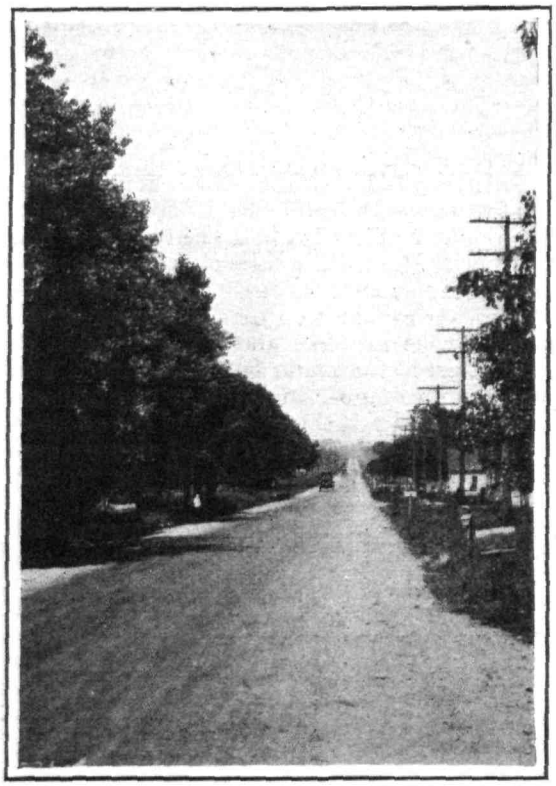
Upon the foundation thus laid down the Federal highway act, passed five years later, added two other requirements which are destined to have a profound effect upon the course of highway improvement. First, it authorized the Secretary of Agriculture, in cooperation with the State highway departments, to designate a system of main interstate and intercounty highways, limited in each State to 7 per cent of the total mileage existing at the time of its passage, and thus imposed upon the backward States another important principle which had previously been found successful in the experience of the leading States. The act of 1916 having brought about the universal adoption of the principle of State control of main roads, this new act led to the adoption of a definite program of improvement, extensive enough to serve the most imperative needs of all States and the Nation as a whole, but so limited that its completion can be expected in a few years. And to this requirement it added the further stipulation that the roads built must be maintained—by the State highway departments if, as is confidently expected, they will, but if not, then by the Federal Government.

The importance of the Federal legislation then is that it embodies and applies those principles which have been found to be most successful in the experience of the most advanced States, and it has caused the adoption of these principles by all States much sooner than they would have been adopted on the initiative of the States. Among these principles, the application of which is extended to all States by the Federal laws, are (1) the engineering control of main roads by State highway departments, (2) the designation of con-

nected systems of main roads to be constructed under State supervision with funds under State control, and (3) the continuous maintenance of such roads by the State highway departments.

Mileage and Classification of American Highways

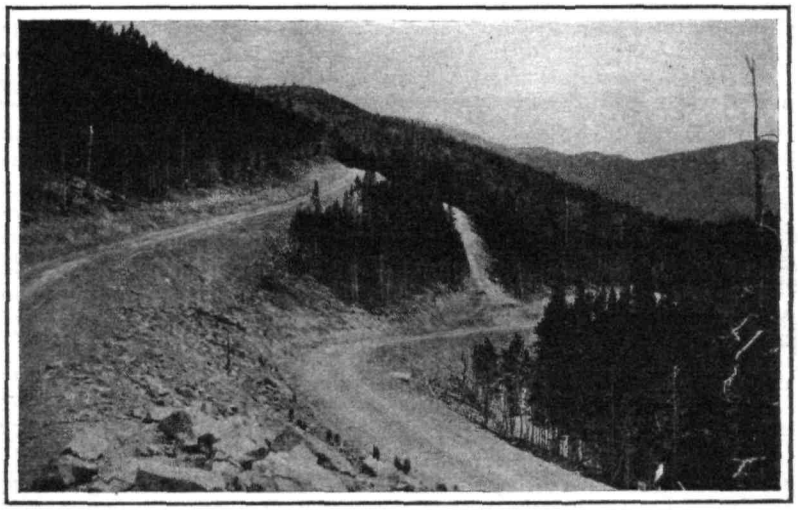
There are 2,941,294 miles of roads in the United States according to the most reliable estimates, a mileage so great that if it measured a single continuous road, that road would encircle the earth more than 100 times. Not all of this mileage, however, is of equal importance from the standpoint of the transportation service it is called upon to render. Some of it consists of roads used by so few people that they hardly should be considered as public roads at all. Another portion of it consists of neighborhood roads, the cross roads which run between the more important local roads and lead to a few farms. Still another portion consists of the principal local roads, which, branching off from the main arteries pass through a fairly large agricultural area and lead to the small towns. Next in order of importance are the main arteries of the States, the backbone of the whole system, which runs between the large cities by the most direct routes, and feed and are fed by the principal local roads which branch off from them. Finally there are roads of interstate importance relatively small in their total length, and in the main coinciding in each State with the main trunk lines of the State system. These are the through roads, the transcontinental trails, which run between the principal cities of the nation. Whether they are officially so recognized and classified or not, all roads by virtue of the traffic they carry belong to one of these classes, which may be called (1) interstate roads, (2) State roads, (3) county roads, and (4) local roads.



A FEDERAL-AID HIGHWAY IN OHIO

FIG. 1.—The Federal-aid highway system designated under the terms of the Federal highway act includes 171,687 miles of main interstate and intercounty roads. Federal-aid funds appropriated by the Government are expended only on this system

The Federal-aid highway system.—In accordance with the Federal highway act, the Secretary of Agriculture, acting through the Bureau of Public Roads, and the officials of the several State highway departments, has recently designated the roads which constitute the Federal-aid highway system. These roads, which form a connected system covering the entire United States, have at present a total length of 171,687 miles. The greatest mileage which can be included in the system, under the terms of the act, is approximately 200,000 miles. The roads, thus officially designated, comprise, in the main, all roads referred to above as interstate roads. They reach directly nearly every city of 5,000 population or greater, and are so chosen that if a zone 10 miles wide was marked off on each side of them, these zones would include the homes of 90 per cent of the population.



THE NATIONAL FOREST ROAD THROUGH MONARCH PASS, COLO.

FIG. 2.—National forest roads are built by the Federal Government with and without local cooperation. They are needed for the better administration and protection of the forests and to make available the wealth of natural resources and beautiful scenery of these great Federal reservations

National forest roads.—In addition to the provision they make for the cooperative construction of Federal-aid roads the various Federal acts, previously referred to, also have made appropriations for the improvement of certain roads in the various national forests under the supervision of the Federal officials. Roads are needed in and across these vast areas not only to facilitate the work of administering the forests and make possible their protection from fire, but also to provide for transportation across them between the State lands separated by them. As the national parks and national monuments are in nearly every instance almost entirely surrounded by national forests access by highway to these reserved areas of scenic beauty is possible only by crossing the national forest.

To meet these various needs for roads in the forest areas the Federal Government has appropriated a total of $47,000,000 for forest-road construction and a system of roads in those areas, including

13,622 miles and tying together closely with the Federal-aid highway system, has been designated jointly by the State highway departments and by the Forest Service and the Bureau of Public Roads. This system is now in course of improvement concurrently with the Federal-aid highway system.

State road systems.—Systems which include practically all roads which may be classified as State roads have now been so designated in each of the States. In some States the selected roads have been specifically designated by name and description in the laws of the State, in others the designation of the system has been left to the State highway department, but in one way or another such systems have now been designated in each of the States. These systems which are known as State highway systems and which are made up of what the public knows as the State roads, include, in most States, all the roads of the Federal-aid highway system and a number of others, of important State significance; although in some States the Federal-aid system is larger than the designated State system.

County and local roads.—All roads other than those included in the Federal-aid highway system or one of the State highway systems are county or local roads. In some counties the more important roads below the importance of State roads have been classified as county systems, excluding a balance of mileage which is referred to as township, district, or local roads; but, in the main, the county and local roads are not definitely subdivided.

The total mileage of roads in each of the States and the mileage included in the Federal-aid and State systems in each State are shown in Table 2, in which, it is repeated, the Federal-aid roads coincide generally with the State roads.

TABLE 2.—*Total mileage of highways and mileage of Federal-aid and State highway systems in each State*

State	Total highway mileage	Approximate mileage of State highways	Approved mileage of Federal-aid highway system	State	Total highway mileage	Approximate mileage of State highways	Approved mileage of Federal-aid highway system
Alabama	58,410	3,958	3,872	Nevada	26,057	434	1,422
Arizona	21,227	1,725	1,498	New Hampshire	13,841	1,493	988
Arkansas	74,866	6,638	4,624	New Jersey	14,066	712	1,198
California	75,889	6,393	4,468	New Mexico	45,549	7,963	3,134
Colorado	48,143	8,923	3,271	New York	81,878	11,260	4,498
Connecticut	12,152	1,569	835	North Carolina	68,204	6,497	3,770
Delaware	3,933	355	320	North Dakota	106,523	4,860	4,885
Florida	27,643	3,508	1,883	Ohio	84,219	10,465	5,458
Georgia	94,912	6,119	5,450	Oklahoma	[1] 134,263	14,688	5,590
Idaho	31,099	4,028	2,769	Oregon	45,475	4,450	2,814
Illinois	96,326	4,800	4,987	Pennsylvania	90,991	10,783	3,954
Indiana	76,246	3,819	3,957	Rhode Island	2,274	762	166
Iowa	104,082	6,647	7,185	South Carolina	61,850	4,015	3,047
Kansas	128,551	6,696	6,892	South Dakota	115,485	5,542	5,457
Kentucky	68,704	6,500	3,255	Tennessee	62,546	4,170	3,050
Louisiana	39,803	7,000	2,681	Texas	167,685	15,610	10,827
Maine	21,483	1,417	1,393	Utah	23,047	3,251	1,588
Maryland	14,772	1,950	1,427	Vermont	14,677	4,270	1,043
Massachusetts	18,868	1,490	1,308	Virginia	59,080	4,400	3,023
Michigan	77,283	6,567	4,582	Washington	45,816	3,123	2,908
Minnesota	107,103	6,974	6,794	West Virginia	35,173	1,042	1,919
Mississippi	53,085	5,400	3,357	Wisconsin	78,679	7,524	3,744
Missouri	111,520	7,640	7,530	Wyoming	46,528	3,190	3,013
Montana	64,732	4,694	4,366				
Nebraska	86,556	5,742	5,489	Total	2,941,294	251,056	171,687

[1] Includes about 26,000 miles of section lines declared public highways by law, but which are not open for general traffic.

Authorities in Control of Roads

The authorities in control of rural road work of the various classes are the Secretary of Agriculture, who acts through the United States Bureau of Public Roads; the State highway departments of the 48 States; and the governing bodies of the various counties, variously known as county commissioners, boards of supervisors, county judges, or police juries. In some States township or road district officials have control over the construction and repair of certain local roads.

Control of Federal-aid roads.—The nature and extent of the Federal-aid highway system and the manner of its designation have already been briefly described. All appropriations for Federal aid made since the designation of the system have been expendable only for the improvement of roads included in it; and while no such requirement was imposed by the original Federal-aid road act, the roads improved with funds appropriated by that act do, for the most part, form parts of the designated system.

Federal-aid roads are constructed under the immediate supervision of the several State highway departments subject to the approval of the Secretary of Agriculture, who has delegated the details of administration to the Bureau of Public Roads. The bureau has established 12 districts, each in charge of a district engineer who cooperates directly with the State highway engineers of the States included in his district. The five western districts, comprising what is known as the western region, are under the general supervision of a deputy chief engineer, with headquarters at San Francisco, who is responsible to the chief engineer at Washington. All other districts are directly under the supervision of the chief engineer.

When a State highway department is prepared to undertake the improvement of a road included in the Federal-aid system and desires to receive Federal aid in financing the construction it notifies the district engineer who, if he has not already done so, immediately makes an examination of the road and the plans proposed for its improvement. If he approves the State's proposals he submits the project either to the deputy chief engineer at San Francisco or to the chief engineer at Washington with appropriate recommendations. But he may at once authorize the State highway department to proceed wih the construction subject to subsequent agreement in regard to any modifications in the plans which may be required by his superior authorities. Such modifications are now rarely required, because as the result of a number of years of cooperation the requirements of the Federal Government are now well understood and complied with by the States, so that when a project is submitted for approval by the district engineer such approval is practically assured. It is only necessary then to draw up a formal agreement between the State highway department and the Secretary of Agriculture detailing the character of the construction and the partition of the cost between the State and the Federal Government. This done, the construction proceeds with the full authority of the Government under the immediate supervision of State highway engineers and subject to frequent inspection by Federal engineers.

As required by the law the Federal Government pays no more than 50 per cent of the cost of the labor and materials used in the construction, nor more than $15,000 a mile, exclusive of the cost of bridges more than 20 feet long, except in the States in which more than 5 per cent of the land area is unappropriated public land. In these States the permissible percentage of the cost which may be paid by the Government is increased as shown in Table 3, and the maximum payment per mile is increased in proportion.

TABLE 3.—*Maximum percentage of cost of Federal-aid roads which may be paid by Federal Government in public-land States*

State	Percentage of cost payable by Federal Government	State	Percentage of cost payable by Federal Government
Arizona	59.527361	Nevada	86.900804
California	59.686222	New Mexico	60.424515
Colorado	55.709585	Oregon	60.842408
Idaho	59.137183	Utah	76.444287
Montana	53.605516	Wyoming	62.517107

Payment of the Government's share of the cost is made upon completion of the whole or any part of a project to the satisfaction of the Secretary of Agriculture; and the money with which to pay the State's share may be drawn from the State treasury or may be obtained in whole or in part from county governments. But in the latter case the Federal Government requires that the money must be turned over to the State highway department to be expended solely under its control without local interference. Under the terms of its agreement with the Secretary of Agriculture the State binds itself to maintain the road when it is completed, and its performance of this part of its contract is insured by periodic inspections of the condition of the road by Federal engineers. If at any time it is found to be in need of repair, the Secretary of Agriculture notifies the State highway department which must within 90 days place the road in a proper condition of maintenance. If it fails to do so the Federal Secretary must proceed immediately to give the road the attention it requires and charge the cost against the Federal funds allotted to the State, and he must refuse to approve any further Federal-aid improvement in the State until the amount expended for the repair of the road in question is reimbursed by the State. When such reimbursement is made the amount is paid into the Federal highway funds for reapportionment among all States, so that the offending State loses all but its pro rata share.

The Federal-aid appropriations or authorizations made by the Government for each fiscal year from 1917 to the year ended June 30, 1925, are given in Table 4.[1]

[1] Apportionment of the various appropriations and authorizations among the various States is given in the Agricultural Statistice, Table 765, p. 1184.

TABLE 4.—*Funds appropriated or authorized for Federal aid in road building*

Fiscal year ended June 30	Federal-aid appropriation or authorization	Fiscal year ended June 30	Federal-aid appropriation or authorization	Fiscal year ended June 30	Federal-aid appropriation or authorization
1917	$5,000,000	1920	$95,000,000	1923	$50,000,000
1918	10,000,000	1921	100,000,000	1924	65,000,000
1919	65,000,000	1922	75,000,000	1925	75,000,000

These various appropriations and authorizations have been apportioned among the 48 States (and, recently, the Territory of Hawaii) in accordance with a formula prescribed by law, the effect of which is to divide each appropriation into three equal parts, the first of which is apportioned in proportion to the land area of the various States, the second in proportion to their population, and the third in the ratio that the total mileage of rural post roads and star routes in each State bears to the total mileage of such roads in the United States.

Control of State roads.—Control over the State roads is vested, in greater or less degree, in all States in the State highway department. In the more advanced States the State highway department determines the order in which the roads of the State system are to be improved, prepares the plans for the improvement, supervises the construction and pays for it with State funds entirely under its own control, and, after completion, maintains the roads also with State funds under its own control. In the less advanced States control is divided between the State highway department and the county governing bodies in various ways. In some States initiation of improvement rests with the counties; in some the money to pay for the improvement is raised by the counties; in some the actual construction work may be carried on by the counties subject to the approval of the State highway department; in some the maintenance of the roads is left to the county officials. In such ways the control over the State roads is variously partitioned between State and county authorities, grading down from practically complete State control in some States to a control which is not much more than nominal in a few. But all States are moving toward the ideal of complete State control which, by the experience of the leading States, has been demonstrated to be the most satisfactory and successful method. When the State and county share in the cost of construction the road is generally called a State-aid road.

Control of county and local roads.—County roads, in general, are built and maintained by county officials with funds raised, as a rule, by taxation of real and personal property within the county. The more advanced counties employ a county engineer or an engineering organization to supervise the technical details of construction, the county governing body acting only as an administrative body. A large number of counties, however, still attempt to build and maintain roads without skilled engineering supervision, generally with unsatisfactory results.

In some States the lesser roads in each county are administered, constructed, and maintained by a host of township and district

officials each of whom may have charge of only a few miles of road. In other States special road-improvement districts are created upon petition, by the State legislature, and the construction of the road or roads included in the district is supervised by special appointed commissions. In general the roads thus built revert to the county authorities for maintenance. When this method is adopted the entire cost of the construction is borne by the property owners of the district, generally in accordance with a sliding scale of property assessment, based upon the proximity of the property taxed to the road improved. Whenever an effort is made in this way to improve an important, heavily travelled thoroughfare, the result is invariably to place too great a financial burden upon those whose property lies along the road, who may benefit no more and possibly not as much by the improvement as other persons resident outside of the district who may, nevertheless, make greater use of the roads.

The Present State of Road Improvement

A survey of highway conditions made by the Office of Public Roads in 1904 showed that there were then in the United States 153,662 miles of improved roads. Examining the character of the improvement we find that 38,622 miles were classed as stone or macadam roads, 108,233 miles as gravel roads; and 6,807 miles were surfaced with other materials, principally sand-clay, oiled earth, or shell, and others which, in the light of modern traffic, are regarded as inadequate for road surfacing. Some 200 miles of brick pavement, mainly in the States of Ohio, West Virginia, and Iowa, and a few miles of bituminous macadam and concrete roads crudely built, were the straws which pointed the direction that was to be taken in the following years. With the exception of these few miles of more durable pavement, it is safe to say that by far the larger part of this early investment in improved roads was dissipated by a combination of the destructive action of the motor vehicle, for which these roads were totally inadequate, and the failure to recognize the importance of maintenance measures. So that it may almost be said that, so far as the needs of modern traffic are concerned, the development of road improvement in the United States began about 1904, and whatever progress has since been made is attributable entirely to the efforts that were made during the succeeding period of 20 years.

The exact state of improvement at the present time is not known. The latest complete survey of the situation was made by the Bureau of Public Roads in 1921. At that time there was a total surfaced mileage of 387,760 miles, of which 63,339 miles were classified as sand-clay; 199,899 miles as gravel, chert, or shale; 58,036 miles as water-bound macadam; 19,309 miles as surface-treated macadam; 10,264 miles as bituminous macadam; 1,601 miles as sheet asphalt; 4,978 miles as bituminous concrete; 15,611 miles as Portland cement concrete; 3,333 miles as brick, 27 miles as wood block; 60 miles as stone block; and 11,303 miles as miscellaneous types; the balance of the 2,941,294 miles of road then existing being unsurfaced earth roads either totally unimproved, or graded and drained.

TABLE 5.—*Mileage and type of roads in the United States, January 1, 1922, by geographic divisions* [1]

Geographic division	Total all types	Surfaced roads				
		Sand-clay	Gravel, chert, and shale	Water-bound macadam	Surface-treated macadam	Bituminous macadam
	Miles	*Miles*	*Miles*	*Miles*	*Miles*	*Miles*
New England	83,295	89	11,590	2,100	959	1,807
Middle Atlantic	186,935	12	8,039	7,230	6,924	4,137
East North Central	412,753	4,523	78,651	26,509	4,000	1,910
West North Central	759,820	6,343	20,791	1,603	219	155
South Atlantic	365,567	37,892	11,611	2,943	3,352	992
East South Central	242,745	6,632	17,115	15,181	1,966	131
West South Central	416,617	4,902	16,599	666	457	254
Mountain	306,382	2,706	11,810	262	64	34
Pacific	167,180	240	23,693	1,542	1,368	844
Total all States	2,941,294	63,339	199,899	58,036	19,309	10,264

Geographic division	Surfaced roads							Earth roads
	Sheet asphalt	Bituminous concrete	Portland cement concrete	Brick	Wood block	Stone block	Miscellaneous	
	Miles	*Miles*	*Miles*	*Miles*	*Miles*	*Miles*	*Miles*	*Miles*
New England	7	564	353	9	1	10	236	65,570
Middle Atlantic	212	1,366	2,340	572	2	44	8,068	147,989
East North Central	38	514	5,633	1,733	8	.....	779	288,455
West North Central	10	114	817	157	10	.....	4	729,597
South Atlantic	600	435	1,753	778	.....	6	816	304,389
East South Central	61	80	209	11	6	.....	86	201,267
West South Central	55	324	314	22	.....	.....	393	392,631
Mountain	13	114	520	.....	.....	.....	16	290,843
Pacific	605	1,467	3,672	51	.....	.....	905	132,793
Total all States	1,601	4,978	15,611	3,333	27	60	11,303	2,553,534

[1] For classification of roads by States as of Jan. 1, 1922, see Agricultural Statistics, Table 768, p. 1188.

The indications are that approximately 40,000 miles of surfaced roads of various types have been constructed in the entire country during each of the three years since 1921, but there are no exact statistics to show how this mileage has been divided by types or States. Moreover, it may not be assumed that the net mileage of surfaced roads has been increased during the 3-year period by the total amount of the new construction, since a rather considerable part of it consists of the resurfacing of existing surfaced roads. All things considered, it is probably not far from the fact to say that the total mileage of surfaced roads at the end of 1924 was between 450,000 and 475,000 miles.

Erroneous Ideas of Road Improvement

Before entering into a discussion of the various types of improvement and their purposes, there are certain widely entertained erroneous ideas the falsity of which should be made apparent.

Improved roads not luxuries.—The first is the idea that an improved road is a luxury to be enjoyed if it can be afforded, but not essential to the economic health of the community. It is an idea

dition, the road may be surfaced with sand-clay or gravel which, while it will entail an additional expenditure for improvement, will be more than compensated for by the greater multiplication of individual operating savings resulting from the greater traffic. In a similar manner, if the traffic is heavier than a gravel road will carry, a surface of bituminous macadam may be economically applied; and it is not until the traffic reaches a very considerable density that one of the hard-surfaced types is required or can be economically justified. When that point is reached a hard-surfaced road should be built.

To build and maintain a mile of any one of these types requires a certain annual expenditure of public funds, an expenditure which is greater for the higher than for the lower types; but for any type the required annual expenditure is well within the yearly savings in the cost of operating the number of vehicles which it will carry without destruction. From this course of reasoning it follows that all roads should be improved to the maximum degree the traffic will justify, but no road should be improved to an extent in excess of its earning capacity. The return to the public in the form of economic transportation is the sole measure of the worth of the improvement. Hard surfaces are required on our main, heavily traveled thoroughfares, but to say that all roads should be hard surfaced is merely another way of urging expenditure in excess of income.

Permanent roads a delusion.—The third erroneous idea can be disposed of in less space than has been required for the first two. It is that there is such a thing as a permanent road. It is this delusion that has been responsible for the unhealthy disregard of the maintenance of our roads in the past. Following the will-o'-the-wisp of the "permanent road" we have in the past allowed some of our new roads to go to pieces for lack of necessary repair. Fortunately there is none of the State highway departments which now suffers from this delusion. It is thoroughly understood by these public agencies which are in charge of the more important road work of the country that all roads, regardless of type, gradually depreciate and wear out under the wheels of vehicles and the action of the elements. They know that to keep a road in continuously good condition they must start maintaining it the day its construction is completed; they know, moreover, that no matter how well they repair it the time will come eventually when it will need an entirely new surface, and they set aside the required sum from their available revenues to pay for the maintenance and reconstruction of the roads as such maintenance and reconstruction are required. They consider this recurring expense as a part of the cost of the road to be thrown into the balance with the construction cost and weighed against the multiplied operating savings in determining the type of road to build for any given traffic condition.

The higher types of surface, such as brick, concrete, bituminous concrete, and the other hard-surface types, have a greater economic life than the lower types, such as sand-clay, top soil, and gravel. That is to say, the higher types will last longer without resurfacing than the lower types, assuming that both classes receive the same careful and continuous maintenance, and that both carry traffic of a density which is within their power of resistance. Any road will be quickly worn out by a traffic which is greater than that for which

it was designed, and the normal rate of wear will be greatly exceeded unless the necessary attention is given to maintenance.

Types and Costs of Roads

Common types.—The types of road commonly constructed are: Graded and drained earth, sand-clay, gravel, water-bound macadam, bituminous macadam, bituminous concrete, Portland cement concrete, and brick. As indicative of the relative use of each type, the

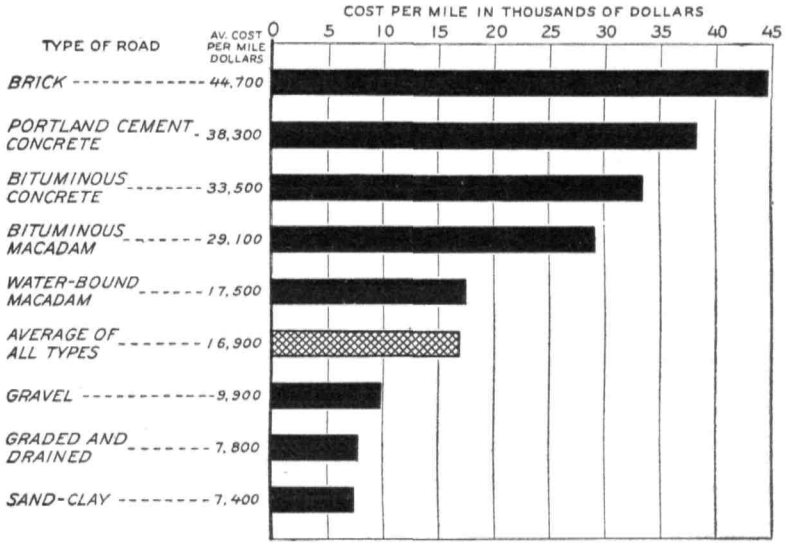


FIG. 4.—The above average costs per mile of Federal-aid roads reflect the influence of conditions prevailing in all parts of the United States from 1917 to 1924 They give an approximate indication of the relative expenditure required to build a mile of each type

mileage of each that has been constructed (up to November 30, 1924) with Federal aid is given in Table 6.

TABLE 6.—*Mileage of improved highway constructed with Federal aid to November 30, 1924*

Type	Miles constructed	Type	Miles constructed
Graded and drained earth	7,229	Bituminous macadam	1,774
Sand-clay	3,922	Bituminous concrete	1,007
Gravel	14,280	Portland cement concrete	6,298
Water-bound macadam	893	Brick	566

Cost of roads.—The cost of a mile of road of any type varies with a number of circumstances, among which are the amount of grading required, the width and thickness of the surface, the design of the road, the character of the base on which the surface course is laid, the wages of labor, the rental charges for teams and machinery, the cost of the materials of construction, the time of the year at which

by circular curves. In the process of grading the tops of hills are cut down and the earth removed is transferred to adjacent low places, so that a highway grade becomes a succession of "cuts" and "fills" where the roadbed is cut below or built up above the surrounding land. In the interest of economy the grade is adjusted to the natural ground surface so that, as nearly as possible, the earth removed from the cuts can be used to form the fills without moving any material a great distance.

In making the cuts, the sides of the excavation are sloped downward and inward toward the roadbed generally at the rate of 1 foot horizontally to 1 foot vertically, but never at a greater rate than that which can be maintained in the particular soil under the prevailing weather conditions of the locality. The sides of fills are similarly sloped downward and outward from the roadbed, generally at the rate of 1½ feet horizontally to 1 foot vertically.

In modern practice the inclination or grade of the road is generally not permitted to exceed 6 per cent (6 feet rise in 100 feet of distance), although it is sometimes impracticable to adhere to so low a limit where the natural slopes are very steep. Where the grade changes the two grades are conected by means of vertical curves in the same manner that the straight courses of the road are connected by horizontal curves.

Horizontal curves are made long and gradual enough to permit vehicles traveling at customary speeds to be guided around them without danger, and the sight distance ahead is made long enough to give drivers ample warning of other vehicles or obstacles ahead. Fulfillment of these conditions requires the use of circular curves of not less than 200-foot radius. For additional safety the roadbed and surface are superelevated or raised on the outside of the curve so as to overcome the centrifugal force of turning vehicles, and both are generally widened throughout the length of the curve.

To protect it from damage and to increase its ability to support the weight of vehicles the grade must be well drained, i. e., water must be prevented from standing on it or being absorbed into it, or from running over it for a long distance. Rain water which falls on the surface of the road is shed as rapidly as possible to the sides of the road by crowning the surface, that is by giving it a two-way slope from the center to the sides, known as a crown. The water thus shed to the side is, on the fills, discharged immediately upon the lower adjacent ground. In the cuts it is collected by side ditches which convey it through the cuts and discharge it upon the low ground at the beginning of the fill. In the interest of safety the crown must be reduced to a minimum, which, in the case of low-type roads may be as low as one-half inch to the foot, and, in the case of high-type roads no more than one-fourth inch to the foot.

Over low, flat, marshy land the grade is raised to a height sufficient to lift it above standing water; and openings, known as culverts, are provided in all fills to permit water flowing in natural courses over the low land to pass from one side of the road to the other. Culverts are made of terra cotta, metal, or concrete pipe, or, as small bridges, of concrete, steel, stone masonry, or wood.

As, in the cuts, the roadbed is sometimes lowered below or close to the level of ground water, known as the water table, it is neces-

sary at such places frequently to install subdrainage, generally in the form of French drains. These consist of trenches excavated at one or both sides of the road surface, from 12 to 18 inches wide and 2½ to 3 feet deep, in the bottom of which open-joint drain tile is laid, filled about with gravel, crushed stone, or other porous material. The free water in the soil percolates into these trenches and falling through the porous filling enters the tile at the open joints and is conveyed to the nearest point at which it can be discharged upon the surface below the level of the grade.

French drains will remove free ground water, but they will not drain the water held in the soil by capillary attraction. Such moisture, when prevented from evaporating by the more or less air tight road surface may accumulate in the soil directly under the surface to such an extent as greatly to reduce the load-supporting ability of the soil. It can not be drained away; but its effect may be minimized by spreading over the grade immediately below the sur-



CONSTRUCTING A FRENCH DRAIN

FIG. 7.—Where the roadbed in cuts is lowered below the level of the ground water, known as the water table, French drains are frequently installed at one or both sides of the road to lower the water table and keep the roadbed dry

face a layer of gravel, sand, or other porous material of low powers of capillary attraction in order to arrest the rise of the capillary moisture before it reaches the surface.

The road surface.—The surface of the road is laid in the center of the grade. It is the armor which prevents the wheels of vehicles from sinking into the soil that composes the grade. Therefore its width must be sufficient to accommodate as many vehicles abreast as are likely at frequent intervals to occupy such a position. Under modern traffic conditions practically all roads must be wide enough to accommodate two vehicles moving in opposite directions with ample clearance between them. As the largest vehicles using the roads are motor trucks, the larger sizes of which require passing room of not less than 9 feet, two-way road surfaces should be not less than 18 feet wide if they will be used extensively by motor trucks, and 20 feet is safer. On local roads which are not likely to be traveled often by large motor trucks the surface width may be reduced to 16 feet.

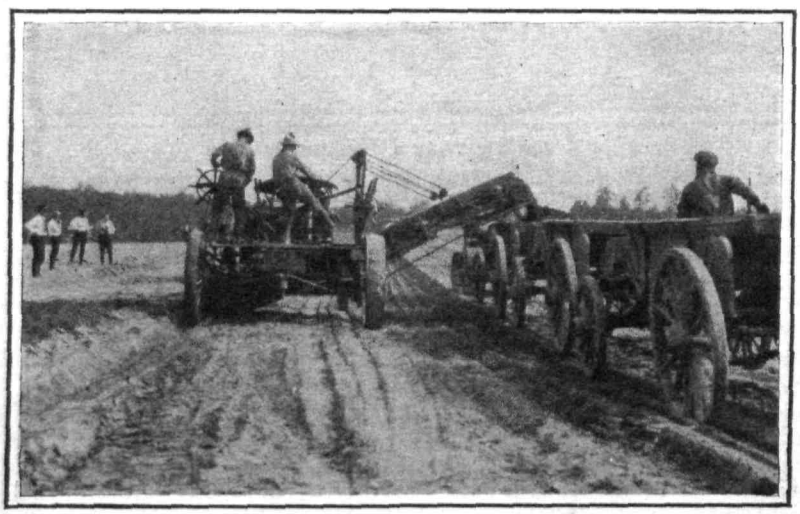
The material of which the surface is formed and the depth of the surfacing material must be determined in the light of the number and weight of the vehicles that will use the road.

With the exception of the sand-clay type of surface and occasionally the gravel, all road surfaces are built in at least two courses, the lower of which is known as the base or foundation course and the upper as the surface or wearing course.

The surface of the grade upon which the road surface is laid is known as the subgrade. At each side of the surface and between it and the side ditches or the edge of the fill there is a margin which may or may not be surfaced, but, if surfaced, the type used is generally lower than that of the main surface. This margin, known as the shoulder, is not intended to be regularly used for travel, although it can be used occasionally if necessary. Its purpose, however, is to prevent the undermining of the surface by water flowing in the ditches in cuts and by the sloughing away of the sides of the grade in fills. The top of the shoulder should be flush with the road surface and should continue the crown or lateral slope of the road surface to the ditches or fill's edge. Under modern traffic conditions it is imperative to keep the shoulder as nearly as possible in this condition by constant maintenance to prevent it from becoming a menace to fast-moving vehicles.

The Construction and Maintenance of Road Surfaces

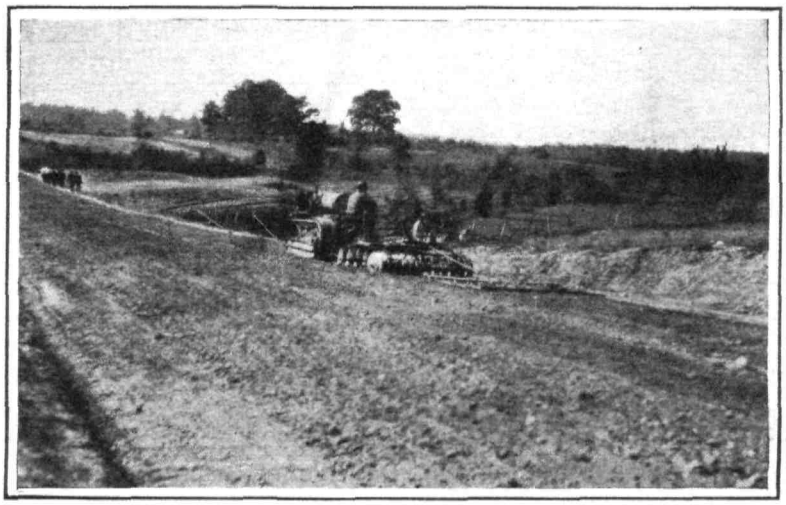
Sand-clay surfaces.—The sand-clay surface is a mixture, either natural or artificial, of sand and clay. It is well known that clay roads are very satisfactory when they are dry, but are muddy and



STRIPPING TOP SOIL FOR A TOP-SOIL ROAD

FIG. 8.—Top-soil roads are sand-clay roads which are surfaced with soil which is a natural mixture of sand and clay. Suitable top soils are generally found in cultivated fields from which long-continued harrowing and the action of the elements have removed the excess of clay and silt

"heavy" when they become wet; sandy roads are excellent so long as they are wet, but very "heavy" when they are dry. The sand-clay surface combines most of the advantages of the two materials



MIXING SURFACING MATERIAL FOR A SAND-CLAY ROAD

FIG. 9.—The sand and clay are mixed by plowing and harrowing. The proportions vary with the character and purity of each material. A good average is 7 parts of sand to 3 of clay. Sand-clay roads are suitable for light horse-drawn or automobile traffic

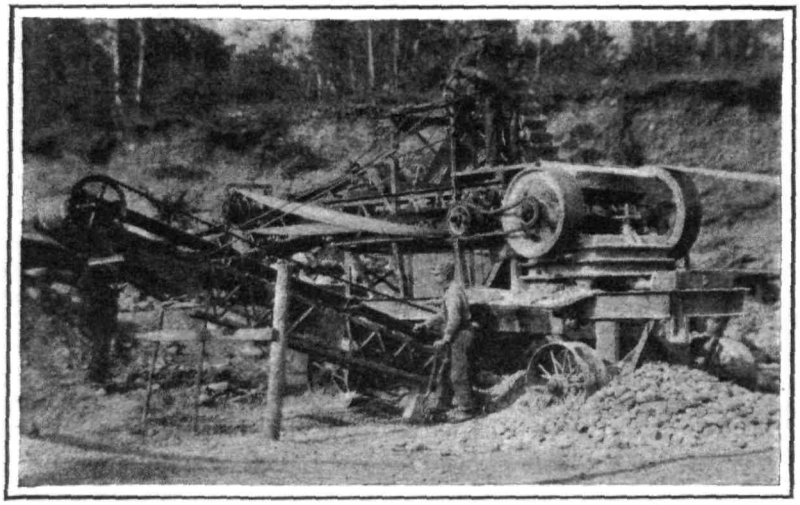
in wet weather and dry and, if well built, has the extreme disadvantage of neither at any time.

When they are formed of naturally mixed materials taken from the surface of near-by fields, sand-clay roads are commonly called top-soil roads. If the natural mixture is used, the surface is constructed by simply spreading a course of the material over the prepared subgrade, and allowing it to become compact and solid under the wheels of traffic, keeping it from rutting seriously in the meantime by frequent dragging with a simple device of wood or metal known as a drag. If the two materials are to be artifically mixed, they are spread separately on the road in two courses, one above the other, or if one of the materials forms the grade it is only necessary to spread a course of the other above it. The two materials are then mixed by plowing and harrowing one into the other, and the completion of the road then follows the same course as when naturally mixed material is used. The proportions of sand and clay vary with the character and purity of each, a good average being 7 parts of sand to 3 of clay.

Sand-clay roads are suitable for light horse-drawn or automobile traffic. They will not withstand motor-truck traffic nor any traffic which exceeds more than approximately 500 vehicles a day. They are maintained by frequent use of the road drag and occasional use of a road grader, the object in the use of each being to smooth out the irregularities and fill the ruts in the surface which are formed by the wheels of vehicles. In the maintenance of sand-clay

roads, and of all other types as well, it is necessary, in addition to the care which is given to the surface, to keep the ditches and culverts open for the free passage of water.

Gravel road surfaces.—Gravel roads are surfaced with natural materials consisting of mixtures of pebbles, sand, loam or clay, and sometimes other material generally found in banks or in the beds of streams. The natural mixtures contain pebbles of various sizes; in some the larger pebbles approach the size of cobblestones; in others the largest are but little larger than coarse sand. If materials of the latter character are used, there is little to distinguish the road from a sand-clay road. If materials of the former character are to be utilized, the large stones must be either removed or crushed. The desirable maximum size is from 1 to 1½ inches in diameter, and not



GRAVEL CRUSHING AND SCREENING PLANT

FIG. 10.—Gravel roads are surfaced with a natural mixture of pebbles, sand, loam, or clay, and sometimes other materials found generally in banks or the beds of streams. The desirable maximum size of the pebbles is from 1 to 1½ inches in diameter, and not less than from 25 to 45 per cent should be more than one-fourth inch in size. The portable plant shown is used to crush large pebbles and screen out excessive fine material

less than from 25 to 45 per cent should be more than one-quarter inch in size.

The surface may be constructed either by spreading the gravel over the prepared subgrade and allowing it to compact under the wheels of traffic, keeping the course in shape meanwhile, as in the construction of a sand-clay road, by dragging and smoothing with a grading machine; or it may be built in two or more courses, each uniformly spread and compacted with a road roller. The first method entails some delay in securing a compacted road, and in the interval traffic is somewhat inconvenienced; the second method produces a fairly compact surface immediately. Both processes eventually produce satisfactory surfaces which are suitable for traffic of moderate weight and density. They will not satisfactorily withstand heavy motor-truck traffic and are difficult to maintain when the

number of vehicles constituting the traffic exceeds from 450 to 600 a day. They deteriorate by rutting, and as the traffic approaches the limit for which they are suitable they develop corrugated surfaces resembling the surface of a washboard.

Gravel roads, like sand-clay roads, are maintained by dragging as required in order to keep the surface properly shaped. If corrugations develop they can only be removed by scarifying or loosening the surface to a depth of 2 or 3 inches and recompacting. But the formation of corrugations may generally be taken as evidence that the gravel surface should be replaced by a surface of higher type.

Water-bound macadam surfaces.—Water-bound macadam surfaces are made of crushed rock, the particles of which are angular in form, differing in this regard from the stony material of gravel surfaces. They are generally built in two main courses, each of



FEDERAL-AID GRAVEL ROAD IN TEXAS

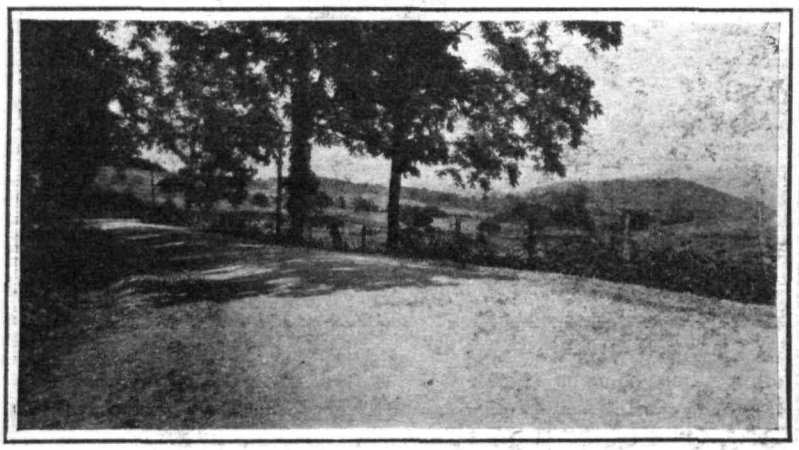
FIG. 11.—Gravel roads are suitable for traffic of moderate weight and density. They will not satisfactorily withstand heavy motor-truck traffic and are difficult to maintain when the traffic exceeds from 450 to 600 vehicles a day

which is compacted separately by rolling with a road roller. The product of the rock crusher is screened into three sizes, the coarsest of which passes through holes 2½ or 3 inches in diameter, the intermediate size through holes 1¼ or 1½ inches in diameter, and the smallest size through holes one-half or five-eighths inch in diameter. Formerly it was the invariable practice to use the coarse material for the lower or base course and the intermediate size for the surface or wearing course, filling the space between the particles composing each course with the fine material. Recent experiments indicate that the smaller stone may be used in the base course with profit. It appears that when it is thus used the smaller stone forms a blanket layer over the subgrade and tends to prevent the formation of what are known as "frost boils," formerly of common occurrence in the spring when the subgrade soil, becoming wet, forced its way into and through the stone layers and appeared on the surface.

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The macadam road surface depends for its stability largely upon the wedging or interlocking of the angular stone fragments of which it is composed, but these are held together by the cementing properties of the stone dust in the fine material which is flushed into the compacted surface layer by sprinkling the surface of the road. The integrity of the road depends upon the maintenance of this stone-dust bond and the interlocked condition of the stone particles. The life of the road depends upon the maintenance of this bond by the production of new dust to replace any that may be lost by wind action and the absorption of enough water to form the cement either from rainfall or air moisture.

Formerly, when traffic was largely horse-drawn, the horses' hoofs and the steel tires wore off enough dust from the stone particles to keep the supply of binding material replenished, and the rolling of the steel wheels kept the surface compact and firm. But rubber-tired motor vehicles have an entirely different effect. Being driven



FEDERAL-AID MACADAM ROAD IN VIRGINIA

FIG. 12.—Water-bound macadam roads are suitable for use where the traffic consists largely of steel-tired, horse-drawn vehicles, either light or heavy. They do not successfully stand automobile traffic

by their rear wheels these vehicles apply a force to the road surface which tends to dislodge the surface stone; the rapidity of the vehicular movement sets up air currents which draw the dust from the road surface and blow it away; and the rubber tires do not wear off enough dust to replenish the loss, with the result that the surface "ravels."

Water-bound macadam roads can not be maintained under automobile traffic. This fact accounts for the small use that is now made of this once universal type. They are suitable for use where the traffic consists largely of steel-tired, horse-drawn vehicles, either light or heavy. Under such conditions they depreciate mainly by "raveling" in long spells of dry weather and by the formation of "potholes" caused by the dislodging of surface stone and accentuated by the subsequent pounding and grinding of the steel-tired wheels. "Raveling" is repaired only by rebinding the surface course with the sprinkling cart and road roller after a new applica-

tion of dust. "Potholes" are repaired by cutting away the surface over a small area around the damaged portion and refilling with new material, binding the patch as in original construction.

Surface-treated macadam roads.—Water-bound macadam roads can only be maintained under automobile traffic by protecting the surface with a carpet coat of bituminous material (tar or asphalt, hot or cold) spread at the rate of about one-half gallon per square yard and covered with coarse sand, fine gravel, or stone chips. When so maintained the water-bound macadam road is converted into what is known as a surface-treated macadam road. The surface application protects the underlying macadam, and by preventing the withdrawal of binding material keeps the road surface intact. The surface treatment requires renewal periodically, not more than once a year. Too frequent renewal is apt to build up a heavy bituminous mat on the surface, which lacking stability, tends to



SURFACE TREATING A MACADAM ROAD

FIG. 13.—*Water-bound macadam roads are maintained under automobile traffic by protecting the surface with a carpet coat of tar or asphalt spread at the rate of about one-half gallon per square yard and covered with coarse sand, fine gravel, or stone chips*

"bunch up" in waves similar to the corrugations which form in gravel roads. This condition, when it develops, can be temporarily remedied by planing off the tops of the waves, but for a lasting cure it is generally necessary to scarify and reshape the road. Surface treatments or carpet coats also deteriorate by the ripping off of small areas of the mat. The remedy in this case is patching with new bituminous material and sand, gravel, or chips.

Bituminous-macadam roads.—The method of constructing bituminous-macadam surfaces is the same as that employed in the construction of water-bound macadam up to the point of binding the surface course. The surface course being lightly rolled, bituminous material (tar or asphalt, generally hot) is applied to it at the rate of 1½ gallons to the square yard and, penetrating between the stones, more or less perfectly coats their surfaces. The wearing

course is then covered with a light layer of stone chips and rolled, after which another application of bituminous material is made at the rate of one-half gallon to the square yard to seal the surface voids, and after this application, which is closely followed by another coating of stone chips, the road is completed by thorough rolling. After the manner of applying the bituminous material, this type of road is often called penetration macadam. It is suitable for either horse-drawn or automobile traffic in fairly large volumes and for a limited number of light motor trucks. It does not successfully withstand heavy motor-truck traffic. It deteriorates by formation of "potholes" and by the wearing away or "bunching" of the seal coat, which is the name given to the surface application of bituminous material and chips. Potholes are repaired by cutting away the area around them and refilling with



CONSTRUCTING BITUMINOUS-CONCRETE SURFACE

FIG. 14.—Bituminous concrete consists of a carefully graded mixture of stone or sand particles, or both, and asphalt. The asphaltic cement is mixed, hot, with the graded "aggregate" at a mixing plant, and the mixture is then hauled to the road and applied while still hot to the prepared base in a compact course, generally 2 inches thick

clean stone, which is either mixed with bituminous material before placing in the cavity or bound with such material poured over it after placing. The patch is finished by surface application of chips and tamping or rolling. The seal coat is renewed and repaired in the same way as carpet coats on surface-treated roads.

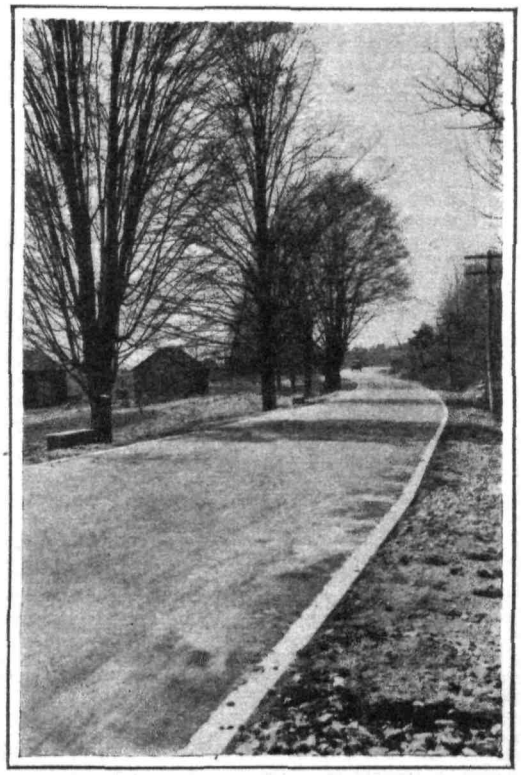
Bituminous-concrete surfaces.—Bituminous concrete is the class name which applies to a number of surfaces resembling each other in the fact that they consist of mixtures of asphalt with crushed stone or sand graded to include a range of sizes from a specified minimum to a specified maximum, but differing in the sizes specified. Among the surfaces thus generally classed are: (1) Sheet asphalt, which consists of graded sand and asphalt; (2) Topeka mix, which consists of graded sand and stone particles having a

maximum size of one-half inch and asphalt; and (3) coarse bituminous concrete, in which the maximum size of stone is increased to about 1¼ inches.

These surfaces differ from bituminous macadam in two respects: (1) The "aggregate," which is the name given to the stone or sand particles, is carefully graded in size to include various percentages of all sizes between the minimum and maximum specified, on the theory that such graded particles when compacted form a dense mass with a minimum of voids or spaces between them; (2) the asphaltic cement is mixed hot with the graded stone particles before they are spread on the road, thereby assuring a uniform and thorough coating of all particles.

These mixed materials when spread on the road and compacted (generally to a thickness of 2 inches for the surface layer) form a closely knit, weatherproof surface capable of supporting heavy loads, if it is itself adequately supported by a firm foundation.

As these surfaces are generally used only on roads which carry heavy traffic, they are usually supported by Portland-cement concrete bases, although sometimes they are supported by bases constructed according to the bituminous-concrete principle or even by water-bound macadam bases. In any case the character and thickness of the base course is determined by the weight of the traffic that will use the road, and this is a determination that must be left to engineering judgment in the premises.



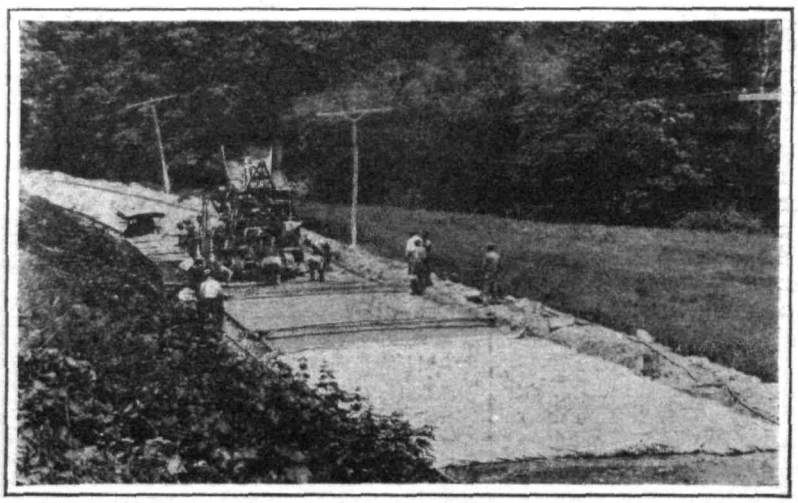
FEDERAL-AID BITUMINOUS-CONCRETE ROAD IN PENNSYLVANIA

FIG. 15.—As bituminous-concrete surfaces are generally used only on roads which carry heavy traffic, they are usually supported by a concrete base. Laid on adequate bases, they are suitable for the heaviest traffic and are smooth and pleasant to ride over

Sheet-asphalt surfaces are not laid directly on the base course, but on an intermediate course, approximately 1½ inches thick, of coarse bituminous concrete. This course is known as the binder course.

Laid on adequate bases these surfaces are suitable for the heaviest traffic and are smooth and pleasant to ride over. If the aggregate

used is properly proportioned and the asphaltic cement of the right consistency, they remain smooth and firm for long periods, deteriorating only locally by formation of potholes, which generally occur at some point where the surface is defective. Such defects are repaired by patching with fresh bituminous concrete. If the aggregate has not been properly proportioned or if the asphalt with which it is mixed is not sufficiently stiff, the surface may develop waves similar to the corrugations which form in overloaded gravel roads. There is no permanent cure for this condition. The surface must be relaid with properly mixed material. If the traffic is too heavy for the base used, the whole road may break down locally at points where the base course fails. The development of this condition indicates that the road is overloaded. Repairs may be made by replacing the failing sections of base and resurfacing, but permanent relief may be obtained only by construction of a stronger base.



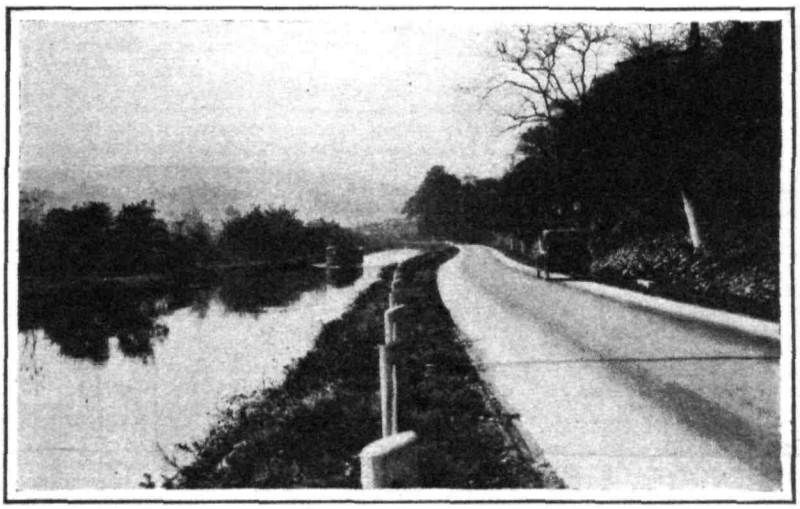
BUILDING A CONCRETE ROAD

FIG. 16.—Concrete road surfaces are generally made of 1 : 1½ : 3, 1 : 2 : 3, or 1 : 2 : 4 concrete, the proportions representing cement, sand, and gravel or stone, respectively. The concrete is mixed in a power mixer which propels itself along the road leaving a ribbon of fresh concrete surface behind it

Portland-cement concrete surfaces.—Portland-cement concrete, popularly known simply as concrete, in addition to being used as a base for bituminous concrete or brick pavements, is also used alone to form the surface of roads. As is quite generally known, concrete consists of an intimate mixture of crushed stone or gravel, sand, Portland cement, and water. Mixed wet, the cement undergoes a chemical change as the mixture dries, which causes the concrete to become hard and strong. For reasons similar to those mentioned in the discussion of bituminous-concrete surfaces, it is desirable that the stone or gravel and the sand be composed of particles, which in each ingredient are carefully graded from coarse to fine, that the proportions of stone and sand be so adjusted that the graded sand shall slightly more than fill the voids in the graded stone, and that the Portland cement be present in such quantity as to coat the sand

grains uniformly, thereby forming a mortar which in turn should coat the stone particles uniformly. For best results the whole mass, thus proportioned, must be compacted into as dense a body as possible.

Concrete-road surfaces are generally made of concrete in which the proportions of the three ingredients, expressed as parts of cement, sand, and stone, respectively, are either 1 to 1½ to 3, or 1 to 2 to 3, or 1 to 2 to 4. The concrete is mixed in a power mixer which propels itself along the prepared subgrade, converting the raw materials brought to it into concrete which it leaves behind it, as a ribbon of road surface, as it moves. After the concrete is deposited on the subgrade by the mixer it must be spread to uniform thickness over the whole width between the temporary side forms of wood or metal placed to hold it until it "sets," the mass must be compacted by tamping, and the surface must be smoothed to the



FEDERAL-AID CONCRETE ROAD IN PENNSYLVANIA

FIG. 17.—Concrete-road surfaces are smooth and hard and suitable for the heaviest traffic

required shape. These processes are accomplished either by special hand tools or by patented mechanical concrete road finishers.

Properly built, concrete-road surfaces are smooth and hard and suitable for the heaviest traffic. They are worn down scarcely at all by rubber-tired vehicles. They deteriorate by cracking under the weight of vehicles or as the result of natural forces, and this cracking may proceed to such an extent that the road surface will be broken into small sections which become displaced. They must then be removed and replaced by fresh concrete; but the failure is an indication that the road is overloaded, and a lasting cure can only be effected by construction of a stronger surface. The cracking referred to above is not to be confused with the cracks which form transversely at intervals as a result of the contraction of the concrete when cold or with the longitudinal cracks that sometimes appear in the center of the road. These cracks, which may be practically prevented from forming by leaving joints in the surface when it is laid

(i. e., by separating the surface into slabs), are not seriously objectionable and do not endanger the integrity of the surface except as they may be the beginning from which surface defects may spread.

Steel rods or mesh, similar in appearance to heavy fence wire, are sometimes embedded in the concrete surface when it is constructed with the intention of supplementing the strength of the concrete. Such roads are known as *reinforced concrete roads.*

Brick road surfaces.—Brick road surfaces are built with vitrified paving brick which differ materially from building brick. Ordinary brick are not vitrified. They are simply burned until the plastic properties of the clay are destroyed and a hard material results. Paving brick must be made from refractory clays or shales—that is, from material that resists very high temperatures, but still can be partly fused or melted. Vitrification consists in heating the molded bricks until they have begun to melt. On cooling



BRICK-ROAD CONSTRUCTION

FIG. 18.—Properly laid on concrete bases, brick roads are suitable for the heaviest traffic. The brick are laid on a sand cushion, which is spread over the base. The long dimension of the brick is laid across the road and each alternate row is begun with a half brick so as to break the joints

they slowly become very tough and hard and sufficiently resistant to abrasion to be used as the wearing surface of a road.

The brick used in road construction average about 4 by 4 by 8 inches in size. They are placed on the road in closely laid rows with the long dimensions runing across the road, and each alternate row is begun with a half brick so as to break the joints. In Florida, brick surfaces have been found to give fairly satisfactory service under traffic composed largely of automobiles, when laid directly on natural sand subgrades, providing the edges of the surface are retained by a curb. But normally it is necessary to lay the brick on a base of compacted broken stone, slag, or concrete. Concrete bases are always used when the traffic is heavy.

As brick, like mill lumber, are not all of exactly the same thickness, they are not laid directly upon the base but upon a cushion or bedding course of sand, or a mixture of sand and cement, which is spread over the base to a thickness of about 1 inch. On this bed the

brick are laid and rolled with a power roller of medium weight until they are firmly bedded in the cushion and the upper surfaces are brought into line. The joints between them are now generally filled with a special bituminous material, called joint filler, which serves to hold the brick in place and seal the entire surface against weather and water. Formerly a rich grout of sand and cement mixed with water to the consistency of heavy cream was used to fill the joints, but grout filler is now generally being discarded in favor of bituminous filler, which produces a less noisy pavement, easier to repair, and free from certain objectionable features which in grout-filled pavements result from the expansion of the brick caused by high temperatures.

Properly laid on concrete bases, brick roads are suitable for the heaviest traffic. They suffer practically no surface wear from rubber-tired traffic and deteriorate principally by failure of the base resulting from overloading and by unequal settlement of the brick on the bedding course. The latter defect is easily repaired in bituminous-filled pavements by removing the brick in the affected area, adding a sufficient amount of sand to raise the bedding course by the required amount, replacing the brick, and refilling the joints. Base failures are repaired by removing the broken base and reconstructing it, but, as in other types previously mentioned, failures of this kind are generally indicative of the need for a heavier and stronger base.

Experiments and Tests

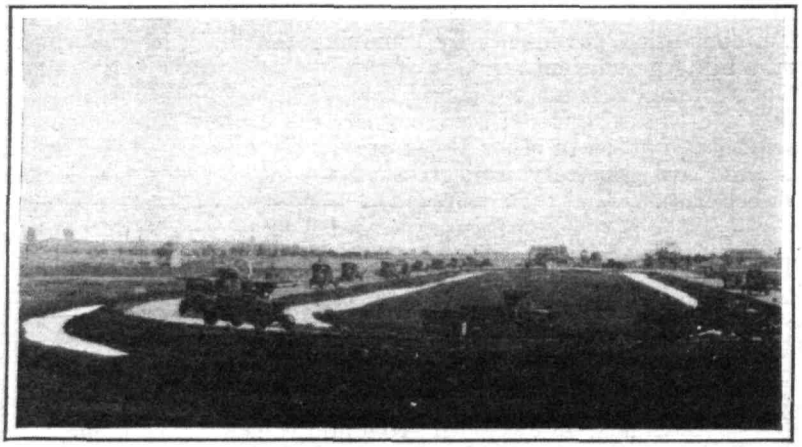
The several types of roads described are designed in different widths and thicknesses with different combinations of base and surface course. Just what design shall be used is often as important as the choice of type. The decision in any particular case depends upon a number of factors, among which are the weight of the traffic, climatic and soil conditions, relative cost and availability of different materials, and general economic considerations, the object being to select that particular type and design of surface which, laid on the particular soil, will carry the known traffic at the lowest cost, considering not only the cost of the road, but also the cost of operating vehicles over it. In making such decisions engineers have had to depend until recently largely upon judgment based on their observation of the behavior of existing roads. As all the factors involved are seldom duplicated in any two roads, there has always been a certain element of doubt in the decision. To remove this element of doubt or reduce it is the purpose of numerous experiments and tests which recently have been conducted by the Bureau of Public Roads and other agencies.

The usefulness of these tests in determining the design of pavements is well illustrated by the results of the experiments conducted on the Pittsburg test road at Pittsburg, Calif. This test was inaugurated by the Columbia Steel Co. in the spring of 1921. It soon became apparent that extremely important information could be obtained from it, and it was finally completed by the California Highway Commission and the Bureau of Public Roads.

A road was built in the form of an elliptical track about 1,370 feet in circumference. It was surfaced with a number of different

designs of concrete pavement. Since the purpose of the test was to show the relative value of these different pavement designs, great care was observed in preparing the adobe subgrade so that it would be as nearly as possible exactly uniform under all sections. The pavement sections varied in thickness from 5 to 8 inches. Some of them were reinforced with steel, others were not. Some were built with inverted curbs or ribs projecting downward into the subgrade along the sides of the pavement to stiffen the edges. Some were built with joints in the center of the pavement; others without joints. One section which was 6 inches thick at the center of the pavement was thickened to 9 inches at the edge.

When the various sections were completed a number of motor trucks were operated over them running in two lines as on an actual road. At first the trucks were operated without load. As the test progressed the weight on the rear wheels of the trucks was gradu-



THE PITTSBURG TEST ROAD

FIG. 19.—The Pittsburg test road was built by the Columbia Steel Co., and the tests were conducted by the company and later by the California Highway Commission and the United States Bureau of Public Roads. The road was surfaced with various designs of concrete, which were tested under a controlled truck traffic

ally increased by adding load. Throughout the test careful observations were made of the beginning and progress of failure from tunnels built under the road. By the summer of 1922, 6,914,850 tons of traffic had gone over the pavement, an amount equivalent to perhaps 40 years of normal traffic on a well-traveled road, and a number of the sections had failed, whereas others remained in perfect condition. One noteworthy fact was that although the traffic cracked and destroyed some of the sections by reason of its weight, it did not materially wear down the surface.

When finally the test was completed, the experimenters had before them a series of observations, all obtained in little more than a year, which were far more complete and exact than they could have obtained in 40 years of observation of actual roads under normal traffic. They proceeded to analyze these results and rate the various sections on the basis of their total cost, including the original cost of construction plus the cost of maintenance. As all sections were

paved with concrete, the cost of operating vehicles over them was the same for each section, so that this cost could be neglected. Maintenance costs were estimated by considering that the expense of filling with bituminous material the cracks which had formed would be 1 cent per foot of crack. The cost of patching the totally failed areas was estimated at three times the original cost of the pavement per unit of area. In this way Table 8 was compiled, in which the various sections are arranged in the order of their total computed cost of construction and maintenance as given in the second column from the right. These costs represent approximately the total expense of the various sections over a 40-year period of normal traffic.

The least expensive section was section J, which was the pavement that was built 6 inches thick at the center with the edges thickened to 9 inches. It will be noted that this section was not the section in which the least concrete was used, nor was it the section that was constructed at the lowest cost, nor was it the section which developed the smallest percentage of failure. But, considering the cost of construction and the cost of repairing the damage caused by the traffic, it has the best rating, indicating that in its design the materials used were employed to the best advantage. This is the test of scientific road construction.

TABLE 8.—*Comparison of the behavior and cost of various sections of the Pittsburg (Calif.) test road*

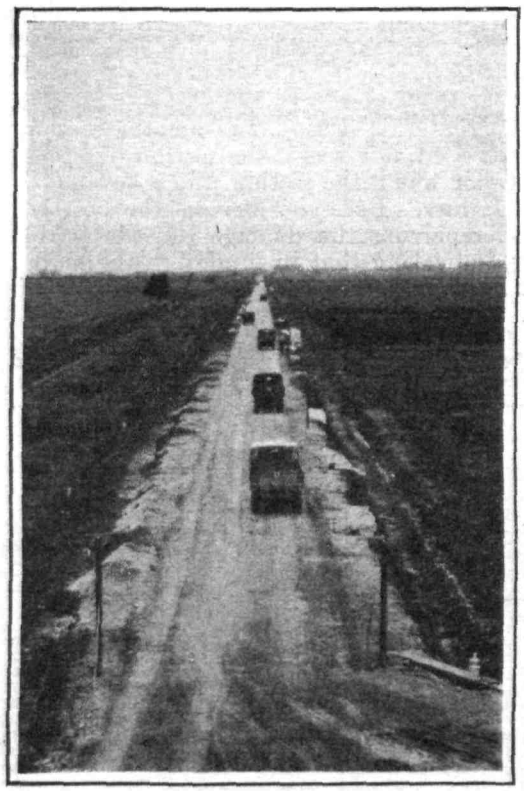
Section	Concrete per mile as actually laid	Steel per mile	Broken areas per square yard of pavement	Cracks per square yard of pavement	Computed original cost per mile of pavement only	Theoretical maintenance cost per mile	Percentage of failure	Total computed cost of construction and maintenance per mile	Unit comparison of total computed cost per mile
	Cu. yds.	*Tons*	*Sq. ft.*	*Lin. ft.*	*Dollars*	*Dollars*	*Per cent*	*Dollars*	
J	2,110	------	0.07	1.44	31,439	885	2.8	32,324	1.000
D	1,845	55	.36	2.01	33,271	4,205	12.6	37,476	1.159
C	1,798	55	.45	2.56	32,549	5,152	15.8	37,701	1.166
K	1,722	69	.53	2.66	32,643	6,049	18.5	38,692	1.197
F	2,719	------	.00	1.11	39,426	117	.3	39,543	1.223
M	2,574	------	.22	.70	37,323	2,810	7.5	40,133	1.242
E	2,806	------	.00	.60	40,687	63	.2	40,750	1.261
G	2,127	69	.56	2.04	37,902	7,291	19.2	45,193	1.398
L	1,740	55	1.56	2.29	31,659	16,705	52.8	48,364	1.496
B	1,590	20	2.99	3.91	26,207	26,534	100.0	52,741	1.632
H	1,760	24	3.09	3.91	29,176	30,464	100.0	59,640	1.845
I	1,953	24	3.12	3.01	32,139	33,743	100.0	65,882	2.038
A	1,834	20	4.08	3.74	35,427	48,576	100.0	84,003	2.599

All pavements 18 feet wide.
Estimated cost:
Unit costs of plain concrete as follows—
From 1,001 cubic yards to 1,500 cubic yards per mile, $15.75 per cubic yard.
From 1,501 cubic yards to 2,000 cubic yards per mile, $15.35 per cubic yard.
From 2,001 cubic yards to 2,500 cubic yards per mile, $14.90 per cubic yard.
From 2,501 cubic yards to 3,000 cubic yards per mile, $14.50 per cubic yard.
Cost of reinforcing steel, $90 per ton in place.
Cost of rock ballast under section A, $5,475 per mile.
Cost of maintenance of cracks assumed equal to 1 cent per lineal foot. Unit maintenance costs of broken areas are assumed to be three times the original unit cost of the pavement only.
Percentage of failure determined from ratio of sum of maintenance costs to original cost. In cases where maintenance cost exceeded original cost, percentage of failure is 100.

The Pittsburg test is but one of a number of important experiments conducted at various places by several agencies, all dealing with various phases of the design of highway surfaces, subgrades, and other features of roads. The principal investigations have been

conducted by the Bureau of Public Roads, the Illinois Division of Highways, and the California Highway Commission, but a large number of auxiliary investigations have been conducted by other institutions alone or in cooperation with the Bureau of Public Roads for the purpose of establishing facts which will be dovetailed into the final analyses.

The problems relate principally to the design of roads for heavy motor trucks. The lighter, fast-moving automobiles present little difficulty, because roads which are capable of carrying heavy vehicles will serve without difficulty the lighter traffic.



THE BATES TEST ROAD

FIG. 20.—The Bates road test was conducted by the Illinois Division of Highways. The road, 2 miles long, was surfaced with 65 sections, which differed in design and materials. The purpose of the test was to determine the best type and design of pavement to carry the kind of traffic allowed under the laws of the State

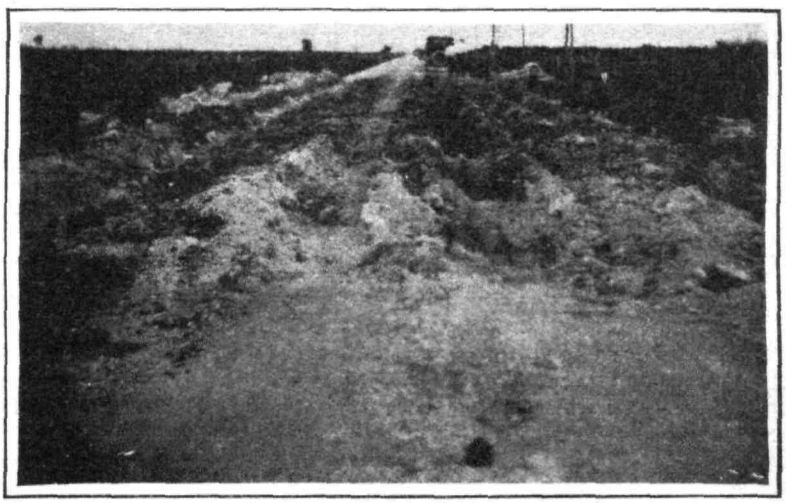
The Bates road test.—One notable investigation which has recently been completed is that known as the Bates road test conducted by the Illinois Division of Highways. The road in this case was constructed on a newly prepared subgrade of very uniform character. The primary purpose of the test was to determine the most suitable design of pavement for carrying the kind of traffic allowed by law in the State of Illinois. The pavement was approximately 2 miles long and was composed originally of 65 sections which varied either in design or materials. The materials used included Portland cement concrete, both plain and reinforced, vitrified paving brick, and bituminous materials, the test differing in this respect from the Pittsburg test, in which all sections were paved with concrete.

The traffic consisted of 3-ton trucks run with the rear wheels along the outer edge of the pavement. The weight on the rear wheels was regulated so that it was 2,500 pounds at the beginning of the test, and after each 1,000 round trips the weight was increased until the legal limit of loading permitted by the State (8,000 pounds per wheel) was obtained. Careful observations of the condition of the various sections were made during the test, and in this manner the

maximum wheel load which the various designs were capable of sustaining without failure was determined.

When the testing of the original sections was completed, other concrete sections were constructed in which the design was altered to include pavement with edges thicker than the center. As in the Pittsburg tests, the sections so designed were found to be more satisfactory than other designs, and the observations made possible the development of a mathematical formula by which the required thickness of edge can be determined from a knowledge of the maximum wheel load to which the road will be subjected and the tensile strength of the concrete as determined by laboratory tests on small specimens.

As a result of these tests the Illinois Division of Highways has found it possible to alter the standard design of the Illinois con-



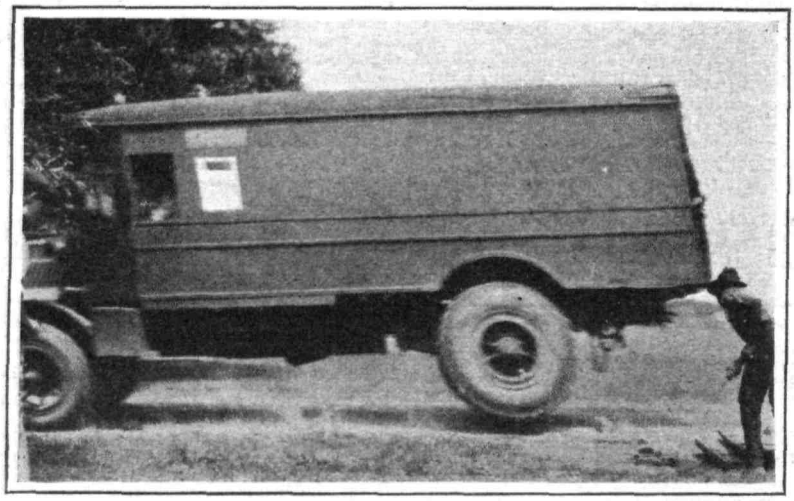
EFFECT OF THE TRAFFIC ON A SECTION OF THE BATES ROAD

FIG. 21.—The traffic consisted of 3-ton trucks. The weight on the trucks was increased after each 1,000 round trips. Careful observations of the condition of the various sections were made during the test, and in this manner the maximum wheel load which the various designs were capable of sustaining without failure was determined

crete roads by decreasing the center thickness and increasing the edge thickness with a resulting saving of approximately $1,000,000 worth of concrete per year.

It is the purpose of all the investigations to contribute in some way to the development of rational methods of road design similar to those employed for many years in the design of bridges. For any given maximum load a bridge can be designed with certainty that it will not fail unless the maximum load for which it is designed is exceeded. The problems of design presented by highway pavements and surfaces are far more complex than those involved in the design of bridges, and they have not heretofore been satisfactorily solved. Those who are conducting the investigations are therefore taking nothing for granted. They are seeking to isolate every variable and determine its contribution to the complex result

which is observed in the behavior of a road under traffic. Many of the experiments seem to those unacquainted with the many ramifications of the problem to have little immediate practical value. But



MOTOR TRUCK IMPACT IS A DESTRUCTIVE FORCE

FIG. 22.—Modern pavements are never quite smooth. The slight inequalities in their surfaces when they are new are developed and accentuated by traffic. The rising and falling of truck wheels over these inequalities causes the impact or pounding with which everyone is familiar

to those who have in mind the various relations of one part of the problem to another it is these very isolations of detail which, by their gradual convergence upon the truth, offer the greatest hope of a successful development of rational design methods.

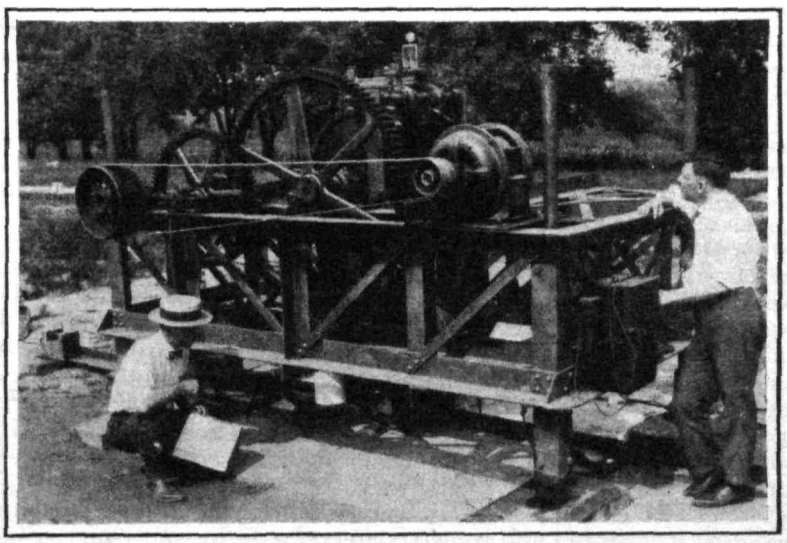
Motor-truck impact tests.—Naturally one of the first facts the designer must have in his possession is the load to which the pavement is to be subjected. It is not sufficient that he know the dead weight of the heaviest vehicle by which the road will be used, because vehicles do not stand still. They move over the road and in moving they deliver to the road surface pounding blows or impacts which are quite different from their dead weight. Although modern pavements are quite smooth, they are never exactly so, and the slight inequalities of surface which they have when they are new are developed and accentuated by traffic. The rising and falling of truck wheels over these inequalities causes much of the pounding with which everyone is familiar. Such pounding or impact is destructive, and for this reason an extensive series of experiments comprising some 4,000 individual tests has been made by the Bureau of Public Roads to arrive at the relative impact of motor vehicles of various weights equipped with pneumatic, cushion, and solid tires. The effect of the condition of the tire has also been observed by testing with thin and battered tires as well as with new ones.

The facts established by these tests are important, since they show what conditions of motor vehicle and tire lead to rapid road destruction and furnish the basis for more adequate legislation for the control of motor vehicles with regard to weight, speed, and tire

equipment necessary for the wise conservation of the highway investment.

In the various experiments, trucks from 1 to 7½ tons capacity have been operated at all speeds, both unloaded and loaded up to and beyond full-load capacity, and the impacts delivered to the road surface have been measured for various degrees of surface roughness artificially produced. The impact has been measured by means of a special device in which the essential feature is a small copper cylinder, especially prepared and annealed. The blow of the truck wheel is delivered to this cylinder. The heavier the blow the more the cylinder is flattened by it and the amount of flattening furnishes a means of determining the impact. In general, it has been found that the greatest impacts are delivered by trucks equipped with solid tires, which under severe conditions of great road roughness, thin tires, and high speed produce maximum impact equivalent to seven times the weight on the wheel striking the blow, and under average conditions four times. Trucks equipped with pneumatic tires, on the other hand, produce very little impact which increases very little with speed, and cushion tires, in general, have an intermediate effect.

Although they brought out many facts not hitherto known, these tests were not conclusive, since no means were at hand for demonstrating the extent to which road destruction accompanied the degrees of impact produced by the various weights of motor vehicles and various kinds of tires. At the present time a supplementary series of tests is being conducted in cooperation with the Rubber Association of America and the Society of Automotive Engineers, in which simultaneous observations are being made of the impact produced by the motor vehicle and the effect of the impact on the pavement. These tests, made with actual motor vehicles on actual



APPARATUS FOR MEASURING EFFECT OF IMPACT

FIG. 23.—The impact machine designed by the Bureau of Public Roads subjects sample slabs of pavement to impacts similar to those of motor trucks and enables the Federal investigators to measure the effect of the impact on road surfaces of various types

road surfaces, will supplement an earlier series made with a machine designed to simulate the impact of a truck wheel and a number of experimental pavement slabs of different design.

Tests of effect of impact on pavements.—The experimental slabs in these earlier tests were 7 feet square. They were built of different materials and thickness. Half of the total number were laid on a dry, well-drained subgrade, the other half on a subgrade which was purposely kept moist to imitate the conditions actually found under some roads.

The impact machine used was designed to give the same kind of impact as the rear wheel of a motor truck. It consists of a rubber-tired motor-truck wheel mounted under a truck spring which supports a frame corresponding to the body of the truck. A series of gears and cams raises the wheel and allows it to fall from any desired height. With this machine the slabs were tested for their strength when subjected to impact delivered to different parts of their surface. Several hundred such slabs have been investigated and a very definite idea has been obtained in this way of the ability of the different designs of pavements to carry heavy loads when laid on the two types of subgrades used. The results of this series of tests are useful also in demonstrating the upper limit of load that may safely be carried on the various designs of pavement.

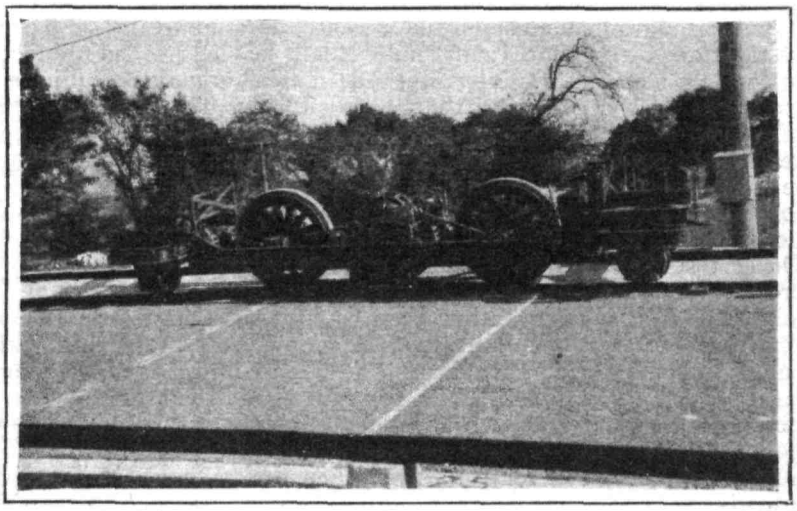
Tests of stability of bituminous pavements.—Another series of tests by the Bureau of Public Roads has for its purpose the determination of the cause of the waves which, as already noted, sometimes form in bituminous pavements. Motor trucks have been operated over an especially constructed circular track about 180 feet in diameter surfaced with 27 different mixtures of coarse-graded bituminous concrete, and measurements have been made of the movement of the various surfaces resulting from the traffic.

In conjunction with these tests laboratory investigations are being made on mixtures similar to those used in the circular track, with the idea of developing a laboratory test for determining the stability of bituminous mixtures. The circular-track experiments on bituminous mixtures are primarily of value in furnishing a controlled means of correlation between service behavior and laboratory tests. Other tests looking into the laws controlling the stability of bituminous mixtures are being made in the chemical laboratory.

Concrete wear tests.—Surrounding the bituminous track there is a track surfaced in its various sections with concrete made with different materials imported from various sections of the country. The primary idea of this investigation was to determine what might be considered the absolute minimum requirement of hardness for the stone or coarse aggregates, and likewise to establish other facts of value to the engineer when writing specifications covering concrete road construction. After the concrete had been well cured it was subjected to rubber-tired traffic by means of a special machine designed for this purpose. The wheels were loaded to 600 pounds per inch width of tire and solid rubber tires were used. The machine was run at a speed of approximately 20 miles an hour. Sixty thousand trips were made, the wheels tracking over exactly the same path, and the wear under these conditions amounted to only several hundredths of an inch, thus confirming one of the results of the Pittsburg test. Tire chains were then placed on two of the four

rubber-tired wheels which had been moved so as to run over a different path on the track. Only 13,000 trips of the wear machine thus equipped were required to produce deep ruts in many of the sections. The results are extremely valuable in their technical implications, but are difficult to make intelligible in an article of this kind.

Subgrade experiments.—Any load applied to the road surface or pavement must ultimately be carried or supported by the soil underlying the pavement, and common observation of existing pavements shows that the character of support plays a very important rôle in the structural behavior of the pavement under loads. The soils encountered in the construction of roads vary in different sections of the country from materials which have an exceedingly finely



MACHINE USED IN TESTING WEAR OF CONCRETE

FIG. 24.—Sixty thousand trips of this machine around a circular track surfaced with various kinds of concrete failed to produce noticeable wear of the surface. When the rubber-tired wheels were equipped with tire chains 13,000 additional trips produced deep ruts in some sections. The differences in the wearing properties of the various sections were thus measured by the investigators

divided texture, such as the gumbo soils of Texas and adobe of California, to the most compact gravel and even solid rock. The intermediate types of soils are mixtures in various proportions of clay, silt, and sand or gravel, and from the highway builders' standpoint these materials exhibit a wide range of characteristics. It is found, for instance, that some of the very finely divided subgrade materials are capable of absorbing a large amount of moisture by capillarity and that when they are thus moistened they become very plastic and are incapable of supporting heavy loads. The coarse-grained soils, on the other hand, in general can not retain nor do they absorb much capillary moisture, and their bearing value is not so readily affected by moisture. It is also found that as a rule the more finely divided soils which retain large quantities of water sometimes swell in volume when they become wet and shrink correspondingly when they dry out. The volumetric change may be as high as 50 per cent of the dry volume.

A road laid on such soils is subjected to continuous vertical movement because of the vertical motion of the soils, and when drying out takes place nonuniformly across the road the sides of the road slab may be unsupported while the center portion of the road may be fully supported by the subgrade. This sort of behavior in soils and the resulting vertical motion of the road surface leads to the formation of cracks in concrete surfaces and possibly to unevenness and disintegration of other types. The difficulty of draining certain types of soils as compared with others is also a matter of the utmost interest to highway builders, for, especially under freezing conditions, high moisture content may be disastrous due to the unequal heaving of the pavement as the result of nonuniform frost formation in the subgrade.

Hitherto little has been known of the methods to be followed in analyzing subgrade materials, but recently an important series of investigations by the Bureau of Public Roads has led to the establishment of test methods whereby subgrade materials may be subjected to suitable laboratory tests, the results of which will enable the engineer to predict the probable structural behavior of road surfaces when laid on particular subgrades. Moreover, they will enable him to determine whether or not some special feature need be incorporated in the design of the road because of the subgrade conditions.

Other tests have to do with the determination of the necessary corrective measures to be applied when the subgrade material is likely to cause trouble. It has been established that it is possible to improve greatly the character of dangerous soils by mixing with them granular materials such as sand or small quantities of Portland cement or hydrated lime. It is likewise established that a layer of fine granular material such as cinders or sand interposed between a poor subgrade and the road surface, especially a road surface of the nonrigid type, will serve to strengthen the pavement for carrying loads.

In addition to these major tests a number of auxiliary researches are being conducted dealing with various highway materials and structures. The results already obtained have led to changes in design which not only effect savings in cost but result in greater pavement life. The potential possibilities of further tremendous savings through better understanding of subgrade materials and increased knowledge of the combinations of surfacing materials needed to resist heavy loads are becoming increasingly apparent, and the structural design of highways is rapidly becoming an exact science.

The Effect of Highway Improvement on Transportation Costs

It has already been shown that each type of highway surface is suitable for some particular traffic condition or range of conditions as to weight and number of vehicles. It has been shown, for example, that a gravel road is maintainable under traffic which does not exceed approximately 500 light or moderately heavy vehicles a day, but that it can not be preserved under traffic of numerous heavy trucks or under traffic of any kind which greatly exceeds in volume 500 vehicles a day. On the other hand, it has been shown that the various types of paved roads are maintainable under traffic of the

heaviest sort both as to volume and weight. It has been shown further that the original cost of the various types of surface increases generally with the volume and weight of traffic they are capable of sustaining. It is indicated, therefore, that when the traffic is of the sort that can be sustained by a gravel surface the construction of a paved road entails an unnecessary outlay of money, but that when the traffic is such as to require a paved surface the construction of a gravel road is a wasteful measure because it will be impossible to conserve the investment. The greater cost of the paved surface in this case is justified by the fact that the improvement yields to each of the greater number of vehicles a saving in the cost of operation and the greater multiplication of individual operating savings offsets the greater road cost.

Compared with a road in a state of nature, any sort of improved road produces these operating savings, the amount of the saving per vehicle depending upon the character of the improvement and the gross amount upon the number of vehicles affected. The saving is produced by changes in the contour, texture, and firmness of the road surface, which have the effect of reducing vehicular wear and tear and fuel consumption. Obviously, when a rough, stony road surface is made smooth, the wear of rubber tires is greatly reduced. When sharp gullies and depressions and abrupt bumps are eliminated the breakage of axles and other parts of vehicles is greatly reduced. When a soft surface into which the vehicles sink deeply is replaced by a firm, smooth surface, not only is the strain on all parts of the vehicles reduced but the amount of fuel required to drive them over the surface is also reduced.

It will be observed that a number of these savings, particularly those attributable to reduced wear and tear, are produced in almost the same degree by the construction and maintenance of any sort of smooth, unbroken surface, whether it be only a well-compacted earth surface or the highest type of pavement. And it is undoubtedly true that the total saving made in the operation of a single vehicle by the change from an unimproved road to a high-type pavement is not much greater than that which results from the construction of a well-compacted, smooth earth road. Compensation of the greater cost of the paved road results not so much from increase in the operating savings of individuals as from the great multiplication of the individual savings due to the increase in the number of vehicles.

There is, however, in the quantity of fuel consumed by vehicles a determinable difference, depending upon the type of highway surface, and investigations have been made by the Iowa Engineering Experiment Station, assisted by the Bureau of Public Roads, which show with reasonable accuracy what these differences amount to. Driven over any type of road surface, the quantity of fuel consumed by a motor vehicle in traveling a given distance has been found to be related to the rolling resistance of the surface, a retarding force which is usually expressed in pounds per ton weight of vehicle.

Rolling resistance apparently varies:

1. With the roughness of the roadway surface.
2. With the degree of rigidity of the surface.
3. With the type of tire (for solid rubber tires it is higher than for pneumatic tires).

4. With the temperature of the tire and with the temperature of the roadway surface if of a bituminous type.
5. With the physical texture of the roadway surface.
6. With the gross weight carried by the tires.

In the Iowa tests determinations of rolling resistance have been made for a number of combinations of these various conditions, and the approximate values in pounds per ton for various speeds and

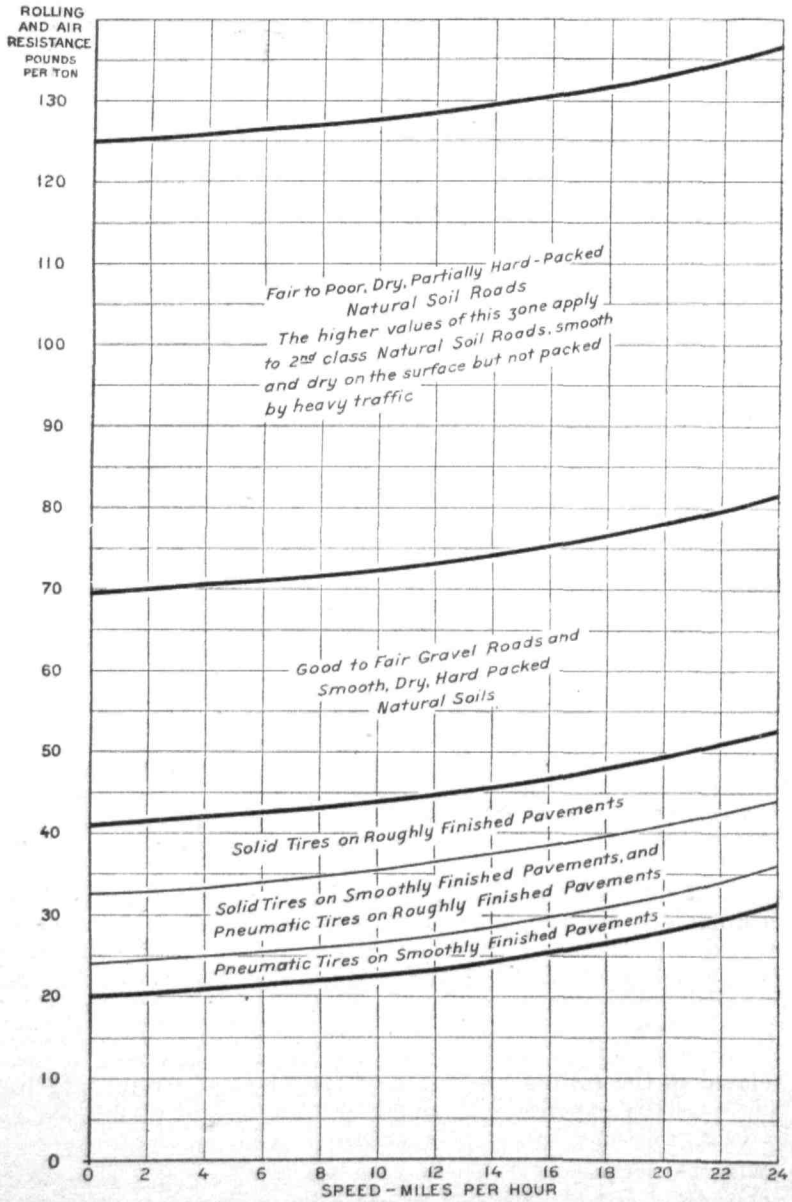


FIG. 25.—Rolling resistance varies with the roughness, rigidity, and texture of the roadway surface, with the type and temperature of the tires, and with the speed of the vehicle

other conditions are shown in the chart on page 140. In this chart the resistance given is a combination of the true rolling resistance with the resistance of still air which it is impracticable to eliminate in making the tests.

Having determined the rolling resistance, the Iowa tests go further and show, within reasonable limits of accuracy, the relative quantity of gasoline consumed by certain particular motor vehicles in overcoming this resistance. Average values derived from the tests are presented in Table 9.

TABLE 9.—*Average rolling resistance and relative fuel consumption in relation to surface condition*

Type and condition of roadway surface	Average rolling plus air resistance in pounds per ton				Relative fuel consumption			
	Solid tires (10 m.p.h.)	Pneumatic tires (15 m.p.h.)	Pneumatic tires (25 m.p.h.)	Pneumatic tires (35 m.p.h.)	Solid tires (10 m.p.h.)	Pneumatic tires (15 m.p.h.)	Pneumatic tires (25 m.p.h.)	Pneumatic tires (35 m.p.h.)
Average for best paved surfaces—concrete, asphalt, brick and wood block	30	22	27	37	1.00	0.89	0.96	1.09
Average for partly worn pavements—i. e., in fair average condition	35	30	35	42	1.07	1.00	1.07	1.16
Yearly average for best gravel of type used on trunk line	45	40	45	55	1.20	1.12	1.20	1.33
Yearly average for ordinary gravel found on secondary roads	55	50	55	65	1.33	1.27	1.33	1.47
Yearly average for second-class earth roads under good maintenance	65	60	63	75	1.47	1.40	1.44	1.60
Yearly average for best earth roads, compact and well maintained	55	50	53	65	1.33	1.27	1.31	1.47

Because of the wide variation that exists in the mechanical efficiency of the various types and makes of motor vehicles determination of the average quantity of gasoline consumed per ton-mile by all the vehicles composing the traffic on our roads is an exceedingly complex problem which will require more time for solution. For purposes of illustration, however, the known facts with respect to the operation of a few test vehicles may be applied to definite traffic conditions to show how the saving in gasoline consumption compares with the cost of road improvement.

From the above table it will be noted that the fuel consumption for well-maintained earth roads varies from 122 to 127 per cent of the fuel consumption for pavements in fair condition. A number of the tests conducted in Iowa indicate that the gasoline cost for motor trucks operating on high-type pavements varies from 0.96 to 1.14 cents per ton-mile and that similar costs for passenger cars average 1.61 cents per car-mile, or approximately 1.28 cents per ton-mile. On the basis of these tests, therefore, it is conservative to estimate fuel costs at 1 cent per ton-mile on high-type pavements and 1.25 cents per ton-mile on earth roads.

Now apply these unit costs to traffic conditions existing in the State of Connecticut in which, on the basis of actual traffic counts made by the Bureau of Public Roads, 366 miles of the State highway system carried in one year (September, 1922, to September, 1923) 4,876,000 gross tons of motor-truck traffic and 5,698,000 gross tons of passenger-car traffic. As the average haul of the motor-truck tonnage is known to be approximately 31 miles and the average passenger-car trip approximately 47 miles, it will be seen that the

savings in fuel costs alone resulting from the transportation of these tonnages over paved roads instead of earth roads are approximately $378,000 per year for truck traffic and $670,000 per year for passenger-car traffic, a total of $1,048,000.

As present costs of constructing 18-foot paved roads average approximately $35,000 a mile exclusive of the cost of grading, the cost of building the 366 miles in Connecticut would be at present about $12,810,000. Therefore, on the basis of present traffic and present construction price levels the saving in gasoline consumption alone, with interest at 5 per cent, would pay for these 366 miles of paved roads in less than 20 years.

Financing of Road Construction and Maintenance

Funds for road construction and maintenance are raised by the following methods: (1) Federal taxation; (2) real and personal

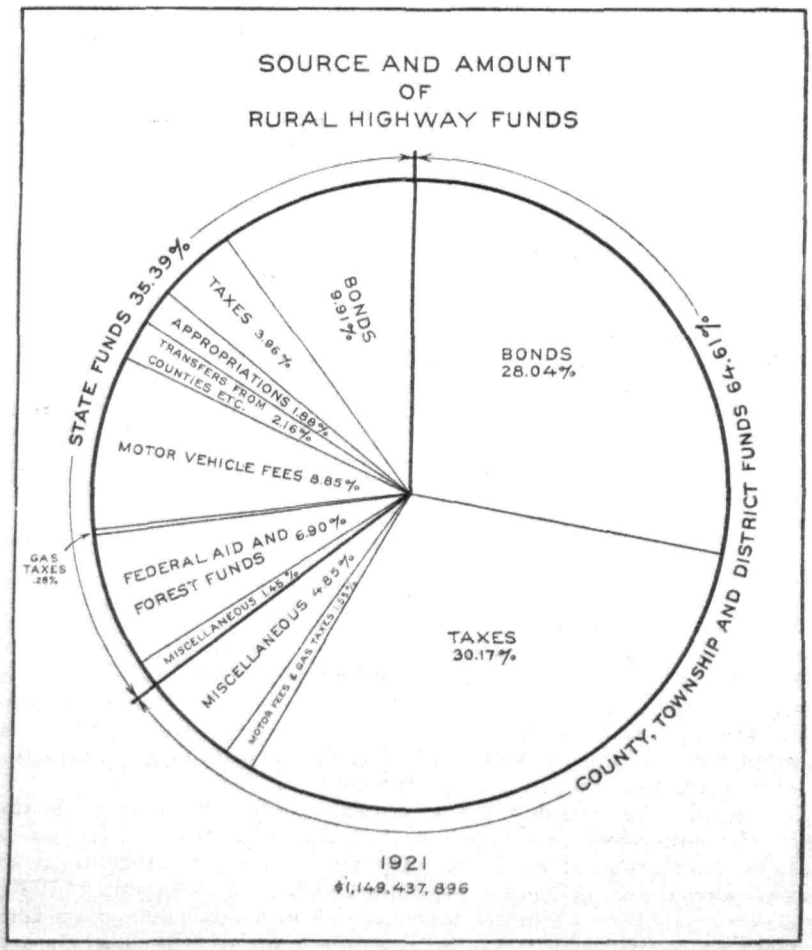


FIG. 26.—Nearly two-thirds of the total highway income in 1921 was under the control of county, township, and district authorities. Of the total of $1,149,437,896, approximately 62 per cent was current revenue and 38 per cent was raised by the sale of bonds

property taxation by the States, counties, townships, and districts; (3) special assessments levied upon abutting and adjacent property owners; (4) motor-vehicle license fees, operators' licenses, and fines for infractions of the motor-vehicle laws; (5) taxes on gasoline and other fuels used by motor vehicles; (6) special taxes (these are relatively unimportant); and (7) the sale of bonds.

Federal appropriations.—No Federal taxes are levied especially for roads. Federal-aid appropriations are made from funds available in the United States Treasury, which are derived mainly from duties on imports, internal revenue taxes, excise taxes, and income taxes. It is a fact, however, that the expenditures of the Government since 1916 both for Federal-aid roads and for roads constructed in the national forests at the close of the last fiscal year (June 30, 1924) amounted to only $353,082,098, whereas the excise taxes on automobiles, motor trucks, and spare parts for motor vehicles collected since 1918 amounted at the same time to $749,040,569. The total amount appropriated or authorized by the Government for Federal-aid and national-forest roads during the above period was $503,500,000,[2] not all of which was expended as will be seen by comparison with the figure above. But even if the entire appropriation for this period had been expended, the expenditure would still be more than $200,000,000 less than the income received by the Federal Government by taxation based on the sales price of motor vehicles. In effect, therefore, the Federal funds have, in the past, been more than supplied by road users.

State and local revenues.—No accurate determination of the total amount of money raised by the States, counties, and other local subdivisions from all sources has been made since 1921. In that year the funds raised from the various sources were as follows:[3]

State and State-controlled funds, 1921:		
State bonds	$113,304,202	
County bonds	2,191,542	
State property taxes	45,262,186	
County property taxes	22,785,464	
Appropriations	21,865,102	
Motor-vehicle fees	101,204,479	
Gasoline taxes	3,353,988	
Federal-aid and forest-road funds	79,031,441	
Other sources	16,644,495	
		$405,642,899
County, township, and district funds, 1921:		
County bonds	322,613,529	
County property taxes	347,633,360	
Motor-vehicle fees	17,738,227	
Gasoline taxes	329,472	
Forest-road funds	301,785	
Other sources	55,178,624	
		743,794,997
		1,149,437,896

Recapitulation—State, county, township and district funds, 1921:

	Amount	Per cent
Bonds	$438,109,273	38.1
Property taxes	415,681,010	36.2
Motor-vehicle fees	118,942,706	10.3

[2] See Agricultural Statistics, Table 765, page 1184, for apportionment of Federal aid.
[3] For distribution of revenue by States see Agricultural Statistics, Tables 769 and 770 pages 1190 and 1192.

Recapitulation, etc.—Continued.	Amount	Per cent
Gasoline taxes	$3,683,460	0.3
Federal-aid and forest-road funds[4]	79,333,226	6.9
Other sources	93,688,221	8.2
	1,149,437,896	100.0

State and local expenditures.—In the same year (1921) the States, counties, townships, and districts made expenditures for highway construction and maintenance and related purposes as shown following:[5]

Highway expenditures by or under supervision of the State highway departments, 1921:		
Construction, roads and bridges	$291,973,813	
Maintenance, roads, and bridges	74,526,746	
Engineering and administration	18,881,855	
Other items	27,859,248	
		$413,241,662
Local highway expenditures, without State supervision, 1921:		
Construction, roads, and bridges	316,225,470	
Unclassified construction (probably largely maintenance)	18,766,090	
Maintenance, roads, and bridges	174,066,423	
Engineering and administration	17,149,498	
Other items	97,138,629	
		623,346,110
		1,036,587,772

Recapitulation—State and local expenditures, 1921:	Amount	Per cent
Construction, roads, and bridges	$626,965,373	60.5
Maintenance, roads, and bridges	248,593,169	24.0
Engineering and administration	36,031,353	3.5
Principal and interest payments on highway bonds	89,280,946	8.6
Purchase and repair of machinery, equipment, and general miscellaneous	35,716,931	3.4
	1,036,587,772	100.0

Comparison of highway revenues and expenditures.—Referring to the following comparative tabulation of the total highway revenues and expenditures for the year 1921, it will be observed that the revenues in that year exceeded the expenditures by $112,950,124, that the revenues derived by current taxation were $711,328,623, and that these revenues fell short of the actual net cost of administering, constructing, and maintaining the roads during the year by $200,261,272.

The assessed valuation of all property in the United States subject to general property taxation in 1922 was $124,616,675,000. This was approximately 39 per cent of the estimated total wealth of the country exclusive of public property. The total of general and special property taxes levied on the basis of this valuation for all purposes was $3,586,251,551, or 2.9 per cent of the total valuation. The general and special taxes devoted to highway construction and maintenance during 1921 amounted to $415,681,010, which, therefore, was 11.6

[4] Includes only Federal-aid and national-forest payments received by the States and counties and credited by them to their respective highway funds.

[5] For distribution of expenditures by States see Agricultural Statistics, Table 772, page 1195.

per cent of the total tax bill for all purposes, or about one-third of a cent on each dollar of the total assessed valuation. As the assessed valuation was less than the actual value of taxable property, the ratio of the highway taxes to the true value of the property upon which they were levied was actually less than one-third of a cent per dollar. As shown by the table on page 143, such taxes raised 36.2 per cent of the total highway revenue in 1921.

TABLE 10.—*Comparison of highway revenues and expenditures, 1921*

Revenues			Expenditures		
From current taxation.	Property taxes	$415,681,010	Administration, construction, and maintenance of roads and bridges.	Engineering and administration.	$36,031,356
	Motor vehicle fees	118,942,706		Maintenance of roads and bridges.	248,593,169
	Gasoline taxes	3,683,460			
	Federal-aid and forest road funds.	79,333,226			
	Other sources	93,688,221		*Construction of roads and bridges.*	626,965,373
Deferred payment.	Bonds	438,109,273			
		1,149,437,896		Principal and interest on highway bonds.	89,280,946
			Carrying charges, etc.	Purchase of machinery, etc.	35,716,931
					1,036,587,772
				Unexpended balance of revenue.	112,950,124
					1,149,437,896

The Census Bureau in a recent publication reports that in 1922 the revenues of all States for all governmental purposes were $4,224,541,865. This includes general property taxes, poll taxes, licenses, permits, and special assessments collected by the States and by all of their political subdivisions. It is not unfair to assume that the public revenues for 1921 were approximately the same as those reported for the subsequent year, and the following comparison is made on that basis. Deducting from the year's total of public revenues $122,626,166 collected as motor vehicles license fees and gasoline taxes, there is left $4,101,915,699 as the amount received from other sources, or a contribution for governmental purposes of $38.80 per capita. Of this total amount, exclusive of motor-vehicle revenues, $509,369,231 was collected from the public for highway purposes, or $4.83 per capita. It follows, therefore, that of every dollar collected by the States, counties, townships, and other taxing districts only 12.4 cents was used for highway purposes.

The total outstanding public indebtedness for all purposes in 1922, other than that of the Federal Government, as estimated by the United States Department of Commerce, was $8,696,939,000. This total was 2.7 per cent of the estimated total wealth of the country exclusive of public property. It was made up of $935,543,000, the total indebtedness of the States; $1,255,211,000, the total indebtedness of the counties; and $6,506,185,000, the indebtedness of other subdivisions, principally cities. The total per capita indebtedness was $79.77. On January 1, 1922, the outstanding indebtedness on account of rural highways—i. e., all public roads and bridges located outside the limits of incorporated towns—was $1,222,312,300, which was made up of $345,574,100, the highway indebtedness of the

States, and $876,738,200, the highway indebtedness of the counties. The outstanding highway indebtedness of the States was, therefore, about 37 per cent of their total outstanding indebtedness, and that of the counties was about 29 per cent. The total outstanding highway indebtedness of the States and counties was about $11.56 per capita, which was less than four-tenths cent for each dollar of the per capita wealth of $2,918.

Of the total highway expenditure of $1,036,587,772 approximately 40 per cent was made by or under the supervision of the State high-

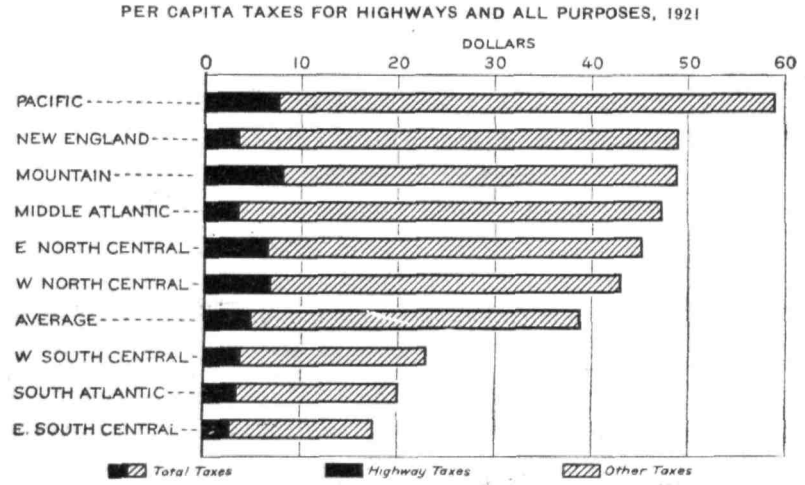


FIG. 27.—The average per capita tax of the people of the United States for all purposes was $38.80 in 1921. The average tax for highways was $4.83 per capita. Per capita taxes for highways were highest in the Mountain States and lowest in the East South-Central States

way departments, the balance by the local governments without State supervision. Of the expenditures by or under the supervision of the State highway departments approximately 70 per cent was for construction, 18 per cent for maintenance, 4 per cent for engineering and administration, and 8 per cent for the financing of highway bond issues. Similarly, analysis of the county and local expenditures shows that 54 per cent was for construction, 28 per cent for maintenance, 3 per cent for engineering and administration, and 15 per cent for financing of bond issues.

Highway Income by Geographic Sections

On account of the wide variations which exist in different parts of the country as to density of population, road mileage, character of road construction, amount of highway traffic, etc., it is essential in order to make worth-while comparisons to make an examination of the incidence of these highway costs in the different groups of States.[6] In the six States comprising the New England division the

[6] The various groups of States referred to in the article are listed as follows:
New England division: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
Middle Atlantic division: New York, New Jersey, Pennsylvania.
East North Central division: Ohio, Indiana, Illinois, Michigan, Wisconsin.
West North Central division: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

total highway income was $46,455,284 in 1921, or $6.25 per capita. Of this amount $11,629,091, or 25.1 per cent, consisted of license fees contributed by the motor vehicle. The revenues derived from the sale of bonds were $5,889,745, which constituted only 12.7 per cent of the total highway income and amounted to only 80 cents per capita.

The amount received from the Federal Government as Federal aid was $2,904,636, or 6.2 per cent of the total. The general property taxes and revenues derived from other sources were $26,031,762;

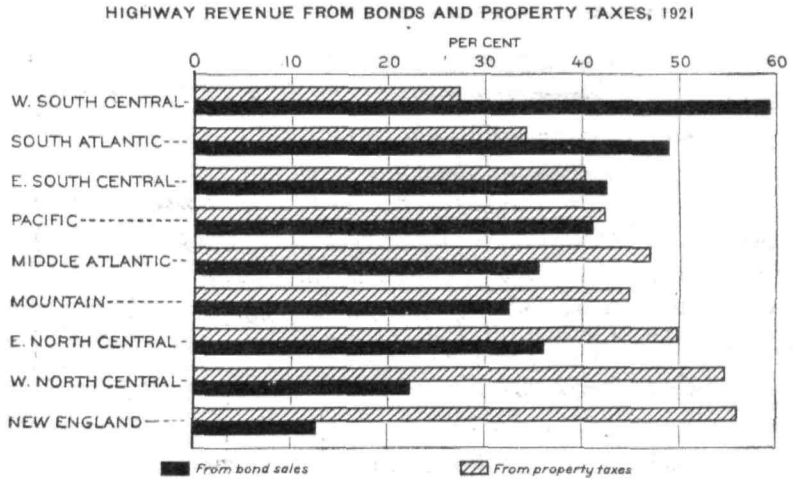


FIG. 28.—In the Southern States the revenues raised by bond issues exceeded the total of general property taxes in 1921. In all other groups of States the property taxes exceeded the revenues raised by bond issues

this constituted 56 per cent of the total highway income and amounted to $3.52 per capita. According to the report of the Census Bureau the States and their political subdivisions collected $374,743,288 in taxes, fees, licenses, etc. After deducting the motor-vehicle license fees there is left $363,114,197 as the total public revenues derived from all other sources, or about $49 per capita, of which amount $3.52 was collected and used for rural highway purposes. This indicates that 7.2 cents of every dollar collected by State and local governments was devoted to highway purposes.

The total highway income of the three States comprising the Middle Atlantic division was $168,305,433, or $7.50 per capita. Of this amount $22,340,418, or 13.3 per cent, was obtained from motor-vehicle license fees. Bond sales furnished the source of $59,543,258 of the total, or 35.4 per cent; this was an obligation of $2.68 per capita for the year. The Federal Government contributed $7,441,515, or 4.4 per cent of the total amount. The general property taxes and the revenues derived from other sources were $78,980,242, which was 46.9 per cent of the total highway income and constituted a

South Atlantic division: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
East South Central division: Kentucky, Tennessee, Alabama, Mississippi.
West South Central division: Arkansas, Louisiana, Oklahoma, Texas.
Mountain division: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.
Pacific division: Washington, Oregon, California.

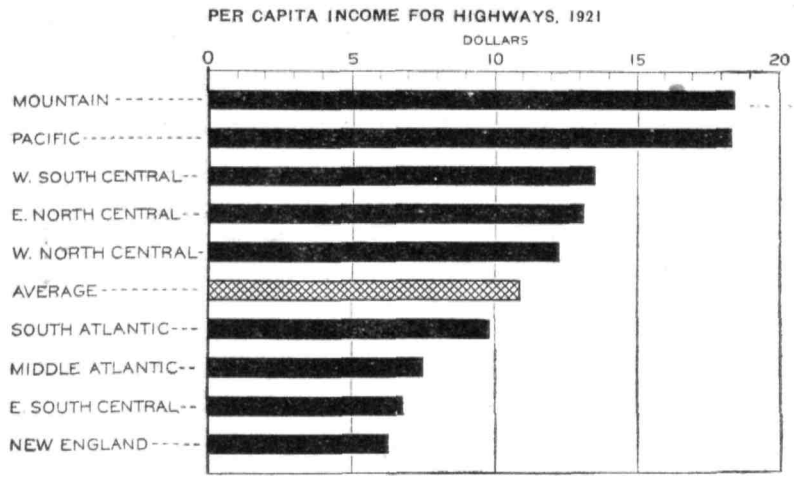


FIG. 29.—The per capita income for highway improvement in 1921 in the New England, Atlantic Coast, and Gulf States was less than the average for the United States; in all other States the per capita income was greater than the average. The greatest income per capita was received in the Mountain States

per capita burden of $3.52. The total amount of public revenues collected in these States by the State and local governments was $1,056,916,160, after making a deduction for the amount representing motor-vehicle license fees. The total per capita collections made for all purposes amounted to $47.30. As already indicated, of this amount $3.52 per capita was credited to highway funds, which means that out of every dollar collected from the public only 7.5 cents was used for highway purposes.

In the East North Central division the 1921 total highway income was $281,139,024, representing a per capita contribution of $13.10. The motor-vehicle fees amounted to $27,432,261, or 9.8 per cent of the total. From the sales of bonds these States received $101,550,318, which was 36.1 per cent of the total highway income and

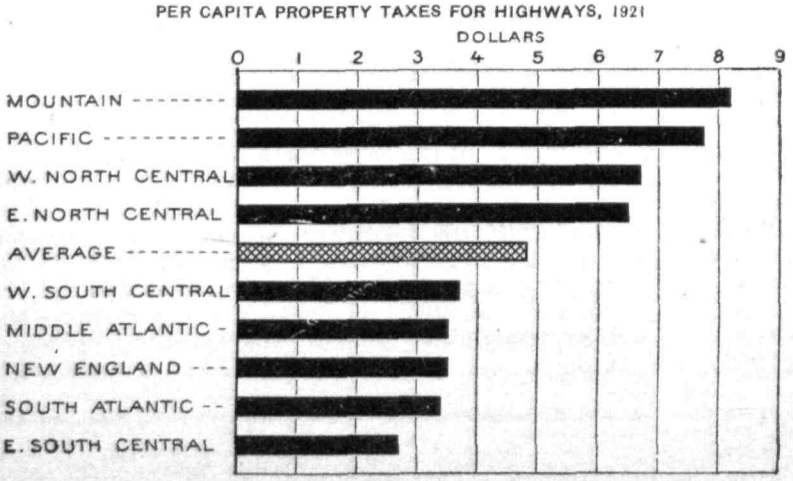


FIG. 30.—The average per capita burden of property taxes in 1921 was less than $5. The greatest burden was carried by the States west of the Mississippi River

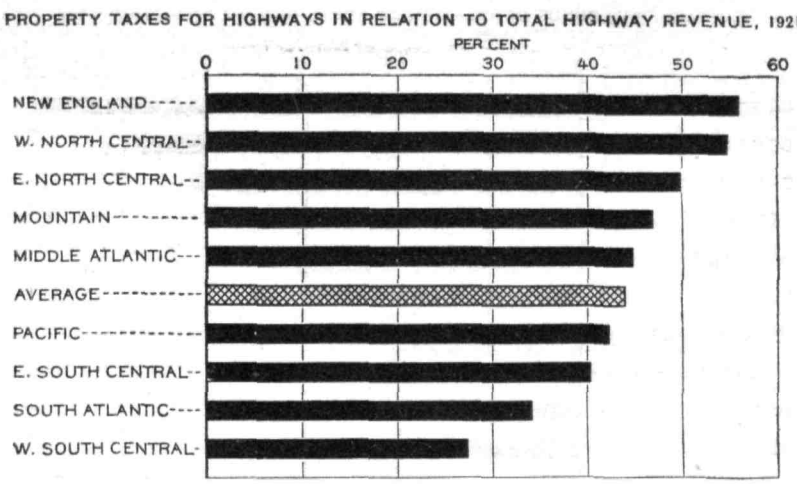


FIG. 31.—The ratio of property taxes for highway improvement to the total highway revenues varied in 1921 from 27 per cent in the West South Central States to 56 per cent in the New England States

a per capita obligation of $4.70. The Federal aid received by these States amounted to $11,887,987, or 4.2 per cent of the total highway income. General property taxes destined for highway purposes and the revenues from other sources were $140,268,558, or 49.9 per cent of the total highway income. They constituted a per capita burden of $6.50. After making a deduction of the motor-vehicle fees, the total public revenues collected in these States amounted to $972,279,786, or $45.20 per capita. Out of this per capita tax collection, $6.50 was credited to the highway account, which indicates that 14.4 cents out of every dollar of public revenues was used for highway purposes.

The total highway income of the West North Central division amounted to $153,642,716 or $12.25 per capita. The motor-vehicle

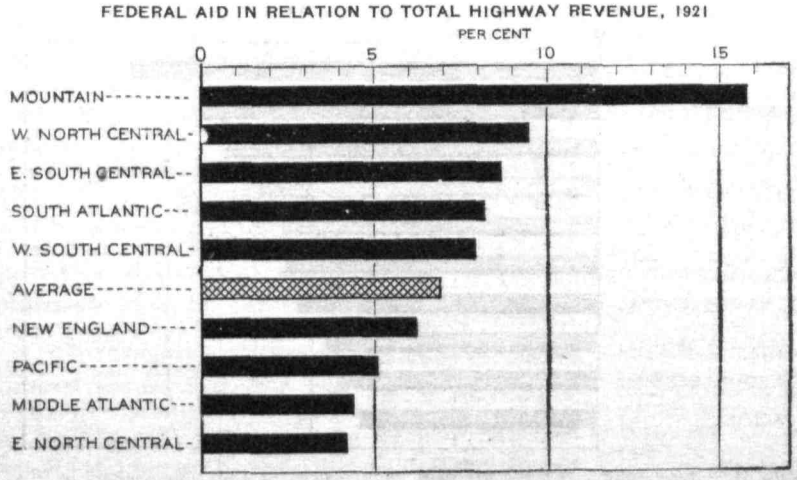


FIG. 32.—Revenues received by the States from the Federal Government in 1921 constituted a higher percentage of the total highway revenues in the Central and Southern and Mountain States than in the States of the coast sections

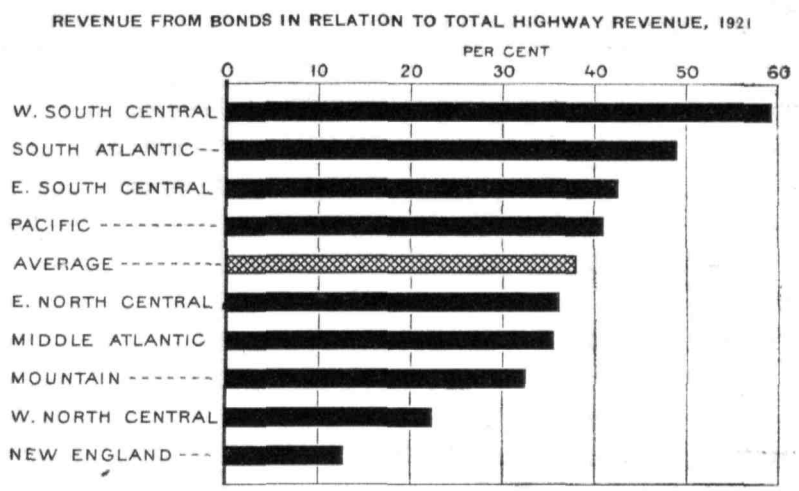


FIG. 33.—Revenues derived from bond issues in 1921 constituted only one-eighth of the total highway revenue in New England, as compared with nearly five-eighths in the West South Central States. The States which placed the greatest dependence on bond issues were the Southern and Pacific Coast States

fees constituted $20,574,538 and represented 13.4 per cent of the total highway income. These States derived $34,291,178, or 22.3 per cent, of the total from the sale of bonds, which represented a per capita obligation for the year of $2.75. The revenues derived from Federal aid were $14,636,169, or 9.5 per cent of the total. General property taxes and revenues from other sources for highway purposes constituted $84,140,831, or 54.8 per cent of the total highway income, which resulted in a per capita burden of $6.70. The total public revenues in this division of States were $539,197,660 after subtracting the fees received from motor vehicles. These total collections from the public represented a per capita burden of $43, $6.70 of which

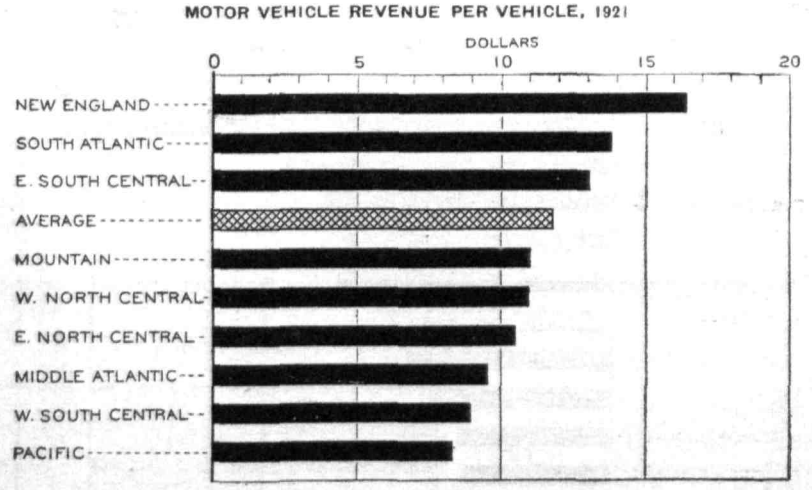


FIG. 34.—Motor-vehicle revenue for road improvement in 1921 was highest in proportion to the number of vehicles registered in the New England States and lowest in the Pacific States. The average revenue per vehicle was less than $12 per year

was collected for highway purposes, which means that out of every dollar collected 15.5 cents could be designated as highway income.

The 1921 highway income for the South Atlantic division was $137,657,698, or $9.85 per capita. The revenues derived from motor-vehicle fees and gasoline taxes were $11,860,998, or 8.6 per cent of the total. These States received 49 per cent of the total highway income, or $67,406,730 from the sales of bonds, which amounted to a per capita obligation of $4.80. Of the total highway income Federal aid constituted 8.2 per cent, or $11,267,126. The general property taxes and receipts from other sources were $47,122,844, which was 34.2 per cent of the total highway income, or a collection of $3.40 per capita. After deducting the revenues derived from motor-vehicle fees and gasoline taxes these States collected from the public the sum of $283,145,170 or $20.10 per capita for all public purposes. Of this total income only $3.40 was devoted to highway purposes, which

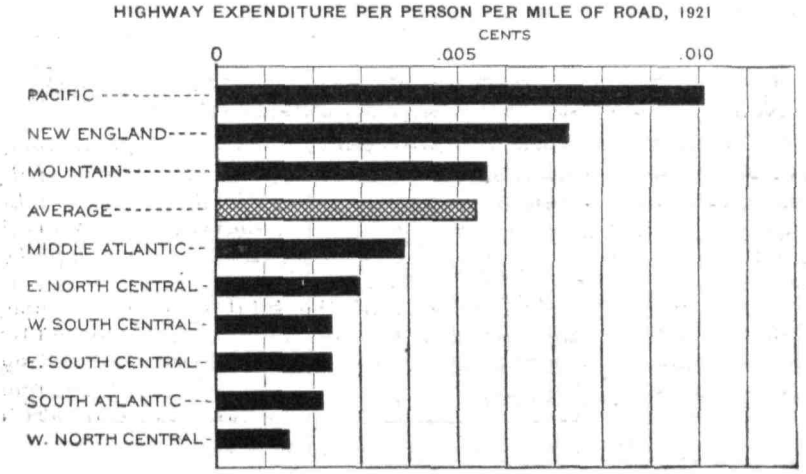


FIG. 35.—The total expenditure per person for road construction and maintenance in 1921 amounted to only 1 cent for each 200 miles of the total mileage of the United States. The expenditure per person per mile of road in the Pacific States was nearly seven times as great as in the West North Central States

means, however, that 16.8 cents out of every dollar collected from the public was credited to the highway account.

In the East South Central division the total highway income was $60,280,684 in 1921, which amounted to $6.80 per capita. The motor-vehicle fees and gasoline taxes, $5,108,387, represented 8.5 per cent of the total highway income. The revenues which accrued from the sales of bonds were $25,551,347, or 42.5 per cent; this was a per capita obligation of $2.90 for that year. The States in this division received $5,281,475 as Federal aid, which constituted 8.7 per cent of the total. General property taxes and collections from other sources supplied $24,339,475, 40.3 per cent of the total, or $2.70 per capita. In this division the total public revenues, exclusive of motor-vehicle fees and gasoline taxes, were $155,501,192, or $17.55 per capita. This total per-capita tax collection included the $2.70, which went for highway purposes, which means that 15.3 cents out of every dollar collected were turned over to the highway fund.

The total highway income in the West South Central division was $138,504,160, which represented a per capita burden of $13.50. The motor-vehicle fees and gasoline taxes amounted to $7,496,965, and constituted 5.4 per cent of the total highway income. The receipts from the sale of bonds were $82,127,751, or 59.3 per cent, an obligation of $8 per capita. The aid derived from the Federal Government was $10,929,721, or 7.9 per cent of the total highway income. The general property taxes and the revenues derived from other sources amounted to $37,949,723, or 27.4 per cent of the total highway income, a per capita burden of $3.70. After making an allowance for the revenues derived from motor-vehicle fees and the gasoline taxes these States collected $235,959,540, or $23 per capita. Of this amount $3.70 was destined for highway purposes, or 16.1 cents of every dollar collected from the public.

The States of the Mountain division raised $61,367,959 in 1921 for highway purposes, which represents a per capita burden of

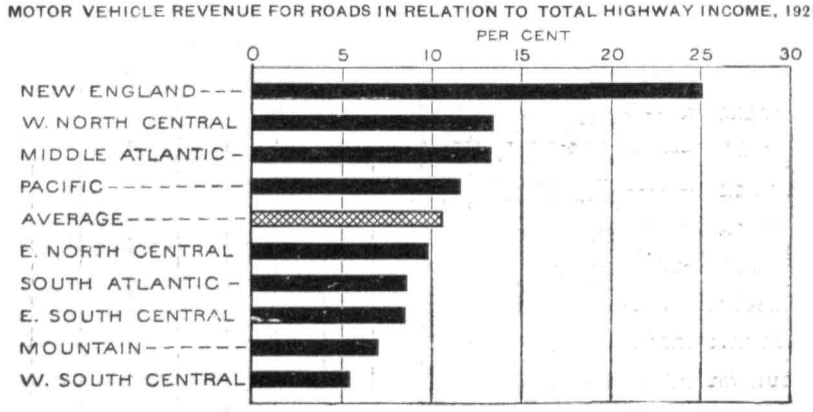


FIG. 36.—Motor-vehicle revenues for road improvement in 1921 constituted 10.6 per cent of the total highway income of the United States. The percentage varied from 5 per cent in the West South Central States to 25 per cent in New England

$18.40. Seven per cent of the highway income, $4,305,524, was derived from motor-vehicle fees and gasoline taxes. The bond sales amounted to $19,908,036, or 32.4 per cent of the total highway income, a per capita obligation of $6. The Federal Government contributed toward highway improvements $9,731,542, which constituted 15.8 per cent of all highway income. General property taxes and revenues derived from other sources amounted to $27,422,857, constituting 44.8 per cent of the total highway income, a per capita burden of $8.20. Exclusive of motor-vehicle fees and gasoline taxes, these States received $162,761,525 in taxes and payments of all kinds from the public, or $48.90 per capita. Of this amount, $8.20 was used for highway purposes. Of every dollar collected from the public 16.8 cents were credited to the highway funds.

The total highway income in the Pacific division was $102,084,938 in 1921, amounting to $18.30 per capita. The motor-vehicle license fees and gasoline taxes were $11,877,984, or 11.6 per cent of the total. The revenues derived from bond sales were $41,840,910, or 41 per cent of the total highway income, a per capita obligation of

$7.50. The Federal-aid receipts were $5,253,105, which constituted 5.1 per cent of the total highway income. The revenues derived from general property taxes and from other sources were $43,112,939, or 42.3 per cent of the total highway income, amounting to $7.75 per capita. In these States the total taxes, fees, etc., collected exclusive of motor-vehicle revenues were $333,040,020, or $59.20 per capita. Of this total amount collected from the public, $7.75 was devoted to highways, and 13.1 cents out of every dollar collected were used for highway purposes.

Average Expenditure per Person 1 Cent for 200 Miles of Road

As already stated, the total highway expenditures for all rural highway purposes in 1921 were $1,036,587,772. In Table 11 the resulting per capita expenditure in each of the sections is shown in relation to the total mileage of road in the corresponding sections with the purpose of bringing out the per capita expense per mile of road:

TABLE 11.—*Per capita expenditure for highway construction in 1921*

Division	Mileage of rural highway	Highway expenditures per capita	Highway expenditures per person per mile of road
		Dollars	*Cents*
New England	83,296	6.10	0.0073
Middle Atlantic	186,935	7.20	.0039
East North Central	412,753	12.40	.0030
West North Central	759,820	11.80	.0015
South Atlantic	365,567	7.70	.0022
East South Central	242,745	5.75	.0024
West South Central	416,617	10.20	.0024
Mountain	306,382	17.15	.0056
Pacific	167,180	16.90	.0101
Total or average	2,941,294	[a] 9.80	[a] .0054

[a] Average.

Although these highway expenditures per person per mile averaged 0.0054 cent, they ranged from 0.0015 cent in the West North Central States to 0.0101 cent per person per mile in the Pacific States. A more direct comparison can be made (Table 12) by arranging the several groups in order from the lowest to the highest.

TABLE 12.—*Comparison of highway expenditures by geographic divisions, 1921*

Division	Expenditures per person per mile	Percentage relationship	Division	Expenditures per person per mile	Percentage relationship
West North Central	0.0015	100	Middle Atlantic	0.0039	260
South Atlantic	.0022	147	Mountain	.0056	370
East South Central	.0024	160	New England	.0073	480
West South Central	.0024	160	Pacific	.0101	670
East North Central	.0030	200			

An examination of these expenditures per person per mile reveals the relative significance of expenditures for highway improvements. This is seen, for example, in comparing the West North Central group with the East North Central group. The per capita highway expenditures of the West North Central division were $11.80 and for the East North Central group $12.40. But when the comparison is based upon the expenditures per person per mile of road a wholly different result is obtained. On this basis the highway expenditures per person per mile in the East North Central States were 100 per cent above those of the West North Central States. The highest expenditure per person per mile of road was found in the Pacific States, where it amounted to 0.0101 cent, or 670 per cent of that in the West North Central States.

Changes in Highway Income Since 1921

No accurate determination of the amount of money raised by the States, counties, and other local subdivisions by real and personal

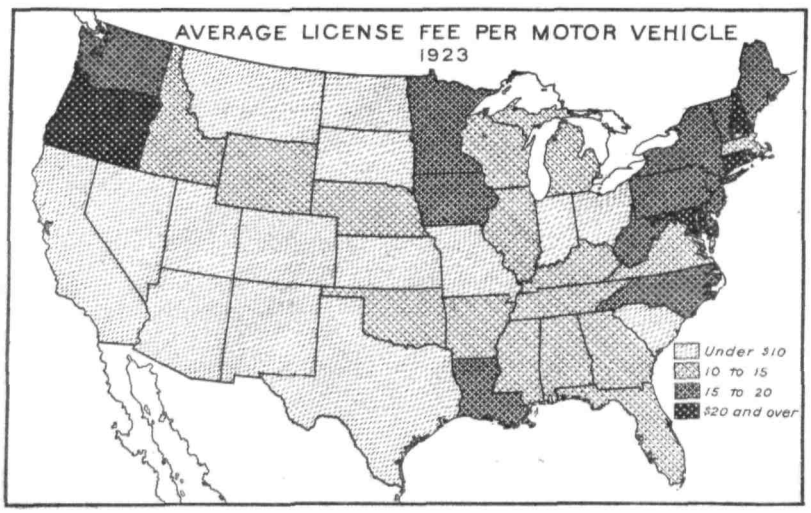


FIG. 37.—Since 1921 the principal increase in highway revenue has come from the motor vehicle. The increase in motor-vehicle income has been due in part to the adoption of higher license fees. In 1923, 17 States levied fees in excess of $15 per vehicle

property taxation, special assessments, and other special taxes has been made since 1921. In that year, as has been shown, property taxes yielded a total of $415,681,010, and $93,688,221 was raised by miscellaneous special taxes. As rates of taxation and property assessments have not been altered materially in the meantime, it is probable that the amounts collected from these sources in 1924 were approximately the same as in 1921.

It is estimated that Federal-aid and forest-road payments, which in 1921 amounted to $79,333,226, will reach a total of approximately $90,000,000 in 1924.

The greatest change to be expected is in the motor-vehicle revenues, including license fees and gasoline taxes. These revenues, on

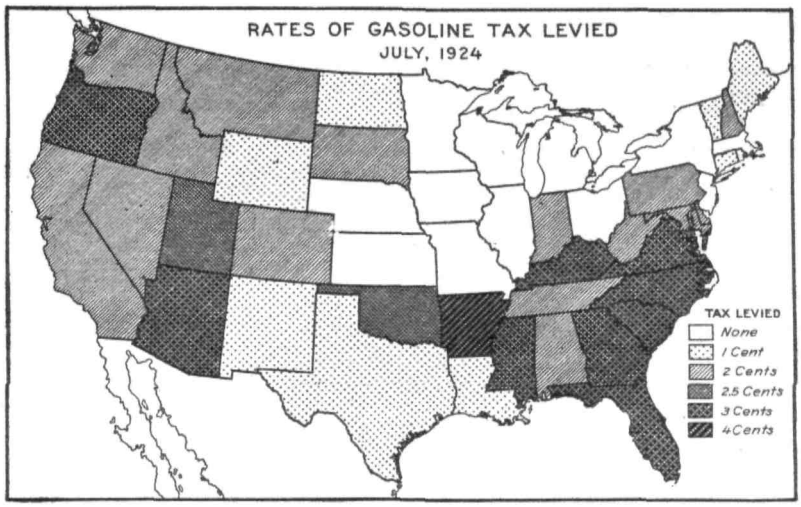


FIG. 38.—Gasoline taxes also account for a part of the increase in motor-vehicle revenue since 1921. There are now 35 States which levy this form of tax. Approximately one-half of the total number of all registered motor vehicles in the United States in 1924 were registered in these States

account of increases in motor-vehicle registration, changes in the rates charged for license fees, and the adoption of the gasoline tax by one State after another, have changed materially from year to year. There is a marked tendency to collect a larger proportion of highway funds from motor-vehicle owners. A survey of highway revenues and expenditures made in 1914 showed that out of a total highway income of $240,262,784 the collections from motor vehicles amounted to $12,382,031, or 5.1 per cent. In 1921, seven years later, the motor-vehicle owners paid $118,942,706 in motor-vehicle fees and $3,685,460 in gasoline taxes, a total of $122,626,166, or 10.6 per cent.

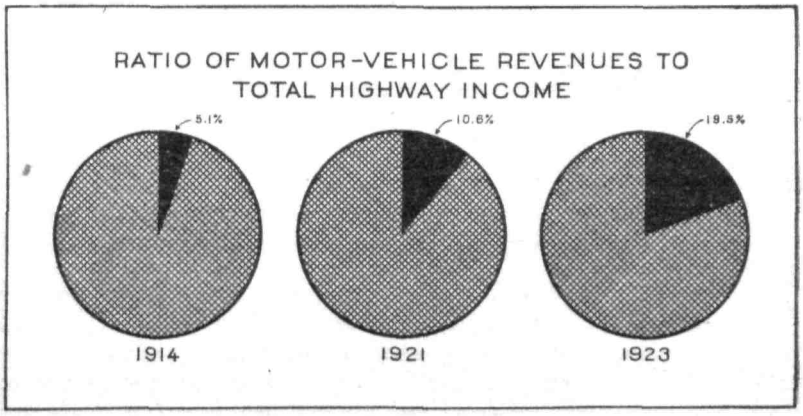


FIG. 39.—Between 1914 and 1923 the ratio of motor-vehicle revenue to total highway income was nearly quadrupled. The increase was due to increase in registration and to adoption of higher fees for licenses and taxes on gasoline

A similar compilation for 1923 shows a total contribution by motor-vehicle owners in the form of license fees of $188,970,992, and in the form of gasoline taxes $36,813,939, a total of $225,784,931. As it is estimated that the highway income and expenditure for 1923 were substantially the same as for 1921, it follows that the 1923 motor-vehicle contribution was about 19.5 per cent of the total. Between 1921 and 1923 it will be observed that the ratio almost doubled, while the payment per motor vehicle rose from $11.70 to $15.

An important factor in this increase was the growth of gasoline taxes resulting from the adoption of this form of taxation by more States and from increases in the rates charged. The first States to adopt it were Oregon and Colorado, which passed laws in 1919. By 1921 these two leaders had been followed by six more States, which were Arkansas, Florida, Kentucky, New Mexico, North Carolina, and Washington, and these have now been followed by 27 other States and the District of Columbia, so that there are, in 1924, 35 States and the Federal District that are taxing motor fuel. Seveny-three per cent of the States, in other words, have in effect a gasoline tax. These States have a rural road mileage of 1,954,886 miles, comprising 66.5 per cent of the total rural highway mileage of the country; but their taxes apply to only about 50 per cent of the total number of motor vehicles.

The rates charged by these States range from 1 to 4 cents per gallon, as shown in figure 38.

Approximate Highway Revenues in 1924

On the basis of an anticipated registration in 1924 of 17,500,000 motor vehicles, the present rates of license fees and gasoline taxes are expected to yield, respectively, $225,000,000 and $75,000,000, a total of $300,000,000, all but a small portion of which will be available for construction or maintenance of roads and bridges either with or without State supervision.

Adding all the various forms of highway income derived by taxation of one form or another, it is probable that the total amount for 1924 is approximately $900,000,000, as shown by Table 13.

TABLE 13.—*Approximate highway revenue, 1924, exclusive of bonds*

Federal-aid and forest-road funds	[1] $90, 000, 000
Property taxes	415, 000, 000
Motor-vehicle license fees	225, 000, 000
Gasoline taxes	75, 000, 000
Miscellaneous taxes	95, 000, 000
Approximate total revenue derived by taxation	900, 000, 000

[1] This is the approximate expenditure during the year. As there are no Federal taxes especially levied for road purposes, it is assumed that an amount of the total taxes equal to the road expenditure is raised for that purpose.

It thus appears that the revenues raised by taxation of one form or another in 1924 would probably be sufficient to pay the actual net cost of administering, constructing, and maintaining the roads on a scale commensurate with that of 1921 with small, if any, dependence upon borrowed money.

Fundamental Principles of Highway Finance

In order that such vast sums may be expended without waste, it is important that several fundamental principles be kept clearly in mind.

As to the rate of expenditure.—The first of these principles relates to the necessary rate of expenditure. It has already been shown that the return in the form of traffic economies from a properly managed investment in improved highways is greater than the expenditure required for the improvement. The saving in gasoline alone on the motor-truck traffic only over a whole system of roads has been found to be sufficient to pay the interest charges on the expenditure required to pave the entire system and to retire the indebtedness in less than 20 years. This being the case, it is clear that the more rapidly the principal roads of the country are improved the smaller will be their cost to the people, or, in other words, we pay for improved roads whether we have them or not, and we pay less if we have them than if we have not. It follows therefore that the roads should be improved as rapidly as the available supply of labor and materials will permit, entirely without regard to where the money comes from or how it is paid. Only by accepting this principle can the ultimate cost of the highways and their service be reduced to a minimum.

A single highway budget for the State.—This first principle being accepted, it may be asserted as a second that the total cash expenditures in each State for highway purposes, including the expenditures of the State, the counties, and the local governments, should be considered in a lump as the annual highway budget of the State. For the money to pay for the roads, whether State, county, or local, is derived finally from the same people, and unless the financial needs of all classes of roads are considered in preparing the highway budget we are apt to pile tax upon tax to the point where the burden will become unbearable. To secure efficient administration, all expenditures on all systems should be correlated under engineering and economic supervision, and the order, character, and extent of the improvements made upon the several systems should be made to depend upon the relative future traffic requirements of each. The attainment of these objects implies the creation of a central budgetary authority to supervise all highway expenditures in each State, and such authority should, without doubt, be created.

Highways should not take money needed for other purposes.—There is this fact also that must be borne in mind—that the expenditure for highways is only a part of the necessary public expenditure. We can not devote all the income from public revenues to the highways. There are educational institutions to be maintained and there are other public functions that require money, so that it may be taken as a third fundamental principle that the annual highway budget should be adjusted to the relative needs for other public purposes. The revenues derived from various sources must be sufficient to cover all those needs, and the portion allotted to highway improvement must not be out of proportion to the relative need for highways. But in this connection it should be added that all reve-

nue secured from motor-vehicle taxation should be set aside for highway purposes.

The proper uses of bonds.—As a further fundamental principle it follows, then, that if the highway program, planned and administered as described above, entails an expenditure greater than can be met with current funds without diverting money from other necessary purposes, the only recourse is to issue bonds and so defer a portion of the cost. For we are reminded again that to fail to prosecute the work of highway improvement as rapidly as physical limitations will permit is merely to shoulder the inescapable expense in the form of greater operating costs for vehicles, a form in which it will be greater than if it is assumed as a road-construction cost.

Exactly what part of the cost of the program can properly be deferred is perhaps a debatable question—that is to say, there is a debatable middle ground, where it is difficult to define the policy that may be pursued with propriety. There is no question that certain parts of the construction cost may be deferred without reasonable objection—for example, the costs of the grade and drainage structures, which are practically permanent improvements. Payment for these parts of the roads, which account for 40 per cent of the cost of the average highway program, might be spread over a number of generations without involving our successors in an indebtedness from which they would receive no benefits. On the other hand, there is no question that maintenance charges, as they are ordinarily defined, should not be met with borrowed money. But in between these two fixed points of policy there is doubtful ground, wherein there is conflict of opinion as to the soundness of deferring payment. The principal doubt arises over the financing of the cost of the road surface, and here it would seem the solution rests entirely upon the character of the maintenance. It is the merest platitude to say that unless the roads are maintained year by year—it matters not how well they are built—the investment in them will gradually be dissipated and the roads themselves will never give the service they should be expected to give. Perfect maintenance, on the other hand, absolutely guarantees the integrity of the original investment, assures continuous service, and converts what would otherwise be a liability into an asset.

The distribution of the expense.—Having thus ascertained what part of the cost of conducting the highway-improvement program needs to be, and may properly be deferred by issuing bonds, the next question that arises is: How shall the burden of current expense be distributed among the various classes and groups of the population? Here we must resort to the familiar principle of assessment according to benefits. Concisely stated in relation to expenditures for highway improvement, it is this: The cost of building and maintaining an adequate system of highways should be distributed in equitable relation to the benefits derived. What, then, are the benefits and to whom do they accrue? First, there are certain general benefits in which every man shares, whether he actually rides over the roads or not, such as their beneficial influence on education, health, the national defense, the postal service, and their effect in reducing living and distribution costs. Everyone remembers the indispensable part played by highways in the World War. It is evident that the efficiency of the rural free-delivery postal service

is dependent upon the condition of the roads. Whoever is in touch with developments in modern educational methods knows that the progress of rural education depends upon the displacement of the one-room schoolhouse by the centralized, graded school, and that this development is in turn dependent upon the improvement of the roads. The advantage of improved roads in making possible the rendering of prompt medical attention in case of illness is well understood; so also is the general influence of the roads upon living and distribution costs. It is only necessary to mention these benefits for everyone to realize how great an influence they have upon the lives of all of us.

In addition to these general benefits there are two principal classes of special benefits, the first being the benefit that is derived by persons whose land and property is made accessible by the roads improved, and thereby rendered more valuable, and the second, the benefit derived by persons who operate over the roads private vehicles, and who by virtue of the improvement are enabled to effect a saving in the cost of operating these vehicles which they do not share with others.

Formerly these two classes of special benefits were experienced by practically the same groups of people. Roads were strictly local facilities. They served the land to which they gave access. City people rarely used the roads at all and derived no benefits from their improvement, except the general benefits enjoyed in common by all citizens of the State. The farmers who traveled them rarely met a stranger. Under such conditions it was easy to see that whatever special benefit resulted from the improvement of a road was enjoyed largely by those living along or near it, who, practically alone, made direct use of it.

There still remain certain roads of this character of which it can still be said that they serve the land only. In general they are the roads that have previously been classified as county and local roads. These roads are rarely traveled, except by those whose homes are on them or near them.

There are other roads, however, which now are used far less by those who live on them than by others whose homes and property are remote from them and not directly affected by the improvement. They are used by city dwellers as much as, perhaps more than, by farmers. The farms lying along these roads are neither the origin nor the destination of the great and constantly increasing streams of traffic that flow back and forth over them. Because of the great volume of traffic which uses them, they require more expensive types of improvement than the local, land-serving roads, but these more expensive improvements do not, except in suburban areas, add proportionately to the value of the abutting land. They do serve the abutting land, it is true, just as the local roads do, but this service is far exceeded by the service they render to the multitude that uses them and has no interest in the land. Generally speaking, these roads serve the traffic and are distinguished by that fact from the other roads that serve the land. As a general rule, these roads are identical with the State and interstate roads previously defined.

In this analysis there would seem to be the basis for a fair distribution of the burden of highway expense, as follows: The county and local roads, being primarily of benefit to the land they serve

should be constructed and maintained with funds raised by county and local property taxes in the same manner that city streets are constructed and maintained by city property taxes. The main State and interstate roads, rendering general benefits to the whole State and to the whole Nation, and special benefits to the wide-ranging traffic that uses them, should be constructed and maintained in part by Federal appropriations in fair proportion to the general Federal benefits, in part by State property taxes levied in proportion to the general State benefits, and in part by special taxes levied upon vehicles in proportion to the special benefits derived by the traffic.

Highway Transportation

Modern developments in highway transportation.—Twenty years ago highway transportation was a relatively insignificant factor in the transportation field. The movement was predominantly local, the length of haul being the average distance from farm to market, and the vehicle was almost exclusively the relatively light, slow-moving, horse-drawn conveyance. During the past two decades a tremendous number of automobiles and motor trucks have been added to our highway transportation equipment. During the year 1923, 3,938,206 motor vehicles were produced in the United States, which was more than twice as many as were manufactured in 1921 and more than 1,000 times as many as were built in 1899. The production by years is shown in Table 14:

TABLE 14.—*Production of motor vehicles in the United States, 1899 to 1923*

Year	Number	Year	Number	Year	Number
1899 [1]	3,874	1914	569,054	1921	1,661,550
1904	21,975	1919	1,974,016	1922	2,659,064
1909	130,986	1920 [2]	2,205,197	1923	4,086,997

[1] Production figures 1899 to 1919, U. S. Census Report.
[2] Production figures 1920 to 1923, National Automobile Chamber of Commerce.

From this table it will be noted that the production of motor vehicles from 1919 to 1923 has increased uniformly except for the year 1921.

The recent development of motorized highway transportation is also indicated by motor-vehicle registrations during the 10-year period from 1913 to 1923. Motor-vehicle registrations have increased from 1,258,000 in 1913 to 15,000,000 vehicles in 1923, the 1923 registration being over 1,200 per cent of the 1913 registration. The registration statistics for this period by years are shown in Table 15.

TABLE 15.—*Motor vehicle registrations 1913 to 1923, inclusive*

Year	Number	Year	Number	Year	Number
1913	1,258,062	1917	4,983,340	1921	10,463,295
1914	1,711,339	1918	6,146,617	1922	12,238,375
1915	2,445,666	1919	7,565,446	1923	15,092,177
1916	3,512,996	1920	9,231,941		

The major portion of this number of vehicles is made up of passenger cars. In 1923, 13,457,214, or approximately 90 per cent of the total registration, was a registration of passenger cars. This proportion has remained almost constant during the past four years, indicating that the growth of motor trucking has kept pace with the growth in the use of passenger cars.

Due to the rapid development of motor transport the horse-drawn vehicle has dwindled into insignificance as a factor in highway transportation. The ratio of horse-drawn vehicles to motor vehicles has become very small on all important highways and is decreasing each year. Studies of traffic on the California State highway system in 1920 and 1922 indicate a decrease in horse-drawn vehicles from 2.3 per cent of all traffic in 1920 to 1.2 per cent in 1922.

An analysis of traffic records on two toll bridges in the State of Connecticut indicates a similar falling off in horse-drawn traffic. Of the total traffic over the two bridges, 1.95 per cent in 1920 and 1.06 per cent in 1922, was made up of horse-drawn vehicles.

In California from 1920 to 1922 highway traffic increased 47 per cent. During the same period traffic on the Connecticut toll bridges increased 48.8 per cent. The close similarity between the increase in traffic at these widely separated points is indicative of the uniformity of the rapid increase in highway traffic, although the increase in other sections of the country, due largely to local conditions, naturally varies by a considerable amount from these figures.

Another important development in highway transportation, is the rapid increase in the number of commercial motor-truck and bus lines. Until recently highway transportation was carried on very largely in privately owned vehicles. The last few years, however, have shown a remarkable development in highway transportation as a business. The development of motor-bus service is illustrated by the map (fig. 54) of the bus lines in Maryland.

Due to the fact that governmental control and regulation of highway transportation is a new development in most States, and entirely absent in many, reliable statistics of the development of commercial motor-truck transportation are difficult to obtain. As indicative of the growth there were in 1922 in California, 719 motor-vehicle lines operated under permits issued by the railroad commission of the State. During the period from 1920 to 1922 the number of passenger motor-bus lines increased 146 per cent and the development of motor-truck lines has probably been equally rapid.

Commercial highway transportation is still in the early stages of development. Its coordination with other types of transportation in such manner as to provide the most economical transportation for all types of business is one of the important economic problems connected with the development of an efficient transportation system for the United States.

Density of Highway Traffic

The density of highway traffic varies widely, as between various roads, and sections of the country, between seasons of the year, days of the week, and hours of the day. Without regard to locality, how-

ever, it will be found that the roads which carry the heaviest traffic are those which run between large cities, and the traffic on these roads averages 95 per cent city traffic.

The fact that one road carries a greater number of vehicles in a day or year than another, or that one carries heavier vehicles than another is at once the reason for and the justification of the use of different types of highway surfaces on various parts of a State road system, as has been previously explained. An excellent idea of the extent of this variation in a typical, completely surfaced State highway system is shown by the traffic map of the Maryland State highway system. (Fig. 40.) On this map the width of the roads, as measured by the accompanying scale, indicates the average daily number of vehicles using each section of the State system, as determined by actual monthly counts in 1922. It is at once apparent that the Maryland roads which carry the heaviest traffic are those between Baltimore and Washington, and Baltimore and Philadelphia. Be-

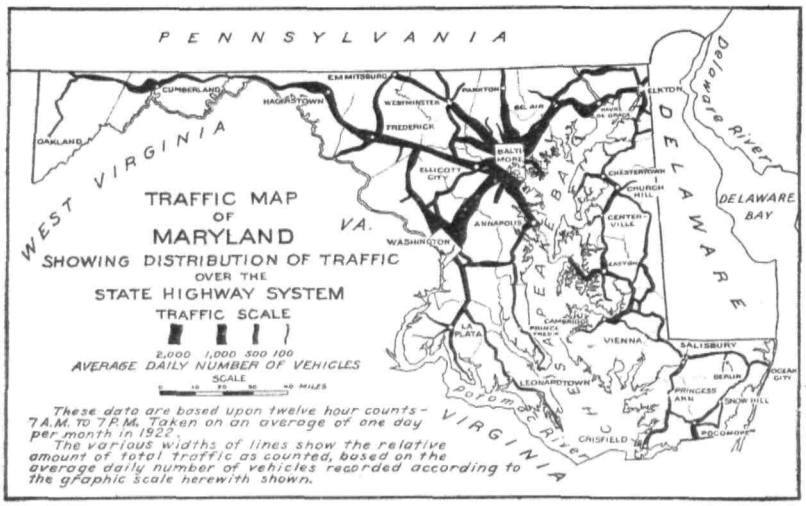


FIG. 40.—The density of traffic varies as between various roads and sections. Roads between large cities close together carry the heaviest traffic. The wide variation in density between different roads of the same State is at once the reason and the justification for the use of different types of highway surface

tween Baltimore and the lesser cities of Frederick, Hagerstown, and Cumberland the traffic is heavier than on other roads, except in the vicinity of Baltimore, but not so heavy as on the two main intercity thoroughfares. It will also be noted that between Baltimore and Washington, 40 miles apart, the traffic is heavier than between Baltimore and Philadelphia, 90 miles apart, and the effect of distance on the volume of intercity traffic is well illustrated by this example.

Study of this map reveals at once the fallacy of the widely held belief that all roads should be hard-surfaced. On the contrary, it is apparent that an economically balanced highway system for Maryland should include sections of highway surfaced with all the various types of materials in proper adjustment to the traffic; and the

Maryland conditions here shown are similar to those of all other States.

An excellent example of a well-balanced highway system is shown by the map of the Connecticut highway system. (Fig. 41.) In this map the average daily traffic on the various parts of the system is represented by the width of the lines, and the character of the surface of each section is indicated by the various symbols employed. With few exceptions, it will be noted that the roads which carry the heaviest traffic are surfaced with pavements of concrete and bituminous concrete. Roads of the second order of traffic importance are surfaced with bituminous macadam and water-bound macadam, and the tertiary roads are surfaced with gravel.

Such maps as these, based as these are upon actual and careful observation of the traffic using various parts of the State highway system, when considered with the weight of the vehicles, constitute

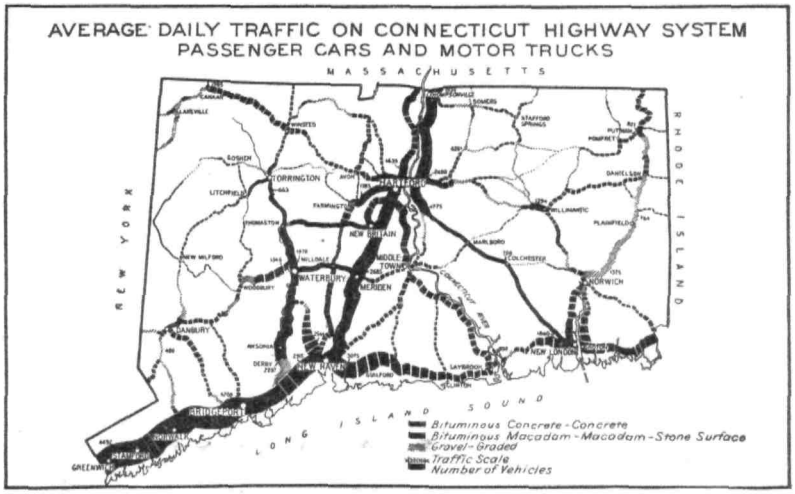


FIG. 41.—A well-balanced highway system is one in which the improvement of every section of the system is consistent with the density and weight of the traffic using the particular section. The Connecticut system is well balanced

the most reliable guide for the determination of the type of surface required for each section and the relative portion of the available highway revenues which can justifiably be spent for the construction and maintenance of each section. In the absence of such precise information the administration of a State highway system can not be efficiently conducted. It is in recognition of this fact that a number of State highway departments are now conducting traffic surveys similar to those upon which the maps of Maryland and Connecticut are based. In the more complete of these surveys the Bureau of Public Roads, by which the methods employed were originated, is cooperating.

Seasonal variation of passenger-car and motor-truck traffic.—Seasonal variations in highway traffic in the two States of Pennsylvania and Connecticut are shown in the chart. (Fig. 42.) The close similarity of the variation in the two States is to be expected

in comparing two States of such closely similar climatic and industrial conditions, upon which the seasonal variation so largely depends. Similar charts based upon conditions in other States would show corresponding peaks and depressions, the time and magnitude of which, however, would be expected to differ. It will be noted that truck traffic in Connecticut during the months of November and December, 1922, and January, 1923, was considerably heavier with respect to the annual average than it was in Pennsylvania a year later. This difference was undoubtedly due to the strike of the



FIG. 42.—Highway traffic is generally heavy in the summer and early fall and a minimum during the winter months. The seasonal variation of passenger-car traffic is greater than the variation of motor-truck traffic

New York, New Haven & Hartford Railroad shopmen, which during these months, considerably increased the daily truck traffic on the Connecticut highway system. In both States it will be seen that passenger-car traffic variations are wider than the variations in motor-truck traffic, a fact which is typical of highway traffic practically everywhere.

In addition to the seasonal variation there is also a daily and hourly variation of traffic density, which follows the same general law practically everywhere. In most States it will be found that there are two daily peaks of traffic density, occurring between 8

and 10 a. m. and 3 and 5 p. m., and that the minimum density occurs at or about midnight. The exact determinations that have been made in Connecticut and Pennsylvania place the peak hour of truck traffic during the winter in the latter at 10 a. m., when 9 per cent of the total daily truck traffic has been observed. In summer the peak occurs at 8 a. m. In Connecticut the maximum hourly density of truck traffic occurs at 9 a. m., when 8 per cent of the daily traffic is recorded.

Passenger-car traffic in Connecticut[7] and Pennsylvania reaches its highest density at 4 p. m., when 9 per cent of the total daily

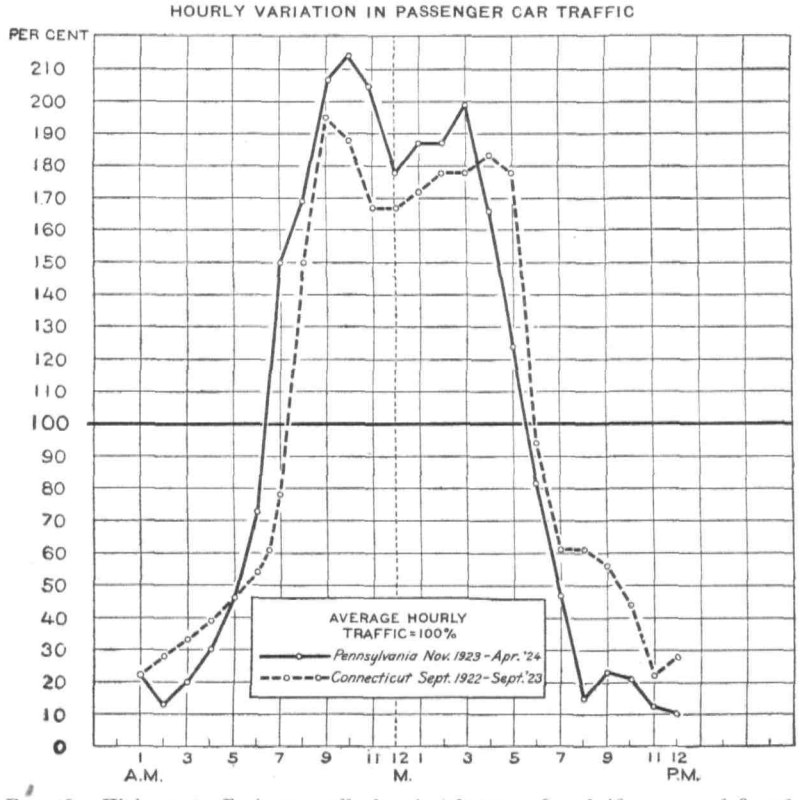


FIG. 43.—Highway traffic is generally heaviest between 8 and 10 a. m. and 3 and 5 p. m. and lightest at or about midnight. Passenger-car traffic during the night in Connecticut is 25 per cent of the total daily movement; in Pennsylvania it is 19 per cent during the winter and 21 per cent during the summer

traffic has been observed to occur in Pennsylvania and 8 per cent in Connecticut. The day of maximum passenger-car traffic is Sunday, on which in Pennsylvania the traffic runs to 188 per cent and in Connecticut to 165 per cent of the traffic of the average day. Passenger-car traffic during the night (8 p. m. to 6 a. m.) in Con-

[7] The frequent references to Pennsylvania, Connecticut, California, Maryland, and Cook County (Ill.) conditions are made by way of example. They illustrate general conditions which are believed to be practically universal in kind, differing only in degree. The precise data used are the findings of traffic surveys made by the Bureau of Public Roads in cooperation with State and county officials

necticut is 25 per cent of the total daily movement; in Pennsylvania it is 19 per cent during the winter and 21 per cent during the summer.

Motor-truck Capacities and Gross Loads

There is no better index of the type of surface required for a given highway than the relative distribution of the motor trucks it carries between the light, medium, and heavy capacity groupings. The capacity of a motor truck limits to a large extent its net tonnage and, consequently, its gross tonnage. A predominating percentage of trucks of light or heavy capacity on a highway will in the same way indicate the tonnage duty of the road and define it as a light, medium, or heavy traffic highway.

In different areas, however, the average tonnage per truck is modified by the predominating types of commodities and also by the practices in truck loading. So that although it is possible to determine generally the type of motor trucking on a highway by consideration of truck capacities, it is wise also to include an analysis of gross loads and give special consideration to extremely heavy gross and wheel loads.

An analysis of motor-truck capacities and gross loads, supplemented by wheel-load evidence determines precisely the type of truck traffic on a highway and, supplemented by truck density, indicates the volume of traffic. By comparing the type and volume of traffic carried the relative importance of highways can be determined and the routes classified as industrial, high, medium, or low type. The type of highway construction, design, and width necessary to serve the traffic adequately can then be accurately determined.

Length of Passenger-Car Trips and Character of Usage

The average passenger-car trip in Connecticut is 46.6 miles. The average trip of cars used for business purposes is 29.7 miles, and of cars used for nonbusiness purposes 55.5 miles. Approximately 35 per cent of the traffic is bent on business and 65 per cent is of a nonbusiness character. The average trip varies from 7 miles on a highway connecting two contiguous centers of population and off the through-traffic routes to 96 miles on a highway some distance from any center of population and on an important through-traffic and tourist route.

A tabulation of the proportion of business and nonbusiness usage of passenger cars on State highways in various parts of the country is given in Table 16.

TABLE 16.—*Business and nonbusiness usage of passenger cars*

State or region	Business usage	Non-business usage
	Per cent	*Per cent*
Connecticut	35	6
Pennsylvania	37	63
Cook County, Ill.	23	67
Maine	27	73
Bankhead Highway at the Georgia-South Carolina line	36	64

The above tabulation is based on summer traffic and indicates the similarity in extent of business and nonbusiness usage in these widely separated areas. The percentage of nonbusiness usage is highest in Maine, which is due to the larger proportion of tourist and summer-resort traffic. These percentages vary at different seasons of the year. The proportion of business usage increases during the winter months, especially in the Northern States.

Farm-owned passenger cars constitute a very small part of the traffic on primary highways. This fact, previously mentioned in connection with the discussion of the financing of highways, is exemplified by data secured in the Bureau of Public Roads traffic surveys in widely separated sections and presented in Table 17.

TABLE 17.—*Ownership of passenger cars counted on primary highways*

State or locality	City-owned	Farm-owned
	Per cent	*Per cent*
Pennsylvania	94.6	5.4
Cook County, Ill.	90.5	9.5
Maine	94.6	5.4
Bankhead Highway at the Georgia-South Carolina line	91.1	8.9

This tabulation also is based on summer traffic. The proportion of farm-owned to city-owned passenger cars for all highways in the country is higher than the above figures show, because all observations included in the tabulation are for State highways, upon which the local traffic, largely composed of farm-owned vehicles, is only a small part of the total traffic. Pennsylvania is primarily an industrial rather than an agricultural State, with 64.3 per cent of its population urban, according to the 1920 census. In Maine an important factor in the traffic is the tourist and summer-resort movement. Traffic in Cook County, Ill., is dominated by the city of Chicago, and the traffic on Bankhead Highway at the point observed is only to a small extent local.

Motor Truck Trip Length and Tonnage

Motor trucking is predominantly a short-haul movement. In Connecticut 39.2 per cent of the total net tonnage weighed was hauled less than 10 miles and 68.8 per cent less than 30 miles. The movement of 100 miles and over is largely a movement of furniture. (See fig. 44.) In California 25.9 per cent was hauled less than 10 miles and 58.1 per cent less than 30 miles. In both States a large part of the long-haul movement is made up of a few special commodities. The distribution of net tonnage by mileage zones in Connecticut and California is shown in Figure 44.

The total net tonnage transported over the Connecticut State highway system during a one-year period is approximately 3,000,000 tons. This is 1,650 tons for each mile of the State highway system. The actual net tonnage transported over each mile of highway is much larger than this, however, because each ton of highway freight is hauled an average of 31 miles. In the same one-year period the gross tonnage of motor-truck traffic carried by the system was approximately 10,600,000 tons and the gross tonnage of passenger-car traffic was approximately 15,400,000 tons. Of the truck tonnage 46

per cent was transported on 366 of the 1,780 miles, or slightly over 20 per cent of the total mileage; 37 per cent of the passenger-car tonnage was transported on 323 miles, or approximately 18 per cent of the total mileage. The heavy trucking routes are the same as the heavy passenger-traffic routes, with the addition of 43 miles on which passenger-car traffic is quite heavy but somewhat lighter than on the balance of the heavy trucking routes. These roads are the most heavily traveled in the State and constitute the backbone of the Connecticut highway system. Wtih the exception of 40 miles they are all included in the Federal-aid system.

The motor-truck registration in Connecticut for the year 1923 was 29,140. The net tonnage of highway freight is then approximately 100 tons per registered truck per year. But not all registered trucks are engaged in hauling on the highway system. Two-thirds of the Connecticut truck registration is in cities of over 10,000 population, and a large number of these trucks are used almost exclusively for city hauling. Consequently the average annual tonnage for trucks

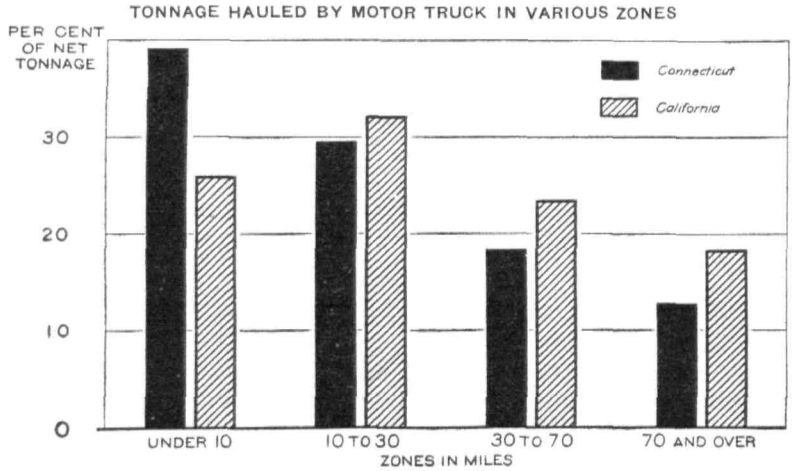


FIG. 44.—Motor-truck transportation is predominantly a short-haul movement. In Connecticut 39.2 per cent of the total net tonnage weighed was hauled less than 10 miles and 68.8 per cent less than 30 miles. In California 25.9 per cent was hauled less than 10 miles and 58.1 per cent less than 30 miles

actually engaged in the transportation of freight over the highway system is considerably higher than 100 tons per year.

Much of the truck transportation over the Connecticut highway system is interstate in character. Less than 50 per cent of the total ton mileage of motor trucks on the system is by trucks operating wholly within the State. An important factor is the movement from Connecticut points to points in other States; and this movement is about equally divided between trucks of Connecticut registration and trucks registered in neighboring States. An outstanding feature of the truck transportation in this State is the extensive use of Connecticut highways for a "crossover" movement—i. e., a movement which neither originates nor terminates in the State. Of the total ton mileage, 18.8 per cent consists of movements originating outside the State and destined to points outside the State. About 90 per cent of this type of movement is by trucks of foreign registration.

The ton-mileage utilization of Connecticut highways is shown in Table 18.

TABLE 18.—*Ton-mileage on Connecticut highways by Connecticut and foreign trucks*

	Per cent of total ton-mileage
Trucks operating wholly within Connecticut (Connecticut registration)	48.0
Trucks operating wholly within Connecticut (foreign registration)	.8
Trucks with either origin or destination outside Connecticut (Connecticut registration)	17.5
Trucks with either origin or destination outside Connecticut (foreign registration)	14.9
Trucks with both origin and destination outside Connecticut (Connecticut registration)	1.7
Trucks with both origin and destination outside Connecticut (foreign registration)	17.1
Total	100.0
Total Connecticut trucks	67.2
Total foreign trucks	32.8
Total	100.0

TABLE 19.—*Principal commodities transported over Connecticut highways in June, 1923*

Commodity	Per cent of total net tonnage	Commodity	Per cent of total net tonnage
Groceries	4.8	Brick	2.1
Household goods	4.7	Vegetables, mixed	1.9
Coal	4.1	Bottles	1.3
Gasoline	4.1	Sand	1.3
General express [1]	4.0	Biscuits	1.0
Lumber	3.9	Wire	1.0
Meats	3.2	Feed and grain	1.0
Ice cream	3.0		
Crushed rock and stone	2.5	Total, principal commodities	50.5
Fruits, mixed	2.2	Miscellaneous commodities	49.5
Fresh milk	2.2		
Copper and brass	2.2	Total, all commodities	100.0

[1] Movement of mixed commodities handled by commercial trucking companies.

Reference to Table 19 will indicate that two-fifths of the commodities listed separately are direct-consumption goods. It is prob-

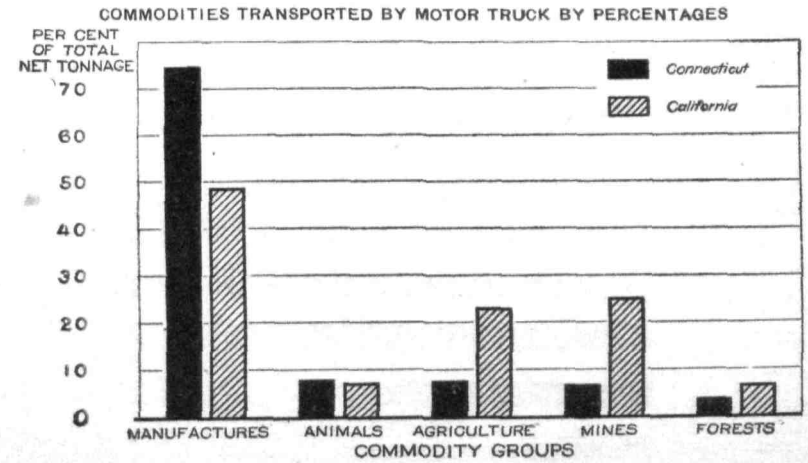


FIG. 45.—Manufactured products predominate in the commodities transported by motor truck over the highways of California and Connecticut. Products of agriculture and mines constitute a much greater percentage of the whole movement in California than in Connecticut

able that an equal amount of the miscellaneous commodities are of the same type, so that it is conservative to estimate from 30 to 40 per cent of the total net tonnage as direct-consumption goods. The transportation of such goods by highways has had a marked effect upon the cost of distribution and is also an important factor in providing consumers, especially in smaller villages and rural districts, with a large number of perishable commodities which were seldom to be found on the market in rural communities prior to the development of motor transportation.

Origin and Destination of Highway Transportation

Motor trucks not only carry all types of commodities but engage in all kinds of hauling. The percentages of trucks moving to and from different types of origin and destination in Pennsylvania are shown in Table 20.

TABLE 20.—*Movement of trucks between various types of origin and destination, Pennsylvania, 1924*

	Origin percentage of all trucks	Destination percentage of all trucks		Origin percentage of all trucks	Destination percentage of all trucks
Retail establishments	22.0	20.9	Steam railroad terminals	1.1	1.2
Wholesale establishments	16.6	13.6	Motor trucking terminals	1.0	1.5
Manufacturing plants	13.9	12.3	Wharves and piers	.2	.1
Consumers	13.7	14.2	Electric railroad terminals	.2	.1
Construction and repair jobs	12.5	13.1	Miscellaneous	.2	.3
Original sources [1]	8.8	7.8	Storage garages [2]	2.0	6.8
Farms	5.9	4.6			
Storage warehouses	1.9	3.5		100.0	100.0

[1] Includes mines, forests, quarries, oil wells, etc.
[2] Garages where motor trucks are stored for the night.

The most important commodities have been found to vary to some extent with the season of the year, and to a great extent with

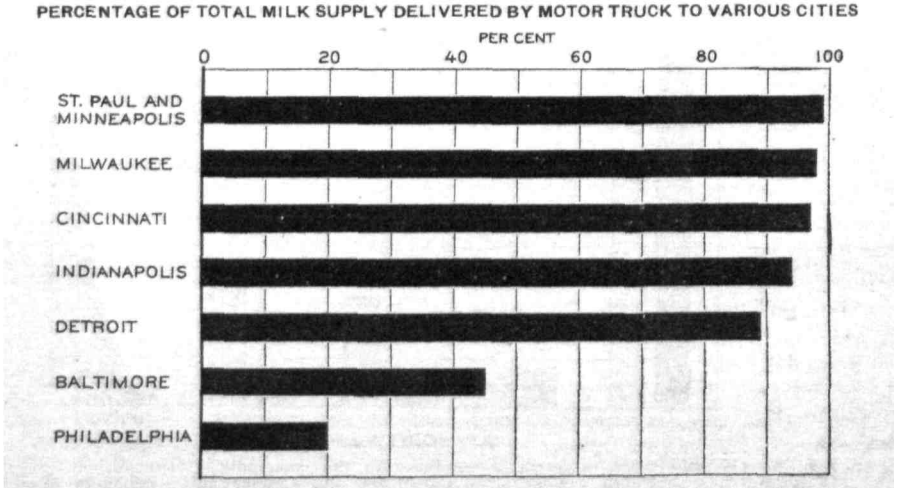


FIG. 46.—The daily transportation of milk into the largest cities is one of the outstanding services of the motor truck and the improved highway. In many cities practically the entire daily supply of milk is received by truck instead of by railroad, as formerly

the area in which the traffic is observed. Certain classes of commodities, however, have been found to be important in all cases, of which the following may be mentioned: Household goods; groceries; other perishables, such as meats, fruits, vegetables, milk, ice cream, bread, and bakery goods; gasoline; general express; and building materials such as lumber, stone, sand, brick, etc. In the transportation of these and similar commodities the motor truck has become an important factor, and the change in the method of transporting such goods has had far-reaching results.

Transportation of milk and livestock by highway.—Recent detailed studies by the Bureau of Public Roads show the extent to which this change has developed in the transportation of two important agricultural products—milk and livestock. The studies, which enter into a great variety of detail, are reported in Public Roads, the monthly journal of highway research published by the

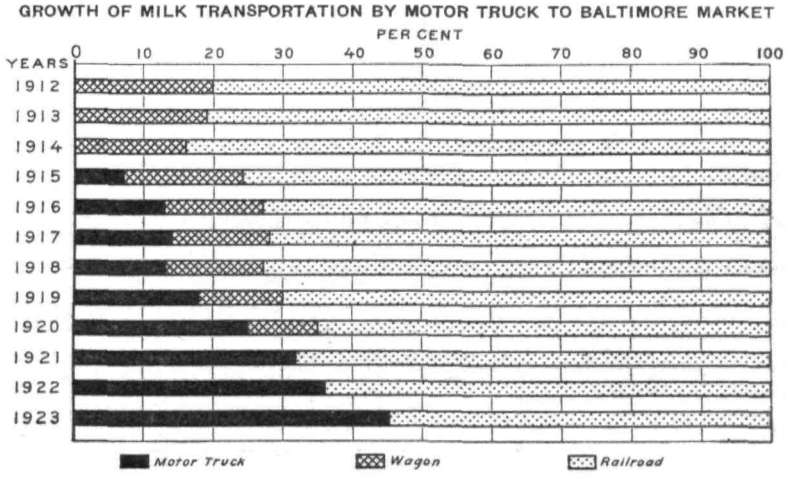


FIG. 47.—In 1914 no milk was transported to the Baltimore market by motor truck. About 17 per cent of the total receipts were delivered by horse and wagon and the balance was shipped by rail. In 1923, 45 per cent of the milk received came in by motor truck

bureau, for July and August, 1924. The space available here will permit only a brief résumé of the principal conclusions to be given.

The studies of milk transportation were made in the Baltimore, Cincinnati, Detroit, Indianapolis, Milwaukee, Philadelphia, and St. Paul and Minneapolis markets. In all these markets, with the exception of Philadelphia and Baltimore, the studies show that approximately 90 per cent or more of the milk now received is transported by motor truck via highway, instead of by railroad. Philadelphia, which is the largest city surveyed, receives only 20 per cent of its milk by highway; Baltimore 45 per cent, but the latter percentage represents merely the present stage in an increasing tendency which has been marked since 1912, when 20 per cent was delivered by highway. Whereas this 20 per cent was delivered by wagon, the 45 per cent is now delivered entirely by motor truck. The proportion of Philadelphia's total supply which is shipped in by motor truck has been increasing in recent years, but the percentage is low because the city, on account of its heavy demands, must draw its

supply from an area so large that the shipping distances become too great for motor-truck hauling.

The distances from which milk is transported to the eight cities by highway and the percentages of the total number of trucks in each market hauling from various distances are shown in Figure 48. Only in the Philadelphia and Detroit markets is the longest haul greater than 60 miles. At Baltimore and Cincinnati it is between 50 and 60 miles; at Indianapolis it is between 40 and 50 miles; and at Milwaukee, and St. Paul, and Minneapolis it is between 30 and 39 miles.

The sizes of trucks used in the Baltimore market for hauling in the various mileage zones are shown in Figure 49, which indicates clearly that the smaller trucks are used for the shorter hauls, and the larger trucks for the longer hauls.

The rates charged for transporting milk by motor truck in the Baltimore market conform fairly closely to the rates charged by

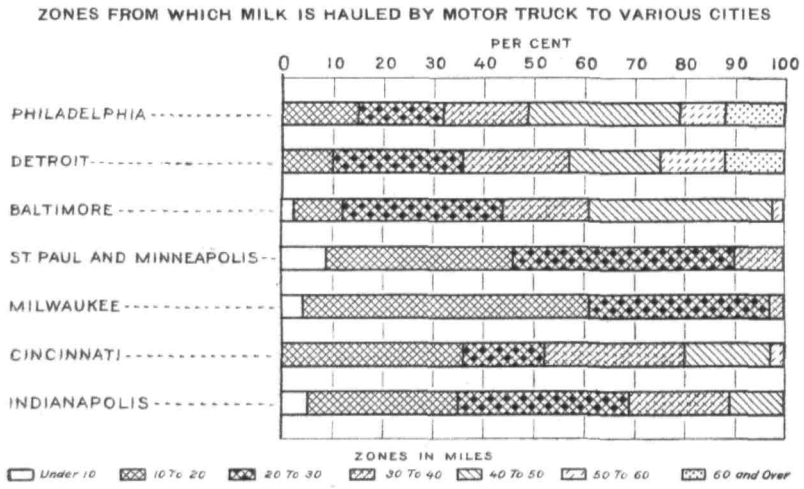


FIG. 48.—The distances from which the milk is hauled to the cities depends somewhat upon the size of the city and the character of the land immediately around the city, with respect to its ability to support a dairy industry. Milk is seldom hauled by highway further than 60 miles

the railroads. As a matter of fact the rail rates were the basis upon which the truck rates were fixed when the motor trucks first entered the business. No case was found where the truck rate was less than the railroad rate, and in some instances it was found that the truck rates exceeded the rail rates.

In comparing motor-truck rates with railroad rates, however, one must not lose sight of the fact that the motor-truck rates include pick-up service in many cases and in all cases delivery service at the city milk plant. When shipping by railroad, farmers have to haul their milk varying distances from the farm to the station, and the dairy or city milk dealer is obliged to haul the milk shipped by the railroad from the city terminal to his manufacturing or distributing plant. The dealers in Baltimore estimate that it costs them from 0.5 to 1 cent per gallon for this terminal hauling, which is entirely eliminated where the milk is brought directly to the plant from the points of production in the country. These costs naturally vary for

different dealers, depending largely upon the distances they are removed from the railroad terminals. In Baltimore not one of the dairies is located directly on a railroad sidetrack, so that in each case trucking, either by horses or by motor truck, is necessary to get the milk from the railroad car or platform to the plant.

The saving in time and expense to producers who ship by motor truck is shown by the following sample data which were secured from questionnaires filled out by milk producers shipping by truck and milk producers shipping by railroad. Forty-eight replies from each class of shippers were tabulated. Of the 48 shippers by truck, 23, or approximately 50 per cent, were located on truck routes and did not have to do any hauling. The remaining 25 hauled their milk to convenient points on truck routes, a total of 22.43 miles, or each one hauled his milk an average of 0.86 mile. If these same 48 shippers who shipped by motor truck had all taken their milk to the nearest railroad stations, they would have had to haul a total

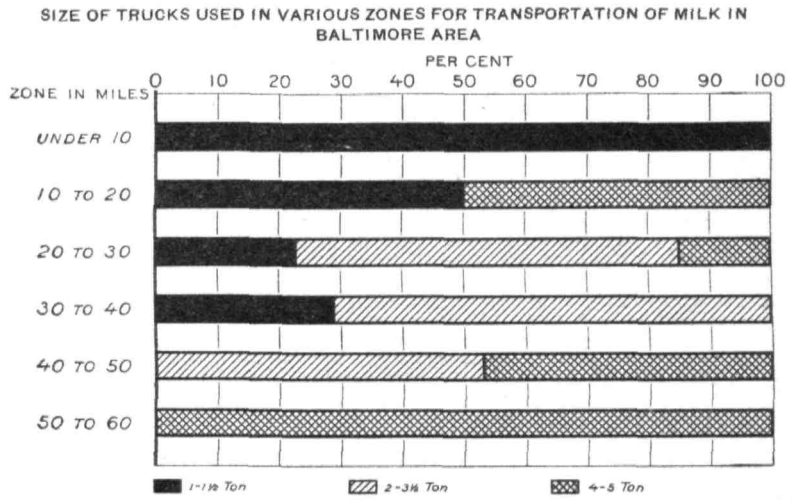


FIG. 49.—As indicated by the practice in the Baltimore market, the smaller trucks are used for the shorter hauls in transporting milk and the larger trucks are kept for the longer hauls

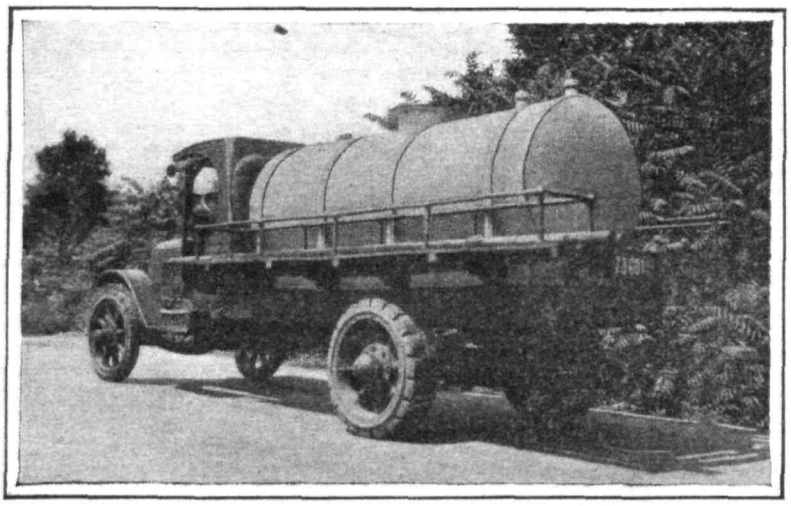
distance of 117.25 miles. The actual saving to all of these shippers was 94.82 miles, or an average of 1.98 miles for each shipper.

The 48 shippers who shipped their milk by railroad hauled it a total distance of 61.45 miles, or an average of 1.28 miles each. The average hauling on the part of the 48 shippers who shipped by truck was 0.47 mile each. The average saving in hauling distance which the truck shippers enjoyed over the same number of railroad shippers was 0.81 mile each.

It should be noted that this analysis shows also that the milk producers who are most likely to ship by truck are those who are more distantly removed from their respective railroad stations. Shippers who made use of the motor truck were removed on the average 2.44 miles from the railroad, whereas those who shipped by railroad were on the average 1.28 miles distant. To those shippers who are the greatest distance from the railroads and who live on or near roads which are adapted to truck traffic the motor trucks bring the greatest

benefits. Through the use of motor trucks operating over improved highways the dairy industry is promoted and developed in regions which hitherto were too far removed from railroads to be developed practically as producing areas for fluid milk destined for the city market.

The records of the dairy plants in Baltimore show that the motor trucks engaged in this business of transporting milk from the country to the city operate with a great degree of regularity. Snow removal on the Maryland highways is well taken care of, so that the main highways are seldom if ever closed on account of snow. Records are not available for all of the motor trucks as to regularity of operation. It was found, however, that for 24 trucks not a single trip had been missed in the years 1922 and 1923. This does not mean that each one of these individual trucks was operated daily.



TANK TRUCK FOR MILK

FIG. 50.—These modern vehicles are used to collect milk from receiving depots maintained at convenient points in the territory around a large city. At the depots, to which farmers deliver their milk, the milk is cooled before being loaded into the tank truck for delivery to the city milk plant

Emergency trucks may have been used at times, but no trip was missed on account of unfavorable weather conditions, and continuous and regular service was afforded to the shippers and to the public.

Flexibility of operating schedules is an advantage which motor-truck operators claim for their method of transportation. The time of departure in the morning is usually an hour later in the winter than in the summer months, which is a great convenience to the shippers. The earlier operation in the summer months makes it possible for the milk to be brought to the city before the heat of the day sets in.

Highway transportation of livestock.—The studies of the transportation of hogs into the Indianapolis livestock market show that nearly one-third of the receipts of hogs in 1923 were delivered by highway, contrasted with a highway delivery of less than 5 per cent

in 1913. Table 21 gives the official figures for receipts of hogs from 1913 to 1923 as reported by the auditor of the Belt Railroad & Stockyards Co.

TABLE 21.—*Receipts of hogs, Indianapolis stockyards, 1913–1923*

Year	Total receipts	Truck receipts	Per cent of total	Year	Total receipts	Truck receipts	Per cent of total
1913	1, 994, 624	90, 821	4. 55	1919	2, 936, 493	711, 212	24. 21
1914	2, 099, 787	96, 591	4. 60	1920	2, 896, 894	791, 988	27. 33
1915	2, 435, 319	136, 447	5. 60	1921	2, 694, 705	808, 595	30. 00
1916	2, 576, 611	173, 191	6. 72	1922	2, 266, 551	734, 280	32. 39
1917	2, 350, 730	271, 994	11. 57	1923	2, 875, 648	934, 960	32. 54
1918	2, 794, 976	462, 313	16. 81				

The localities from which hogs are shipped by motor truck and distances from market vary somewhat according to road conditions

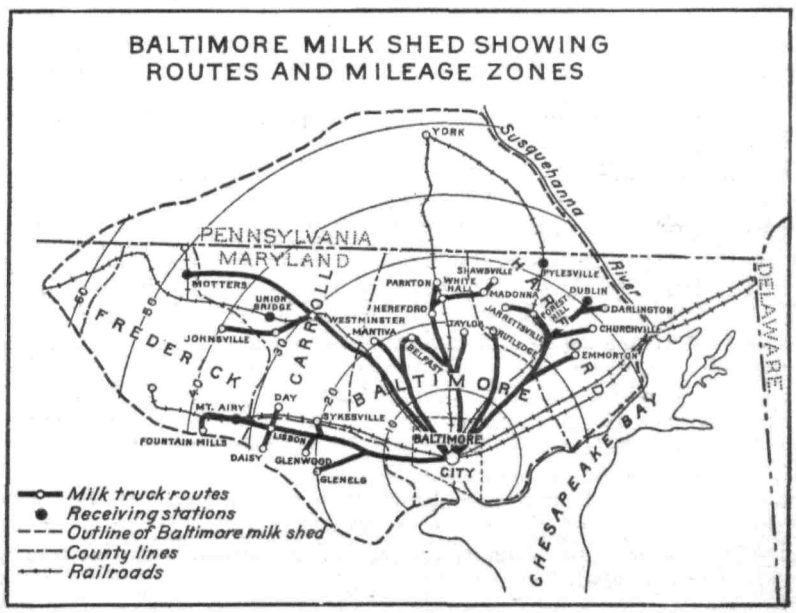


FIG. 51.—The heavy black lines represent regular motor-truck routes. Farmers living on these routes merely place their milk on platforms by the roadside, from which it is collected by the milk truck on its regular trip. Farmers living near the receiving stations deliver to them, and from them the milk is hauled in bulk to the city.

and seasons. The normal trucking range is within a 50-mile radius of Indianapolis. Ninety per cent of the hogs received from this area are delivered by motor truck. There are scattering shipments from the territory 75 to 100 miles away, but normally these shipments move by rail. The condition of the unimproved roads varies greatly with the season of the year. During the late winter and early spring months few haulers will accept shipments originating off the State or county roads, but during the summer and fall months livestock trucks go anywhere. With the number of miles of good roads constantly on the increase in the territory surrounding

Indianapolis, the trucking radius is being constantly pushed back to the economic limit of truck haul on improved roads.

While the prevailing rates favor rail shipment for long distances, there is another reason why 50 miles is about the limit of livestock hauling—that is the competition of other stockyards. Stockyards of fairly large proportions are located at La Fayette, Terre Haute, and Muncie. These markets, as a rule, take up only local stock, most of which is trucked in.

TABLE 22.—*Truck and rail rates on hogs in Indianapolis*

Shipping point	Distance	Truck	Rate per hundred pounds			
			Steam railroad		Traction line	
			Single deck	Double deck	Single deck	Double deck
	Miles	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Danville	20	20	14	12	13	11
Franklin	21	20	14½	12½	13½	----
Lebanon	27	25	15	13	14½	12
Thorntown	30	30	16½	14½	14½	12
Martinsville	30	30	16½	14½	14½	12
Columbus	41	40	18	16	17	----
Crawfordsville	45	45	18½	16	17	14
Greensburg	48	50	18½	16	18	----
La Fayette	68	70	----	----	19	18

If every farmer had a full carload of hogs to ship at one time, railroad or traction lines offer, in practically all cases, cheaper rates than the truck haulers. However, there are relatively few farmers who have ready for market at one time a sufficient number of hogs to make up even a minimum carload. Thus the cost per head is often higher by rail, especially when one considers the barnyard to stockyard service which the truck furnishes.

For example, the minimum rate on a single-deck car over the traction line from Lebanon to Indianapolis, a distance of 27.7 miles, is $24.65 (17,000 pounds minimum weight at 14½ cents per hundred pounds). In addition it costs $5 to $8 to hire a truck to haul stock to the local shipping point. A truck which hauls 20 head of hogs weighing 300 pounds a head, charges 25 cents per hundred pounds, or $15 for the load.

In cases of this kind the motor truck offers the cheaper transportation and would be chosen by the farmer even were no other advantage offered, as is often the case. In the above sample rates it is seen that the truck rates are approximately proportional to distance, while the steam railroad and traction line rates increase at a less rapid rate with added distance. When the cost of hauling a truck load of hogs approaches the rate for a minimum carload, there is an incentive to pool shipments and accept the trouble of obtaining cars, loading, marking hogs, or erecting partitions to distinguish ownership in order to obtain a cheaper transportation charge.

Before the advent of good roads and the motor truck many raisers who marketed but 20 or 30 head sold to a local buyer who assembled car lots and traded on a wide margin. The local buyer, not knowing when he would move his newly acquired stock, generally paid 75 cents to $1.25 below the market price. The raiser had also to deliver

the stock to the point at which the local buyer planned to assemble the car. This system has entirely changed. The local buyer is eliminated within the trucking radius and the producer ships directly to the yards, where his stock is sold at the market price.

A close study of market prices enables many farmers within trucking radius to take advantage of rises in prices. By means of a radio receiving set the farmer can catch the market openings and still have plenty of time to truck his stock to the yards before closing time. Many shippers have found it extremely difficult to get cars when the market offers the best opportunities.

The Value of Highway Service

It has already been shown that traffic on the 366 miles of most heavily traveled road in Connecticut is so heavy that the saving in gasoline alone resulting from the paving of these roads is sufficient in less than 20 years to pay the entire cost of the paving. This fact alone is evidence that the improvement of the roads is a paying investment, and, in a sense, indicates the value of the service rendered by the highways. Another method of estimating the value of this service is to estimate the cost of equivalent service rendered by the railroads. In such a comparison railroad rates are assumed to represent an accepted standard of value for transportation service. Employing this method we find tht the average railway receipts per ton-mile for the three-year period from 1920 to 1922 were 1.16 cents. The net volume of motor freight transported over the Connecticut State highway system during the year from September, 1922, to September, 1923, was approximately 88,000,000 ton-miles. On the basis of railroad receipts, therefore, the cost to the shipper of transporting this freight by rail would be $1,020,800. Actually the cost would be greater, because the higher classes of freight are carried in larger proportion by highway than by railway. Similarly, the railroad receipts per passenger-mile during the above mentioned three-year period were 2.94 cents, which, applied to the 1,439,000,000 passenger-miles carried by the State highway system, would give as the cost of equivalent railroad transportation, $42,306,600. On the basis of these estimates the total cost, at railroad rates, of a transportation service equivalent to that rendered by the Connecticut State highway system in a year would be $43,327,400. Accepting railroad rates as a standard of transportation value, this may be said to represent the annual value of the transportation over the Connecticut highway system.

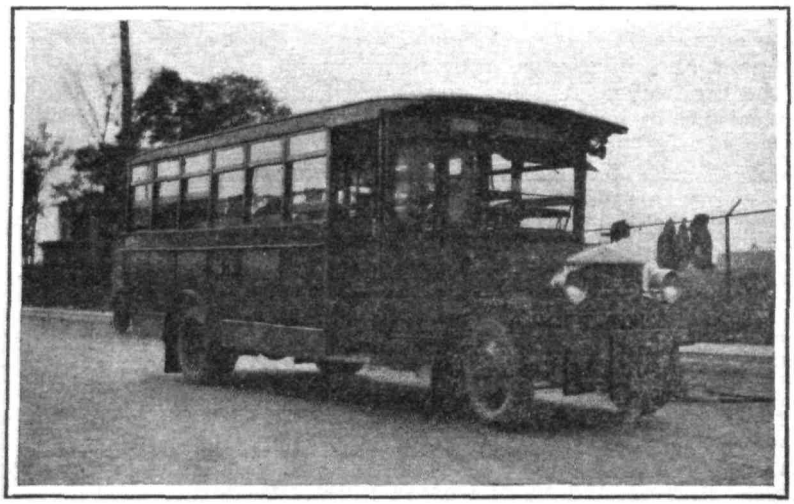
Again, adopting railway practice as a standard, we find that during the 12-year period from 1911 to 1922, inclusive, railway charges for maintenance of way and structures were 13.3 per cent of total operating income. This proportion of their income, in other words, the railroads considered to be a fair charge for the maintenance of a good track, which means that they considered the earning value of the way or track to be at least equal to 13.3 per cent of their income. Applying this percentage to the above value of the transportation on the Connecticut system we find that the annual earning value of the roads would be considered by the railroads to be at least $5,762,544. The present worth of the Connecticut State high-

way system (1923) has been estimated at $30,000,000 exclusive of right of way. Therefore, the system may be said to earn an annual return of 19.2 per cent for highway service.

The Sphere of Usefulness of Highway Transportation

The sphere of usefulness of the highway and the highway vehicle has been greatly broadened by the automobile and motor truck. Just how these two new types of vehicles and the improved roads will ultimately affect the destiny of the Nation is difficult to foresee. Perhaps the best evidence that they satisfy a real want is the rapidity of their multiplication in numbers and the extensive use that is made of them by all classes of our people.

Improved roads and the automobile have drawn a shut-in city population out into the open air for needed recreation. Very largely



THE SCHOOL BUS

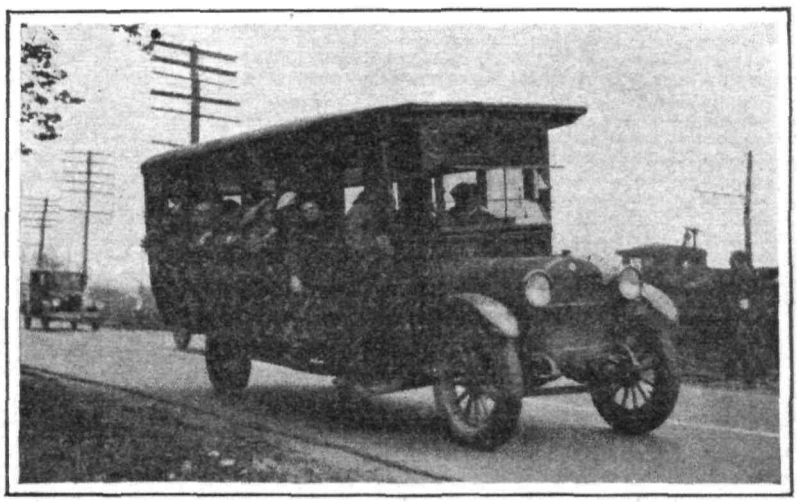
FIG. 52.—Progress in rural education results from the consolidation of the time-honored little red schoolhouses into larger centralized schools. Such consolidation is possible only as improved highways and busses are provided for the transportation of the children

they are the means which make possible the modern suburban home developments which encircle all our cities, and there is strong evidence that this tendency to move the homes outward from the centers of the city is but the first stage in a general movement toward decentralization of the whole city. Our cities have centered tightly about the "down-town" or business areas mainly because of the limits imposed on expansion by available means of transportation from home to office or factory. These limits have been greatly extended by the automobile, and the possible effects on the character of the cities are of the most fundamental character.

Mainly as the work of the automobile and improved roads, also, the one-time isolation of the farmer is known no more. How complete that isolation was during the long winters in some parts of our country only those who experienced it can know. Scarcely any-

where is there now even an approach to the condition which three decades ago was accepted as inevitable in a farmers' life. Neither in the dress of the people, nor in their manners, nor their education, nor their pleasures, their desires, nor in any outward aspect is there any longer apparent a rural as distinguished from an urban class. The farmer has come to share in the pleasures and opportunities for cultural improvement which formerly were out of his reach, just as his city-bred friends have come to enjoy and to profit in mental and bodily health by partaking of the priceless boons of fresh air, sunshine, and natural beauty which have been denied them in their city homes.

Progress in rural education is predicated upon the possibility of consolidation of the time-honored, little red schoolhouses into larger centralized schools in which grading of pupils and specialization in instruction may replace the congregate instruction of children of all ages and stages of advancement by a single, untrained teacher.



A MODERN INTERCITY BUS

FIG. 53.—Comfortable and commodious busses now ply regularly between cities and towns wherever roads are improved, providing a passenger-transportation service which for regularity is not excelled by the railroads

Such consolidation depends on road improvement and has become possible only as highways have been constructed and busses have been employed to move the children from their homes to their more distant schools.

Similar opportunities for more effective service are afforded by the better roads to the church.

And much as they have already erased the outward evidences which formerly distinguished the country and the city bred, so also the improved road and the automobile are striking a most effective blow at provincialism and sectional prejudice. Some one has said with truth that if the automobile had been invented 40 years earlier there would have been no Civil War. Wars, strife, all misunderstandings are bred of ignorance which is the offspring of isolation.

Thanks to the motor car and the good roads, there is now no community which is not visited yearly by dozens, scores, perhaps hundreds and thousands of travelers by highway, who bring with them and leave behind new ideas and knowledge in exchange for those they take away. The down-east farmer spends his winters in Florida. The southerner, born and bred, learns by the northern roadsides how superficial are the differences which distinguish North from South. The Easterner travels by automobile all over the West, and the wild West returns to seek its origins in the old Colonies.

In a year it is estimated that the millions of automobiles account for a passenger mileage which is at least 10 times the annual passenger mileage of the railroads, and do so without measurably reducing the total passenger service rendered by the railroads. Nor is there much likelihood that the transportation service rendered by the motor cars could otherwise have fallen to the railroads.

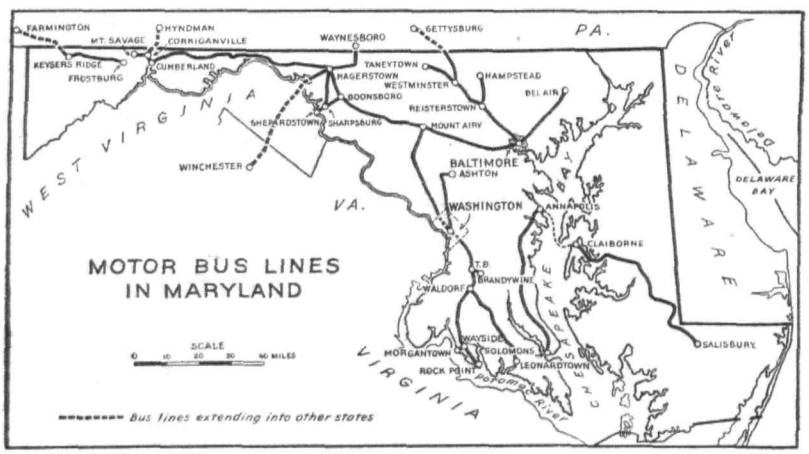
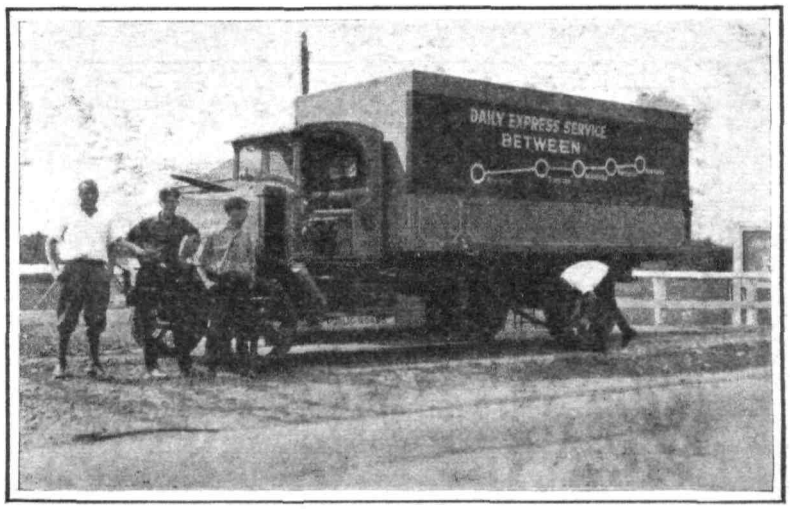


FIG. 54.—The service of the motor bus is mainly as a supplement to rail passenger service. The bus is, however, a serious competitor of the electric interurban railway, and in some instances it has successfully competed on an even footing with steam service

What is more likely is that the passenger movement by automobile is a movement which, in large measure, would not have taken place but for the development of the motor car. In certain instances the passenger bus has invaded the field formerly held exclusively by the railroads and the electric interurbans. In at least one instance the same sort of competition by the motor bus has caused the discontinuance of a line of boats. But it is not likely that the passenger automobile has seriously affected the passenger business of the railroads. The two facilities offer different classes of service, and therefore are supplementary in the main and not competitive.

The latter statement applies equally to the motor truck. This vehicle has amply demonstrated its value in our economic system. It has extended and increased the efficiency of farm operation; developed old markets and established new ones; speeded the conversion of raw materials into finished products; hastened and rendered more efficient the processes of marketing and distribution,

particularly in those stages at which the greatest waste and delay have occurred in the past. It has made it possible for the farmer to take advantage of variations in demand at various markets, and thus not only obtain a higher price for his produce and a market for a larger amount but also to provide the supply necessary to meet the consumer's demands and stabilize the cost of the produce to the consumer. It has quickened the distribution of commodities after they have reached the transportation terminals of the large cities and it has provided a service which involves a complete movement from shipping platform of shipper to receiving platform of consignee without transfer or reloading between points which are not too widely separated. But it has not, with few local exceptions, invaded the proper and profitable field of the railroads.



WEIGHING A MOTOR TRUCK IN THE CONNECTICUT TRANSPORTATION SURVEY

FIG. 55.—The motor truck provides a complete transportation service from the shipper directly to the door of the consignee without transfer or reloading between points that are not too widely separated

The major fields of motor-truck transportation.—As indicated by the transportation surveys conducted by the Bureau of Public Roads in Connecticut, Pennsylvania, California, Maine, and Cook County, Ill., the principal fields of operation of the motor truck in the transportation of freight are—

1. Organized truck transportation in congested, urban terminal areas.
2. Freight service supplementing existing rail and water transportation systems.
3. Short-haul transportation of freight.
4. Long-distance transportation of special commodities.

By the use of the motor truck the congestion of incoming and outbound freight in railroad terminals is relieved and the freight cars, which are unloaded more rapidly, are used more efficiently in the line haul of freight. The increased speed of movement of less-than-carload freight alone will justify this development. Used in this

eliminated. Motor trucks operate on a fixed schedule, and freight is hauled by motor truck at the rail rate. Damage to goods in transit has been reduced approximately 75 per cent by motor-truck movement.

The past two years have seen a reduction in the volume of long-haul motor-truck transportation. The surveys conducted by the Bureau of Public Roads show that approximately two-thirds of the tonnage is transported in what is called the short-haul zone—that is, less than 30 miles. More real economy occurs in the use of a motor truck within this limit than in long-distance transportation, which is speculative and uncertain and makes return loads difficult to obtain.

For goods requiring rapid movement or delivery at a specified time motor-truck transportation is especially valuable. Among goods of this character may be listed perishable food products, such as fresh fruit and vegetables, meats, bread and other bakery goods; commodities of high value on which insurance and interest on capital invested during the period of the shipment is an important factor; and goods which must be delivered at a definite time. Shipment of such goods by motor truck has resulted in providing a continuous supply of perishable foods at markets of many of the smaller towns where such supplies could not be maintained previously, due to infrequent and irregular rail service. It has made possible the operation of mercantile and manufacturing establishments with smaller working capital, due to the ability to replenish stocks at frequent intervals, and has thus increased the rate of turnover of such capital and made possible successful operation at a smaller profit per unit of goods. It has also made possible the elimination of large storage warehouses at certain points. For example, a manufacturing plant located in Connecticut with its principal selling area in New York City can, by the use of motor trucks, supply goods to its New York sales agencies direct from the factory as needed and thus eliminate the expense of maintaining a warehouse in New York City and also eliminate the costs of carrying charges on a large stock of goods in such a warehouse.



FARM CREDIT FARM INSURANCE AND FARM TAXATION

NILS A. OLSEN, C. O. BRANNEN, G. F. CADISCH, and R. W. NEWTON, *Bureau of Agricultural Economics*

Farm Credit

THE problem of credit for agriculture has assumed growing importance since the early part of this century. This is due to the marked changes that have taken place in the farming industry. Free lands have all but disappeared, and increasing land values, together with more intensive methods of farming and the development of cooperative marketing, have made it necessary for the farmer to acquire larger working capital.

While these demands for credit have been rapidly growing, credit facilities for the farmer until recently have lagged materially behind. Until within the last decade the farmer has had to look to commercial banks and other private agencies for his credit. Beginning with the first decade of this century, however, an organized effort has been made to improve the credit facilities of the farmer. In the report of the Country Life Commission in 1908 the need of more ample credit facilities as an aid to better farm conditions was strongly emphasized. A few years later two special commissions were sent to Europe to investigate the rural credit conditions there, with the purpose of formulating plans for a credit system that would better serve the American farmer. The reports of these commissions helped crystallize sentiment for the establishment of credit institutions that would serve the farmer as well as those serving industry and commerce. The result was the enactment of the Federal farm loan act in 1916.

The World War also had an important influence in shaping rural credit developments in this country. In order to meet the demands of the Allies for food and raw materials, the Nation made every effort to provide ample credit for the farmer. This, coupled with the inflation in prices, led to a marked expansion in agricultural activities and in some regions to overcapitalization of the industry. With the break in prices in 1920 and the depression which followed, difficulties loomed up for many farmers. Debts contracted at war prices could be paid from shrunken incomes only with difficulty. Thousands of farmers failed and banks toppled by the hundreds. Established credit agencies were put to a severe test and in some

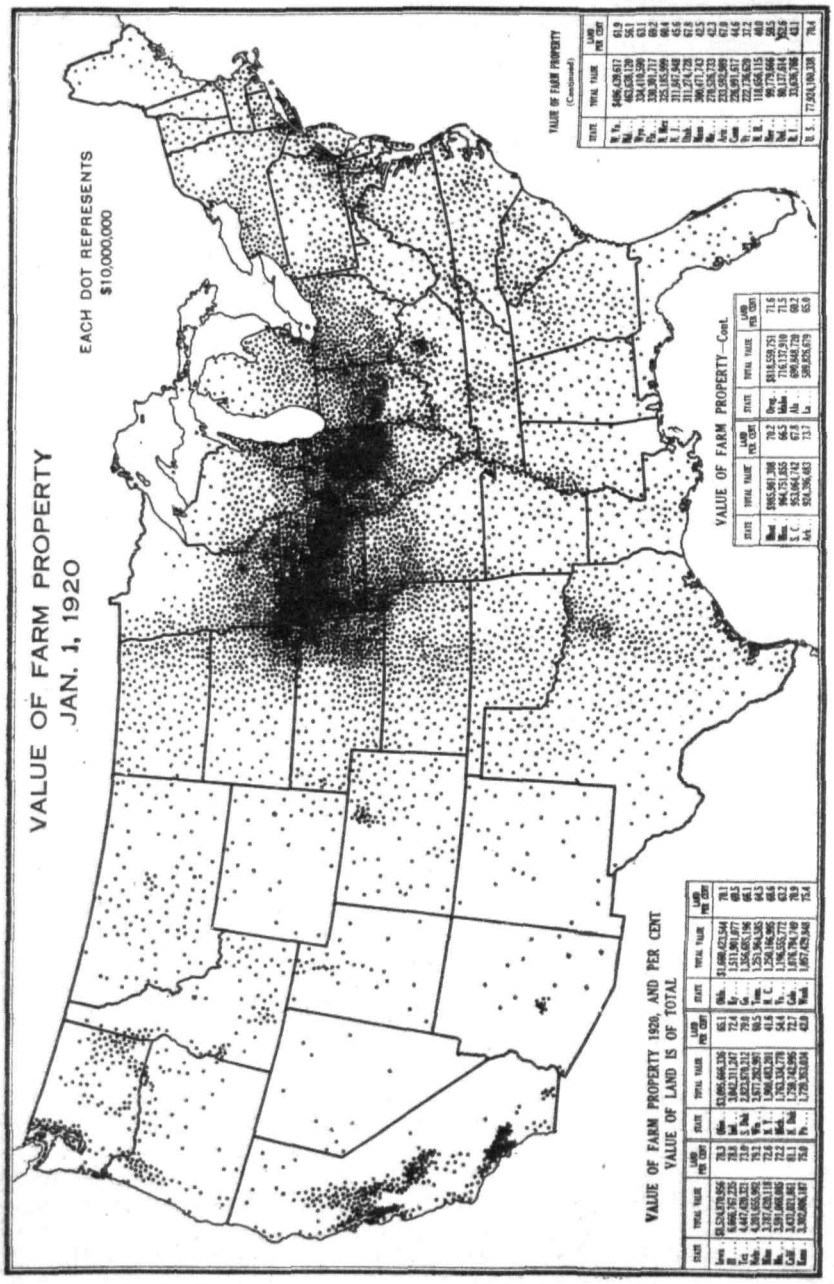


FIG. 1.—Over one-third of the value of farm property and nearly two-fifths of the value of farm land in the United States is in the Corn Belt. The average value of farm land per acre January 1, 1920, was $148 in the Corn Belt, as compared with $40 in the Cotton Belt, $48 in the Hay and Pasture Region, and $21 in the Great Plains Region. Only in the South Pacific Coast Region does the value of farm property per square mile and of farm land per acre ($114) approach the values in the Corn Belt

regions were unable to cope with the situation, with the result that Government funds had to be provided to meet the emergency. Many of the farm mortgage credit agencies redoubled their efforts to meet the demand which arose for credit with which to refund farm debts on more reasonable terms and for longer periods. The inability, however, of commercial banks, particularly in some sections of the country, to carry farmers through these trying years, together with the pressure which was brought upon farmers in many instances to liquidate their loans when prices were at low ebb, strengthened the belief that commercial banks were not adapted to meet all the credit requirements of the farmer. This situation helped crystallize sentiment for a system which would better provide for the intermediate credit needs of the farmer. The result was the enactment of the agricultural credits act in the spring of 1923.

Farm Capital and Farm Credit

Agriculture is a heavily capitalized industry. If we use as a measure of agricultural capital the value of all farm property, including lands, buildings, machinery, and livestock, it appears that the capital employed in 1920 amounted to almost $78,000,000,000. In fact, no other single industry has so large an amount of fixed capital invested in its plant. As we should expect, the amount of capital employed by farmers is not equally great in all parts of the country. (Fig. 1.) In some regions the average value of farms in 1920 was less than $2,500 and in other regions well over $50,000.

The capital requirements of agriculture have increased enormously since the middle of the last century. The value of all farm property has risen much more rapidly than the number of farms or the amount

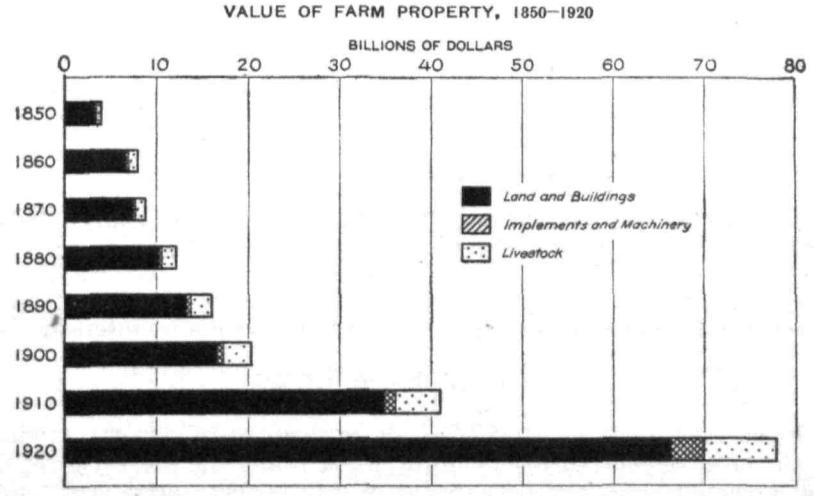


FIG. 2.—During the 70 years prior to 1920 the value of all farm property increased from less than $4,000,000,000 to almost $78,000,000,000. Land and buildings in 1920 represented 85.1 per cent of the value of all farm property, implements and machinery 4.6 per cent, and livestock 10.3 per cent.

of land in farms. Between 1850 and 1900 the value of all farm property increased from less than $4,000,000,000 to over $20,000,000,000. During the 10 years between 1900 and 1910 these values doubled, and again between 1910 and 1920 they almost doubled. (Fig. 2.) Within these 70 years the average size of farms decreased by almost a fourth, yet the value of farm property rose from $2,738 to $12,084 per farm. During the 10 years preceding 1920 the number of farms increased only 1.4 per cent, the average size of farms increased 7.3 per cent, but the average value of property per farm increased 87.5 per cent. The output of the American farm has been greatly enlarged without a corresponding increase in man power, but this has necessitated the use of more capital.

As the capital requirements of farming have expanded, credit has become increasingly important in the operation of the farm. When land was free or cheap and farm equipment and supplies used to a much more limited extent, less capital was needed to acquire, equip, and operate a farm. Farmers then often were able to acquire sufficient capital of their own with which to finance their needs. Now that the capital requirements of farming are so great, farmers use credit facilities extensively, and interest payments bulk large in their costs. The interest due in 1920 on farm mortgage debt alone is estimated to have been around $500,000,000. Some indication of the relation of payments on interest accounts to farm earnings is supplied in the following table:

TABLE 1.—*Payments on interest account for representative owner-operated farms, 1923*[1]

	United States	North Atlantic	South Atlantic	East North Central	West North Central	South Central	Western
Number of farms	16,183	1,800	2,131	3,395	3,817	3,320	1,720
Average interest payment	$230	$90	$100	$180	$380	$170	$390
Percentage of net cash receipts used in payment of interest	25.8	10.1	16.9	19.8	38.4	20.5	37.5
Percentage of total cash expenses paid out for interest	14.6	4.8	8.3	12.2	20.3	15.5	17.6

[1] Crops and Markets, supplement, July, 1924.

The interest paid on debts in 1923 by these farmers ranged from $90 in the North Atlantic States to $390 in the Western States. A large percentage of the net cash farm receipts in all sections, ranging from 10.1 per cent in the North Atlantic to 38.4 per cent in the West North Central States, was used in the payment of interest.

Classes of Farm Credit

Farm credit may be considered under three main classes. Owing to the large amount of fixed capital invested and the low turnover in the farm business, the periods for which farmers need credit are longer usually than in most other kinds of business. Ordinarily the farm earnings of several years are required for the payment of the purchase price of land and of permanent improvements. Credit obtained for development and equipment purposes is needed for periods somewhat shorter than for the purchase of land. Then,

again, loans obtained for the production and marketing of crops are paid as a rule from the proceeds of those crops, but the period over which the production and marketing processes extend varies materially with the type of farming. When thus considered from the viewpoint of the period for which it is needed, farm credit is designated as (1) long-term credit covering periods ranging from 3 to 40 years, (2) intermediate credit covering periods of 6 months to 3 years, and (3) short-term credit covering periods of 6 months or less. When considered according to the purpose for which it is needed farm credit is classed as (1) land-purchase credit, (2) development and equipment credit, and (3) production and marketing credit. There are a number of points of similarity between this classification and the preceding one. Land-purchase credit is ordinarily long-term credit; development and equipment credit may be either long-term or intermediate credit. Even short-term loans are sometimes used for development and equipment purposes. Usually, however, this class of credit falls in the intermediate term. Both short-term and intermediate credit may be used for production and marketing purposes. There is a third classification that is based on the security taken for the loans. Under this classification farm credit is designated as (1) farm mortgage credit and (2) personal and collateral credit. Here again we have some overlapping with other classifications. Farm mortgage credit usually corresponds to long-term as well as land-purchase credit. It is also used to a large extent for development and equipment purposes. Intermediate and short-term credit, on the other hand, are generally based on personal and collateral security. Intermediate credit is quite similar to short-term credit in the matter of security but differs from it both as to term and use.

Long-Term Credit

Long-term credit with which to purchase land or make permanent improvements is used more extensively in the farming industry than any other form of credit. The relative importance of this kind of credit varies widely between regions. A recent survey indicates that the mortgage encumbrance of owner-operator farmers in 1924 amounted to about two-thirds of their total debt. The mortgage debt of such farmers was relatively greater in the West and South than in the East. (Fig. 3.)

Such detailed information as we have in regard to farm mortgages is confined largely to owner-operated farms, which in 1920 included almost 61 per cent of all farms and over 66 per cent of all land in farms. The number of owner-operated farms mortgaged in 1920 was especially large in parts of the West. At that time, for example, only 14.2 per cent of the owner-operated farms in West Virginia were mortgaged as compared with 71.1 per cent in North Dakota. (Fig. 4.)

Farm mortgage debt has grown materially during the last several decades. Between 1890 and 1920 the percentage of owned farms mortgaged increased from 27.8 to 37.2 per cent. The growth in the volume of such debt has been even more marked. While the number of full-owner farms mortgaged increased 18.5 per cent between 1910 and 1920, the amount of mortgage debt on such farms increased from

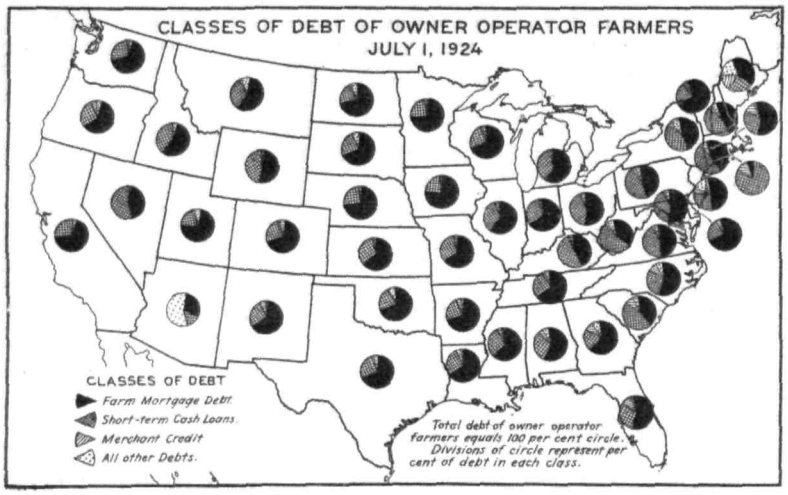


FIG. 3.—According to returns from over 10,000 owner-operator farmers in July, 1924, farm mortgage debt amounted to about 66 per cent, short-term cash loans to about 28 per cent, credit accounts to almost 2 per cent, and all other debts around 4 per cent of their total debt. The low percentage of mortgage debt shown for Rhode Island is probably due in part to inadequate returns

$1,726,172,851 to $4,003,767,192, or 131.9 per cent. The mortgage debt data obtained by the Census Bureau applies only to full-owner farms. Estimates have been made, however, by the Bureau of the Census and the Bureau of Agricultural Economics which indicate that the total farm mortgage encumbrance for all classes of farms mounted from $3,320,470,000 in 1910 to $7,857,700,000 in 1920. The distribution of the estimated total mortgage debt in 1920 is shown in

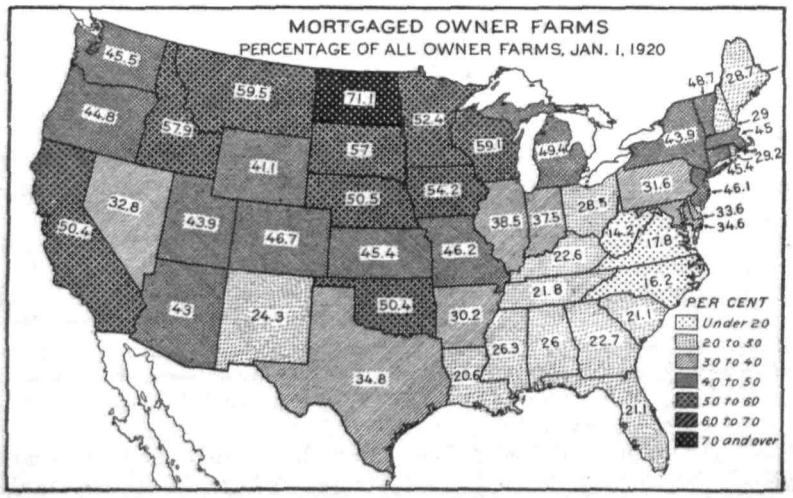


FIG. 4.—In 1920, 37.2 per cent of the farms operated by all owners reporting were mortgaged. The largest percentage of mortgaged farms in 1920 was found in the more recently settled regions and in sections where land values had increased rapidly

Figure 5. Mortgage encumbrance as appears in this map was relatively large in the Middle West, the State of Iowa alone having an estimated farm mortgage encumbrance of $1,099,000,000. It should be observed, however, that the mortgage debt in 1920 was very unevenly distributed. Almost 53 per cent of the owner-operated farms was reported as entirely free from mortgage. On the other hand, the encumbrance on mortgaged farms was not equally large on all farms. The smaller farms appear to have carried a proportionally higher debt than the larger ones. Over 43 per cent of the mortgage encumbrance on owner-operated farms in 1920 was carried by farms valued on the average under $15,000. The ratio of mortgage debt to the value of these farms averaged about 35 per cent as compared with an average of 29.1 per cent for all mortgaged owner farms.

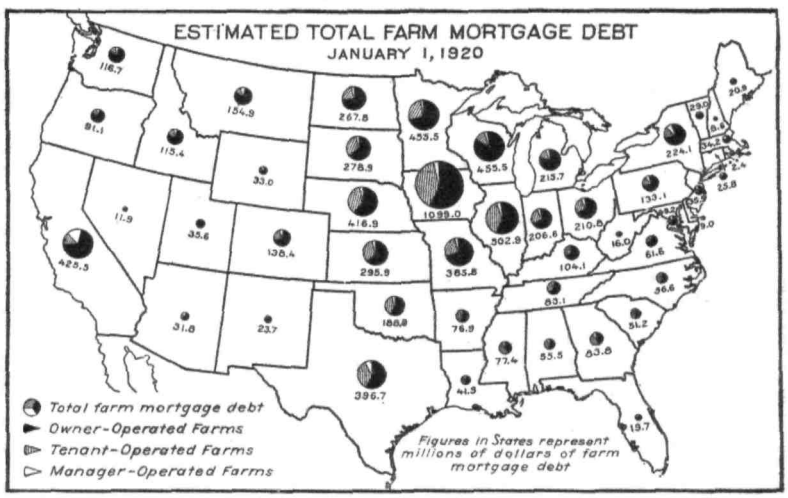


FIG. 5.—The total estimated farm mortgage debt January 1, 1920, was $7,857,700,000. Almost 61 per cent of this debt was on farms in the East North Central and West North Central States. The encumbrance on farms operated by their owners amounted to over 67 per cent, on farms operated by tenants about 28 per cent, and on farms operated by managers about 5 per cent of the total mortgage debt

There is also reason to believe that farm mortgage encumbrance has grown still larger since 1920, although we have no accurate measurement of this fact. During the last several years practically all of the important farm mortgage credit agencies have materially increased their farm loans. While a substantial number of such loans merely represent a shifting of farm mortgages away from other agencies, yet it is apparent that the total mortgage debt has been considerably increased, in part through the funding of short-term debt.

In some measure this increase in mortgage encumbrance before 1920 reflects easy credit conditions as well as a tendency to expand farm operations. In part it is explained by the increase in purchase money mortgages resulting from the transfer of lands whether by purchase or by inheritance. But it is evident that rising land values were a primary cause of the growth in mortgage debt prior

to 1920. (Fig. 6.) For the country as a whole the average value of mortgaged farms increased 83.6 per cent between 1910 and 1920. During the same period the average mortgage debt increased 95.7 per cent and the ratio of debt to value of mortgaged farms increased from 27.3 per cent to 29.1 per cent. In general, land values and mortgage encumbrance tend to move along parallel lines. It will be observed, however, that the encumbrance increased materially faster than the value of farms, especially in the South and West.

Since 1920 land values have declined while mortgage debt has risen. It is estimated that the drop in the value of all plow lands between the spring of 1920 and the spring of 1925 amounted to about 30 per cent. During these five years land values rose in only two States. In all other States land values dropped from 3 to 47 per cent. This has resulted in a material decline in the equity held by farmers in their land. A recent survey indicates that the ratio of

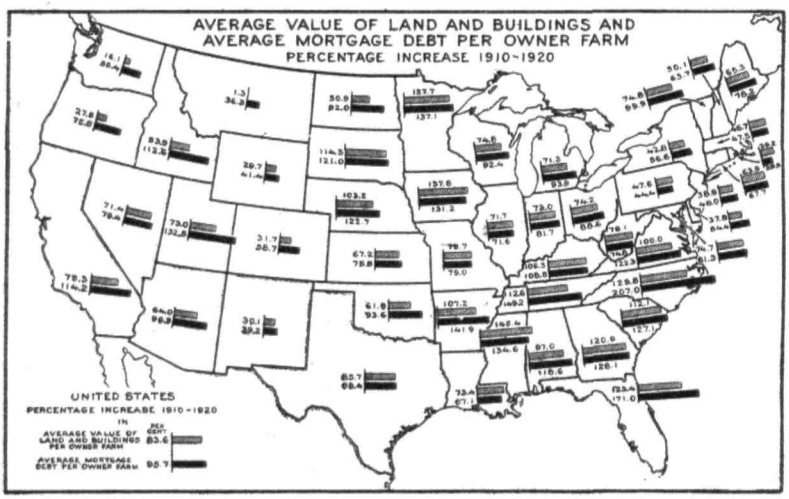


FIG. 6.—Between 1910 and 1920 land values advanced in all parts of the country, more than doubling in many States of the South and the Middle West. During the same period farm mortgage encumbrance in most States increased even more than land values

encumbrance to value of owner-operated farms in the summer of 1924 had risen to about 40 per cent as compared with 29.1 per cent five years before.

Sources of Long-Term Credit

Savings and the accumulation of capital are the foundation of credit. Old and developed regions usually are better provided with capital and credit facilities than are newly settled or predominantly agricultural regions. To facilitate the flow of funds from regions of surplus capital to regions deficient in capital, several important credit institutions have been developed. In the matter of credit, as in most other directions, American farmers are individualists and have not, as in Europe, cooperated to provide special rural credit facilities. Commercial credit agencies, therefore, have dominated

the field of rural credit. At the present time the following are the most important sources of mortgage credit: Commercial banks, especially State banks, trust companies, and savings banks; life insurance companies; farm mortgage companies; owners of land and private investors; Federal and joint-stock land banks; and, finally, State funds and State credit agencies.

Commercial Banks

State and national banks are the basis of our entire credit system. They have been and still are one of the primary sources of both long and short term farm credit. A recent survey indicates that bank loans for agricultural purposes in the spring of 1924 amounted to about 14 per cent of the total loans and discounts of all banks. (Fig. 7.) While banks in all parts of the country give substantial

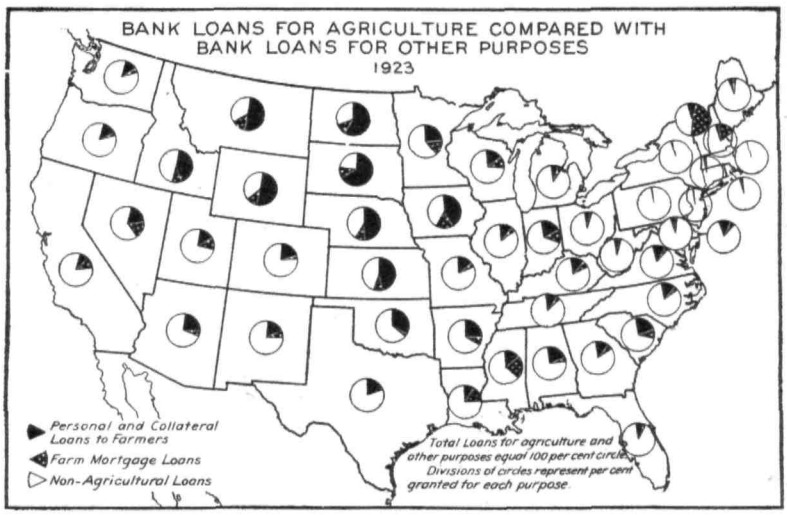


FIG. 7.—A department survey shows that bank loans for agricultural purposes in 1923 amounted to about 14 per cent of the total loans and discounts of all State and national banks. Farm mortgage loans amounted to 4.5 per cent and personal and collateral loans to 9.5 per cent of bank loans to farmers

aid to agriculture, a relatively larger part of the banking resources in the West and South are used for agricultural purposes than elsewhere. The agricultural loans of banks in the State of Massachusetts amounted in 1923 to less than 1 per cent of their total loans and discounts as compared with about 75 per cent in the State of South Dakota.

The resources of banks are the basis of their lending power. In the past these resources have been heavily concentrated in the industrial East and only gradually have they shifted westward with the development of the country. As late as 1900 most of the banking resources of the country were concentrated in a few States of the East and Middle West. Since then more capital has accumulated in the more western parts of the country and all regions are better provided with banking capital. (Figs. 8 and 9.) This lack of



FIG. 8.—The resources of State and national banks increased from $10,780,000,000 in 1900 to $56,854,000,000 in 1924, as reported by the Comptroller of the Currency. This comparison does not take into account changes in the value of the dollar. Almost 66 per cent of these banking resources in 1900 were in the East

adequate banking resources in the newer regions of the West has been one of the important factors underlying our rural credit problem.

As a source of farm mortgage credit commercial banks hold a leading place. The volume of bank farm mortgage loans is estimated to have increased from three-fourths of a billion dollars in 1914 to

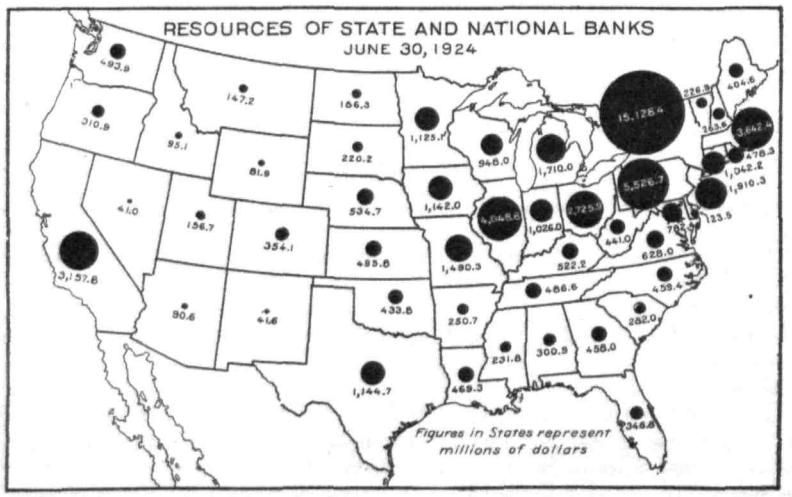


FIG. 9.—Between 1900 and 1924 there was some shift from the East to the West and to the South in the relative amount of banking resources. The banking resources of the East declined from 66 per cent of total resources in 1900 to 54 per cent in 1924. On the other hand, banking resources in the South increased from less than 4 to over 8 per cent, those of the Middle West from almost 24 to over 28 per cent, and those of the Pacific Coast States from 4 to 7 per cent of all resources. In the Mountain States banking resources in 1924 held relatively the same position as in 1900

almost one and one-half billions in 1921. (Fig. 10.)[1] During the last two or three years there appears to have been some decline in the mortgage loans of banks, which in part is due to a probable shifting of such loans to other credit institutions. While State and national banks furnished in 1914 roughly 20 per cent of the total estimated capital invested in farm mortgages, their mortgage loans dropped to about 17 per cent of the total in 1921 and by 1923 had declined relatively still more.

Commercial banks in all parts of the country do a farm mortgage business, but the largest amount of such loans is made in the Middle West, the South, and in the State of California. In the Middle West

FARM MORTGAGE LOANS OF COMMERCIAL BANKS, LIFE INSURANCE COMPANIES, FEDERAL AND JOINT-STOCK LAND BANKS, DECEMBER 31, 1914–DECEMBER 31, 1923

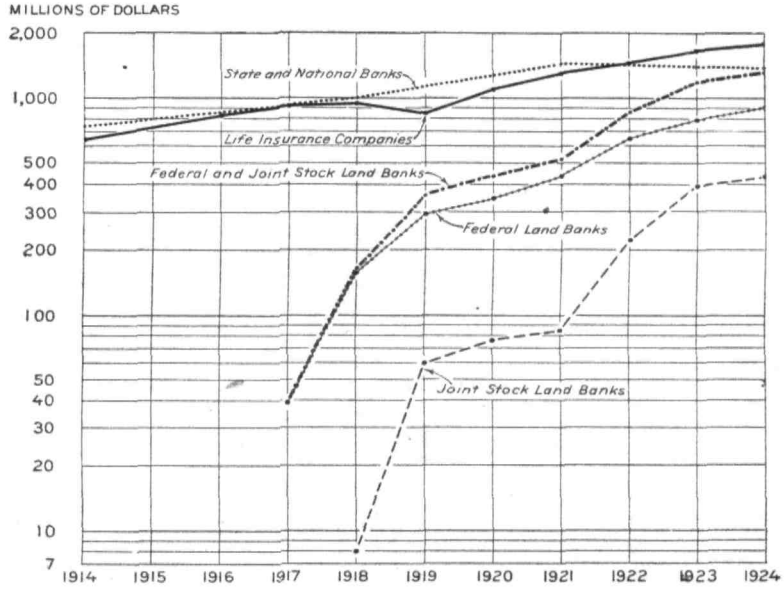


FIG. 10.—Commercial banks, life insurance companies, and farm mortgage companies have for years supplied farmers a large part of their mortgage credit. They are still leading sources of such credit. Since the establishment of Federal and joint-stock land banks the amount of mortgage credit obtained through this source has rapidly increased. Figures for commercial banks are estimates. Life insurance loans are based on reports for companies having from 90 to 94 per cent of the total admitted assets of all American life insurance companies

the percentage of bank loans and discounts used in farm mortgage loans in 1923 ranged from 4.5 per cent in Missouri to 17 per cent in Iowa; in the South from 2.5 per cent in Florida to 22.4 per cent in Mississippi; in the far West from 3.4 per cent in Oregon to 16.8 per cent in Nevada. In some of the eastern States farm mortgage loans constitute but a small percentage of bank loans and discounts, in many instances being less than 1 per cent. It should be observed, however, that the States of Vermont and New Hampshire show a

[1] V. N. Valgren and Elmer E. Engelbert. Farm Mortgage Loans by Banks, Insurance Companies, and other Agencies. U. S. Department of Agriculture, Bulletin 1047.

very high percentage of farm mortgage loans. This is explained by the prevalence in those States of trust companies and savings banks that invest a large part of their funds in western mortgages. In the territory west of the Mississippi River banks also handle farm mortgages for other investors.

Commercial banks in general are not adapted to meet the farm mortgage credit needs of farmers. As a rule they are deposit banking institutions and must keep their funds in liquid form. This no doubt accounts for the relatively short term on which their mortgage loans are usually made and to some extent for the more recent tendency of commercial banks to reduce their farm mortgage loans

Life Insurance Companies and Farm Mortgage Companies

For the past 50 years life insurance companies have been one of the greatest single factors in financing American agriculture. No

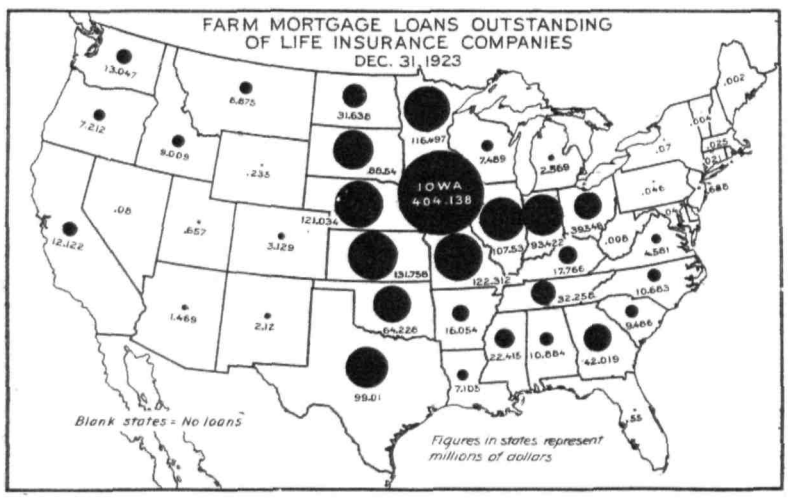


FIG. 11.—Life insurance companies make farm mortgage loans in the better farming sections of the country, especially in the Mississippi Valley. Over 79 per cent of their outstanding loans in 1923 were concentrated in 10 States. The farm mortgage loans reported are for 52 American life insurance companies with assets amounting to over 93 per cent of the total admitted assets of all American life insurance companies, as reported by the Association of Life Insurance Presidents

information in regard to the extent of their activities in this field prior to 1914 is available, but at the end of that year their outstanding farm mortgage loans amounted to $647,000,000, or slightly over 19 per cent of the estimated total mortgage debt of the United States. With the exception of a slight decline in their business in 1919, farm mortgage loans of life insurance companies have continued to increase until they reached the sum of $1,781,000,000 in September, 1924. (Fig. 10.) At the present time they are estimated to hold roughly around 20 per cent of all farm mortgages. The growth of the farm mortgage business of life insurance companies has been especially rapid in the last 10 years. During the war, as well as during the years of the depression, their farm mort-

gage loans mounted fast. Between 1914 and 1921 the farm mortgage investments of life insurance companies increased from 39 to 51 per cent of their total mortgage loans. During these seven years their loans more than doubled, and for the first time the amount of their farm loans exceeded that on city property. The last two years have witnessed a somewhat slower growth in their farm mortgage business.

Life insurance companies have been very responsive to the needs of agriculture during its recent critical periods. This appears in the recent marked extension in their loaning activities. During the five years 1914 to 1919 the average annual increase in life insurance loans amounted to $42,000,000 as compared with an average of $201,000,000 in the four years 1919 to 1923. Most of the life insurance loans are distributed in the Central West and South. (Fig. 11.) Approximately 60 per cent of their loans are in the six States of Iowa, Kansas, Missouri, Nebraska, Minnesota, and Illinois, and almost one-fourth have been placed in the State of Iowa alone.

Life insurance companies are effective agencies in mobilizing capital for distribution in all sections of the country. This is well illustrated in a survey that was made in 1920 of 15 companies that held in that year over 83 per cent of the total life insurance loans. Of these 15 companies 13 had their home offices on the Atlantic seaboard, and all were located east of the Mississippi and north of the Potomac and Ohio Rivers.

The larger life insurance companies, as a rule, maintain investment departments through which they receive and pass on applications for loans. They also employ special loan agents or correspondents, as well as salaried appraisers to handle their business. On the other hand, the smaller companies purchase most of their mortgages from banks and mortgage brokers. According to a recent department study, 69 per cent of life insurance loans made in 1923 were purchased from mortgage brokers and 31 per cent were made direct to farmers.

Farm mortgage companies have for some time past been active in the field of farm mortgage credit. While reliable data in regard to the volume of their business are not available, it is evident that they handle a large volume of farm mortgages. Companies of this kind are located chiefly in the larger cities of agricultural sections and place loans in the adjoining territory. Most of their loans are placed through local agents or correspondents, although many of the smaller companies make loans direct to farmers. Their business is essentially a brokerage business in which they serve as middlemen between farmers and those who have surplus funds to invest in mortgage loans. Many of these companies operate on a conservative basis and have a strong clientele; others have followed the practice of placing loans that command high interest rates as well as high commissions.

Former Land Owners and Private Investors

Former land owners and private investors are two of the most important sources of farm mortgage credit. Unfortunately detailed information in regard to their activities is not available. A recent survey of owner-operator debt, however, gives some indication as

to the importance of this source of mortgage credit. (Fig. 12.) This study showed that 21 per cent of the total debt of owner-operator farmers in 1924 was held by other farmers and individuals. Farmers in the East and in the Middle West appear to have drawn more extensively upon these sources than have farmers in other sections of the country. Much of this credit is advanced by sellers of land. In some sections of the country it is a common practice for the seller to take a mortgage for a substantial part of the sale price of the farm. Frequently a farmer will arrange for the purchase of a farm by obtaining a first-mortgage loan from some financial institution, the former owner accepting a second mortgage for a substantial part of the purchase price. A large number of second mortgages on farm land are therefore held by former owners of

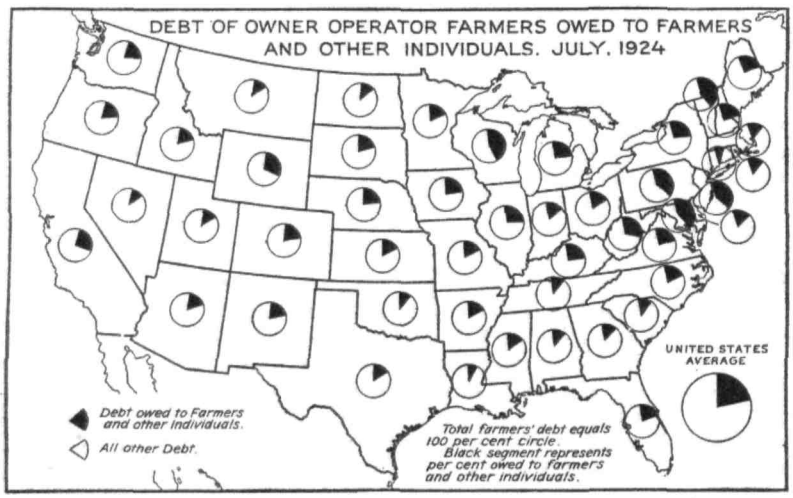


FIG. 12.—According to a department survey, 21 per cent of the total debt of owner-operator farmers in July, 1924, was owed to farmers and other individuals. Of the total debt about 4 per cent was held by actual farmers, 7 per cent by retired farmers, and 10 per cent by other individuals

the land. The interest rate on such loans is usually quite favorable, but this advantage in some degree may be offset by the price paid for the land.

Federal Farm Loan System

The American farmer until recent years has lacked a farm mortgage credit system through which he could obtain at reasonable cost long-time loans that could be paid off gradually from the earnings of his farm. Before the passage of the Federal farm loan act in 1916 commercial credit agencies rendered a valuable service, but they were not always able to supply credit in adequate amounts, and frequently loans were made at excessive costs and for too short periods. Under the conditions that obtained outside capital was brought in frequently through country banks or real estate firms, and the practice grew up of marketing farm mortgage notes in their original form. As a rule it was necessary to find a purchaser who wanted a mortgage of a given amount, for a given

period, and with given terms. Paper of this kind naturally will not sell as readily in the open market as well standardized securities. What the farmer needed was a system through which his mortgages would not be marketed direct but held as collateral against which bonds could be issued and placed on the market. In short, there was needed in the farm mortgage field an institution which would fix reliable and suitable standards for farm mortgages and market them in the form of bonds.

A farm mortgage credit system which would more adequately serve the needs of farmers was created by the Federal farm loan act in 1916. This measure provides for two classes of credit institutions—the Federal land banks, which operate under Government direction and supervision, and the joint-stock land banks, which are privately owned and managed institutions but operate under the supervision of the Federal Government. The general direction of the Federal farm loan system is in the hands of the Federal Farm Loan Board. This board is composed of seven members, six of whom are appointed by the President with the advice and consent of the Senate. The Secretary of the Treasury is chairman ex officio of the board. This board exercises careful supervision over the activities of both Federal and joint-stock land banks. It gives special attention to the adequacy of security taken for the funds advanced, as well as to the marketing of the bonds through which funds for making loans are obtained.

For the purpose of administering the Federal land banks the country has been divided into 12 districts, each of which is served by one bank. Each bank had originally a paid-up capital stock of $750,000. The total original capital stock of the 12 banks was, therefore, $9,000,000, of which $8,892,130 was subscribed by the United States Treasury. The law provided that the capital stock subscribed by the Government should be gradually retired through repurchase by the local national farm loan associations. By December 31, 1924, seven of the banks had completely repaid their capital stock and the five remaining banks had outstanding the sum of $1,670,965 of the original stock subscribed by the Treasury.

The Federal land banks were in the beginning managed by five directors appointed by the Federal Farm Loan Board. At the time the original act was passed it was the intention that the control of each bank should pass to the borrowers as soon as the subscription to the stock amounted to $100,000. Control should then be vested in nine directors, six of whom were to be chosen to represent the national farm loan associations and three appointed by the Federal Farm Loan Board to represent the public interest. From an early date, however, it was felt by the board that the control of the Federal land banks by borrowers would be unwise. The cooperative features of the system did not develop as expected. Once their loans were obtained, borrowers often ceased to participate actively in the work of the local farm loan associations. It was also believed that farmer control of the banks would interfere with the sale of bonds in adequate volume. An amendment was accordingly passed in 1923 which gives the Federal Farm Loan Board at least as much control over the Federal land bank directors as that of the local associations. This amendment provides for seven directors. The Federal Farm

Loan Board appoints three district directors and the national farm loan associations elect three local directors. The seventh member, who is a director at large, is appointed by the board from the three persons obtaining the greatest number of votes for director at large from the associations. It is thus apparent that the original plan to make the Federal land banks strictly cooperative institutions has not been realized.

The Federal land banks operate locally through national farm loan associations, which were intended to be the active part of the system. These associations may be organized by 10 or more farmers desiring loans amounting to at least $20,000 and are chartered by the Federal Farm Loan Board. At the present time over 4,600 national farm loan associations have been organized in all parts of the country. (Fig. 13.) Practically every county in the United States is now served by one or more of these associations. The

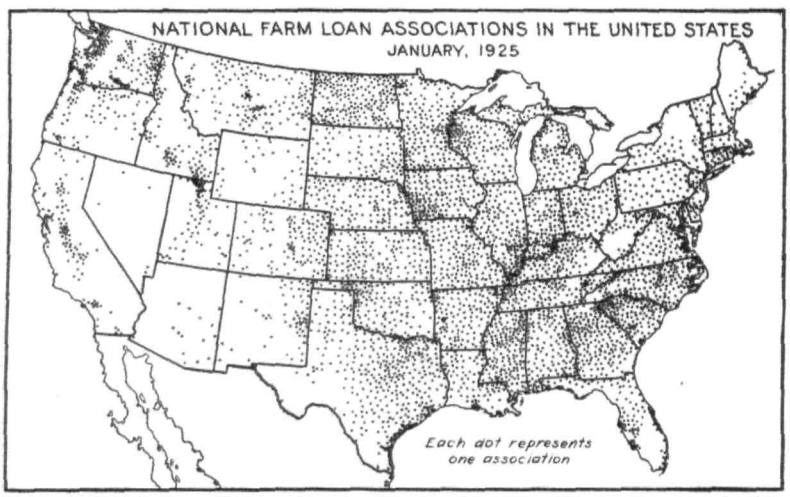


FIG. 13.—There are 4,650 national farm loan associations in the United States. While every county does not have its own association, almost every county is served by one or more associations. Based on data supplied by the Federal Farm Loan Board.

national farm loan association has a president, vice president, secretary-treasurer, and usually a board of five directors. It also has a loan committee of three, which passes on all applications for loans. The active officer of the association, however, is the secretary-treasurer, who represents the local association in its dealings with the Federal land bank. One of the greatest problems in the operation of the system has been to find men qualified to serve acceptably as secretary-treasurers. In many instances they have lacked business experience and frequently have received inadequate pay. Every borrowing farmer is a member of the local association and has 1 vote for each share up to 20 votes. The expenses of the association are met as a rule through the assessment of an initial charge not to exceed 1 per cent of the loan granted each borrower.

The Federal land banks make loans only to actual farmers or to those who intend to become farmers. With few exceptions these loans are made through the local national farm loan associations.

Every borrower is required to subscribe to the extent of 5 per cent of his loan in the stock of the local national farm loan association. The association in turn must subscribe to an equal amount in the stock of the Federal land bank. Every borrower is liable to twice the amount of his stock for losses that may be incurred by the association.

Originally the maximum loan that could be made by the Federal land banks was $10,000. By an amendment passed in March, 1923, the maximum was raised to $25,000. The average size of loans made since the organization of the system to date is $3,065. The largest loans have been made in Iowa, where they average $7,509, and the smallest in Arkansas, where they average $1,706. (Fig. 14.) These loans can be made up to 50 per cent of the appraised value of the land plus 20 per cent of the appraised value of the insured

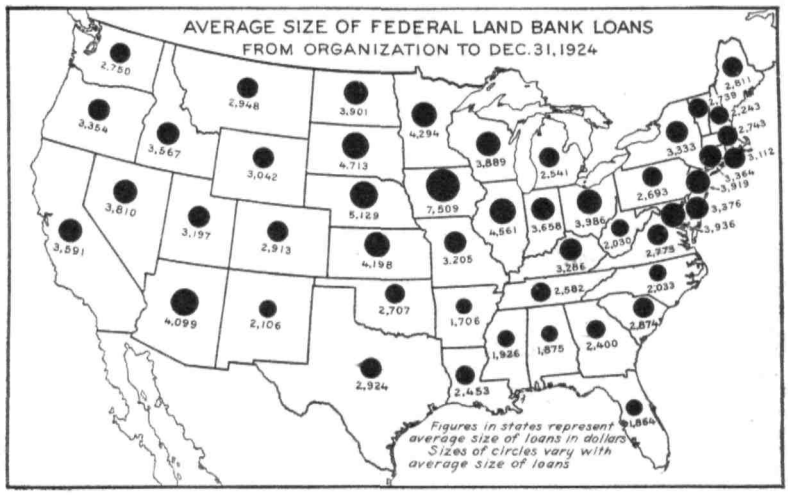


FIG. 14.—Federal land-bank loans from organization to December 31, 1924, averaged $3,065 per loan. The bulk of these loans have been made to the smaller farmers

permanent improvements. In no case can the loan exceed $100 per acre. The final appraisals on which these loans are based are made by special land-bank appraisers, appointed by the Federal Farm Loan Board. Under the act the land must be appraised on the basis of its value for agricultural purposes and its earning power. These appraisals in the past have been conservatively made, and this fact no doubt has contributed to the growing popularity of the Federal farm loan bonds. (Fig. 15.) The interest rate on Federal farm loans may not exceed 6 per cent and may be even lower, depending upon the rate paid on the bonds. Loans may be made for terms ranging from 5 to 40 years at the option of the borrower. Most of them, however, are made for terms ranging from 33 to 35 years. At the end of five years all or a part of the loan may be repaid. Payments are made on the amortization plan, whereby annual or semiannual installments are paid covering the interest and a part of the principal until the loan is liquidated.

The funds used in making these loans are obtained through the sale of tax-exempt bonds secured by farm mortgages taken for the loans. These bonds are issued in denominations of $40, $100, $500, and $1,000 and even much larger denominations and are subject to retirement at the option of the bank 10 years after date of issue. Each bank may issue bonds up to twenty times the amount of its capital and surplus. Every bank is jointly liable for the bonds issued by the 12 banks. While not obligations of the Federal Government, the collateral securing these bonds has the close supervision of the Government. This fact, together with their tax-exempt feature, creates for these bonds a good market at low interest rates. In fact they have been selling at yields only slightly above those of some other Government securities, and a market has been found for them at rates uniformly lower than those paid on long-term corporation securities. (Fig. 16.) In short, it is apparent that the farmer is obtaining through the Federal farm loan system farm mortgage credit at rates that compare favorably with those paid by other industries. In order to build up a broad and dependable market for the bonds, the Federal land banks offer their bonds through bond houses that have connections in all parts of the country and likewise through local national farm loan associations. In order to better coordinate the bond-selling activities of all Federal land banks, a fiscal agent was appointed in the spring of 1923.

The Federal land banks began their operations in the fall of 1917. Their growth was fairly rapid until the summer of 1919, when court action was brought to test the constitutionality of the Federal farm loan act. In the spring of 1921 the act was declared constitutional, and from then on the system grew rapidly. (Fig.

THE RELATION OF FEDERAL LAND BANK LOANS TO THE APPRAISED VALUE AND SALE PRICE OF LAND

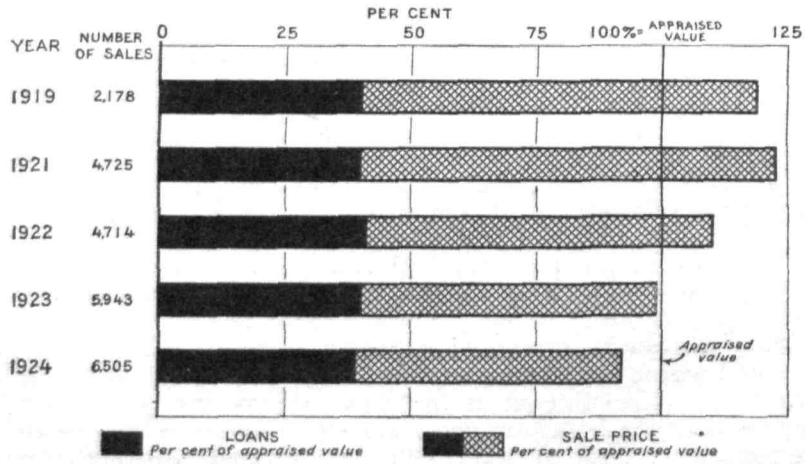


FIG. 15.—This chart well illustrates the conservative basis on which Federal farm loans are made. The Federal land banks since 1919 have recorded the sales of farms on which they had made loans. These records show that their loans averaged 40 per cent of the appraised value of the land and buildings and that the sale price of land ranged from 23 per cent above the appraised value in 1921 to 8 per cent below the appraised value in 1924

YIELDS OF FEDERAL LAND BANK BONDS COMPARED WITH YIELDS OF UNITED STATES LIBERTY BONDS AND UNITED STATES STEEL CORPORATION BONDS, 1917-1925

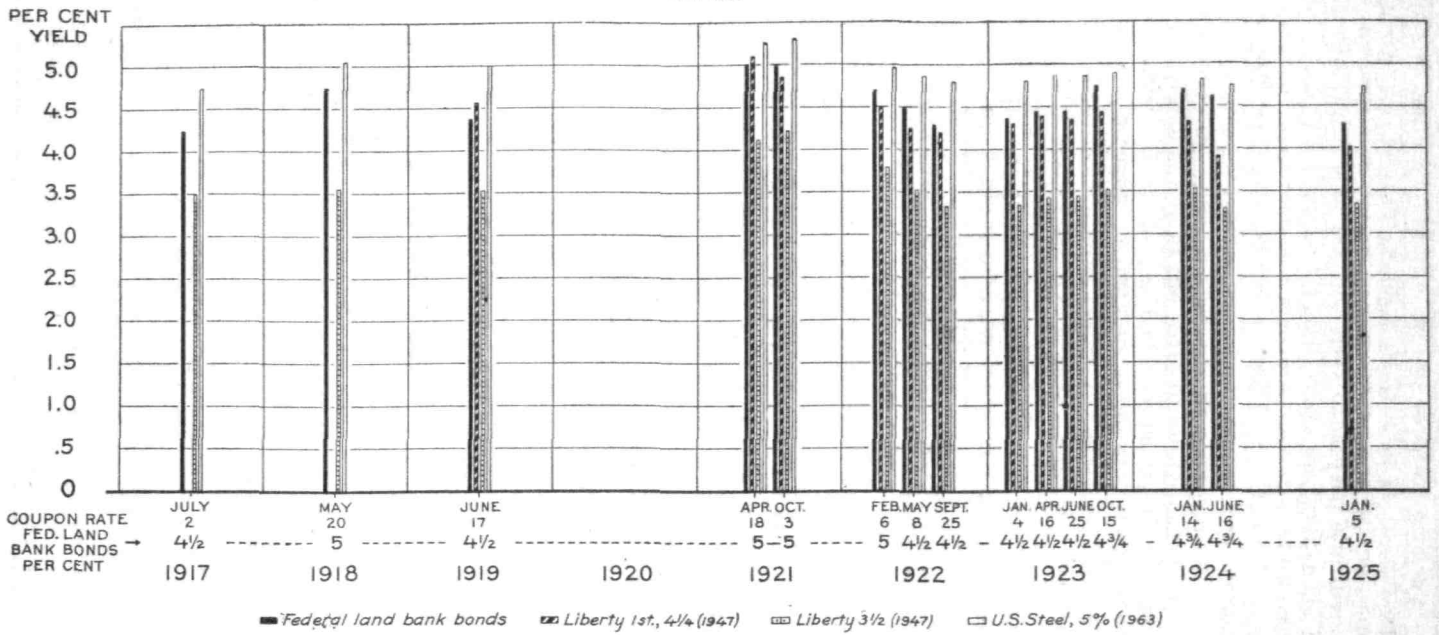


FIG. 16.—Federal land bank bonds have always been offered at a low-yield basis. The yields of Federal land bank bonds on dates when offered have been but little higher than the converted 4¼ per cent bonds of the first Liberty loan. On the other hand, they have sold materially higher than the fully tax-exempt 3½ per cent bonds of the first Liberty loan. When compared with United States Steel Corporation bonds, they have invariably sold at a lower-yield basis

17.) During the two years 1918–1919 an average of $128,636,000 in loans were closed annually; in the two following years the annual average dropped to $81,942,000. With the full resumption of their activities in 1921 a large demand for loans developed, and during the three years 1922–1924 an annual average of $193,999,000 loans were closed. This record is splendid evidence of the manner in which the Federal land banks responded to the needs of the farmer during the years of depression. Since 1924 there has been a decline in the volume of loans made by the banks, which reflects a decreasing demand for farm mortgage credit. The Federal land banks in a very short time have become leading sources of farm mortgage credit. In January, 1920, it is estimated that their loans amounted to 3.7 per cent of the total farm mortgage debt, as compared with over 9 per cent in January, 1924.

The loans of the Federal land banks are distributed quite uniformly over the entire country. (Fig. 18.) In fact, the Federal land banks have been especially helpful in accommodating farmers in regions where other agencies have supplied such credit in inadequate amounts and often at high costs. The Federal land banks thus have been one of the most important channels through which capital could flow freely into regions most in need of such credit. Such evidence as is available, however, indicates that the Federal land banks have not met the needs of the landless farmer. The amount of credit allowed on the valuation of land which is conservatively appraised is relatively small, and the prospective purchaser who does not have a reasonable amount of capital of his own must obtain additional credit through other sources. A survey of land purchases with Federal land bank loans in 1920 brought out the fact that two-thirds of the borrowers already had land and that only 15 per cent of the loans made had been used in the purchase of land. It appears, therefore, that farm owners have made the greatest use of the Federal land banks and that the direct aid extended to landless farmers has been relatively small. In this connection, however, it should be noted that the long-time amortized plan on which the Federal farm loans are made has provided a better basis for the development of second-mortgage credit. Farmers who obtain their first-mortgage loans from Federal land banks should have less difficulty in obtaining additional credit on second-mortgage security.

While the Federal land banks perhaps have not materially aided the landless farmer, they have helped to reduce and equalize interest rates and have assisted farmers in refunding their debts on more favorable terms. It should no longer be necessary for the farmer to have his mortgage credit in the form of short-term loans, subject to frequent renewals. With the advent of long-time amortized loans such as are made by the Federal land banks, the danger of foreclosure in time of depression no doubt will be greatly reduced.

The Federal farm loan act also provided for land banks organized and owned by lenders. These banks are known as joint-stock land banks. While they are privately organized and managed institutions, they also operate under the supervision of the Federal Farm Loan Board. A joint-stock land bank may be organized by 10 or more persons with a minimum capital stock of $250,000. The plan

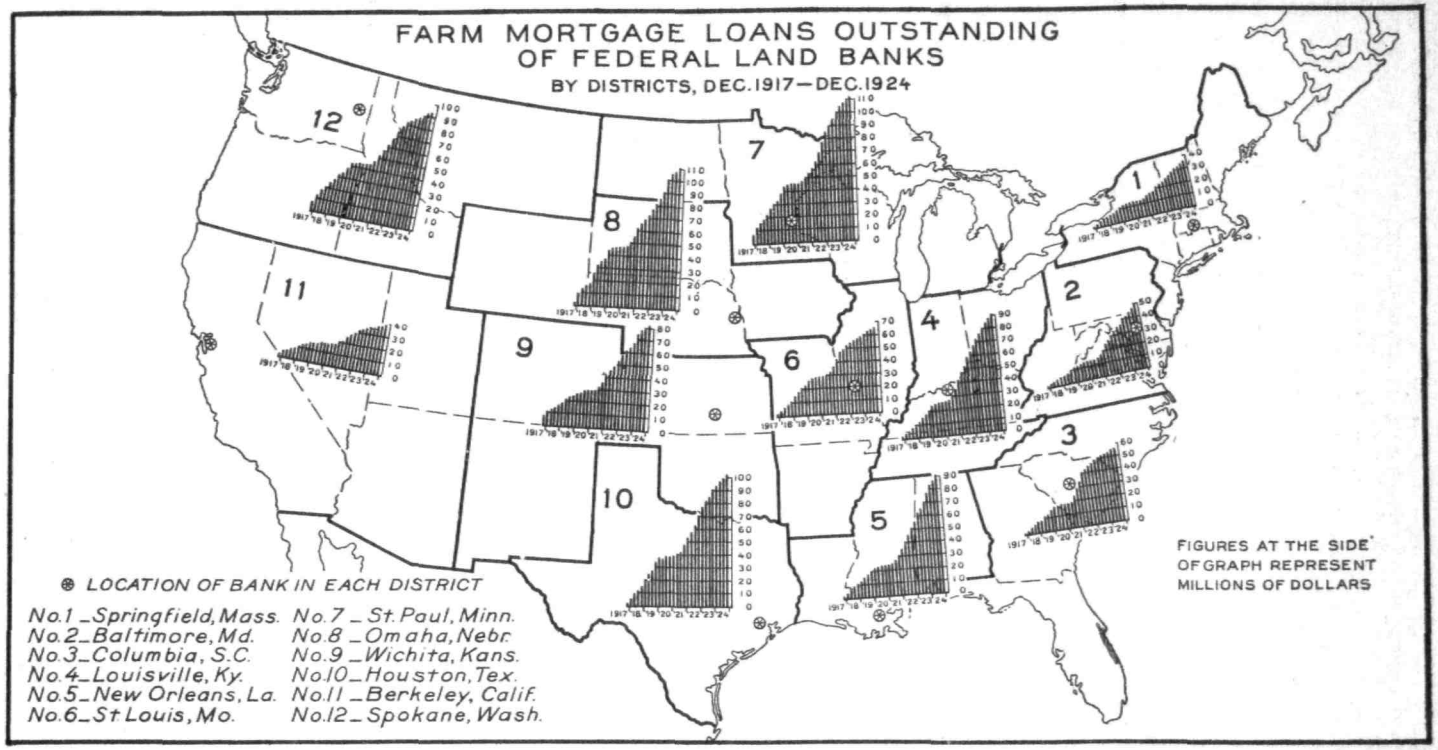


FIG. 17.—Federal land bank loans have expanded at a relatively uniform rate in most of the districts. In districts 1, 2, and 11 the growth has not been as rapid as in the more predominantly agricultural districts. The uniform distribution of the outstanding loans on December 31, 1924, is well illustrated by the fact that of the 12 districts, the seventh, which had the largest amount of loans, held but 12.1 per cent of all outstanding mortgages. District 1, with 3.8 per cent, held the smallest amount

under which they are operated is very similar to that of the Federal land banks. They have a number of special features, however, that merit consideration. A joint-stock land bank is permitted to operate in only two contiguous States. It may make loans to both farmers and other owners of land. These loans are made direct by the bank, usually through a local representative and not through the local national farm loan association. A loan to a single borrower may not exceed 15 per cent of the capital stock of the bank, nor may it in any case be in excess of $50,000. Borrowers are not required to invest in the stock of the bank, nor does any liability attach to them on account of losses sustained by the bank. Their funds are obtained, as in the case of the Federal land banks, through their capital

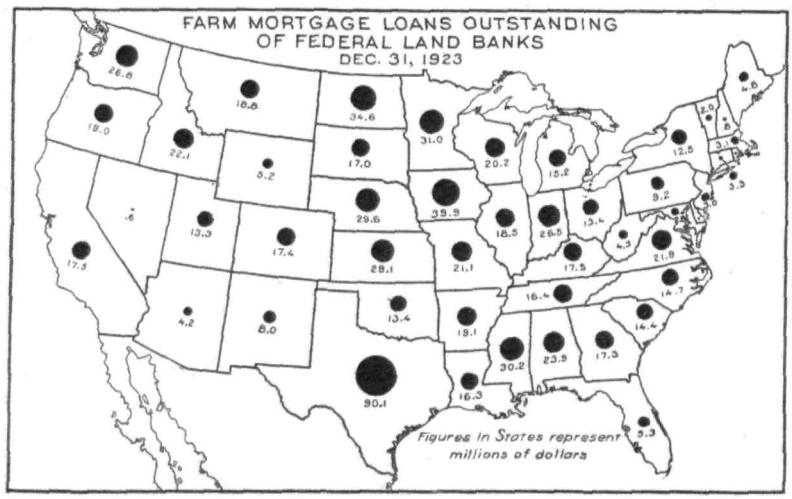


FIG. 18.—Between the date of their organization and December 31, 1924, the Federal land banks have closed a total of 339,970 loans aggregating $1,042,001,143. Although quite evenly distributed in volume over the entire country, more farmers have received loans in some sections than in others. For example, over 42 per cent of all loans closed representing 32 per cent of the total volume of loans have been made in 10 Cotton Belt States

stock and the sale of bonds. The outstanding bonds can not at any time exceed 15 times the amount of the capital and surplus of the bank. Each bank is liable only for its own bonds.

At the time the Federal farm loan act was passed it was thought the joint-stock land banks would play only a minor rôle in financing the mortgage credit needs of the farmer. As a matter of fact, the growth of such banks in the early years of the system was slow. By November 30, 1918, only nine joint-stock land banks had been organized, and further development was practically stopped when the constitutionality of the act was challenged. Since the constitutionality of the act was set at rest the development of joint-stock land banks has been very rapid. The loans closed annually by all joint-stock land banks during the two years 1918–1919 averaged slightly over $30,000,000. This average during the two following years dropped to slightly under $15,000,000. During the three years 1922–1924 the amount of loans closed annually averaged over $134,000,000. The peak in the loaning activities of these institutions

was reached in 1923, when a total of nearly $190,000,000 in loans was made. Since that time their loans have declined, reflecting no

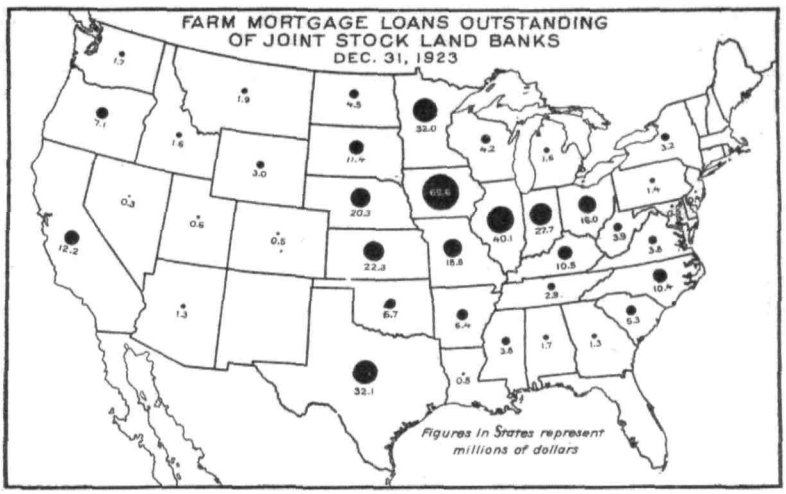


FIG. 19.—Joint-stock land banks have confined their lending operations largely to the better class of farms in the more important agricultural regions. Their net farm mortgage loans outstanding on December 31, 1923, amounted to $392,639,000. Of this sum $69,648,000, or 17.7 per cent, was held on Iowa farms. The combined loans in 11 States in the Mississippi Valley amounted to $300,775,000, or 76.6 per cent of all loans made

doubt the reduced demand of farmers for mortgage credit. While the loans of the joint-stock land banks are estimated to have been

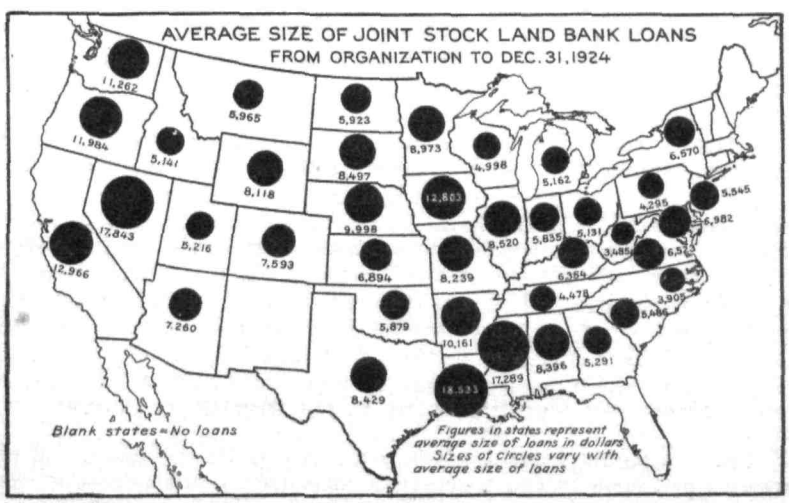


FIG. 20.—The average joint-stock land-bank loan from organization to December 31, 1924, was $7,714, as compared with an average of $3,065 for the Federal land banks. The joint-stock land banks have made loans in all States except Delaware, Florida, New Mexico, and the New England States. It should be added that while relatively large loans are made in some States the number of such loans may be relatively small. Joint-stock land bank loans vary in number from 21 in Nevada to 6,466 in Iowa

about 0.7 per cent of the total mortgage debt outstanding in January, 1920, it appears that they amounted to about 4.5 per cent of the total mortgage debt in January, 1924.

At the beginning of this year there were 64 joint-stock land banks operating in most sections of the country. The major portion of their loans, however, are being made in the better farming regions. (Fig. 19.) This is somewhat in contrast to the policy of the Federal land banks, the loans of which are more uniformly distributed over the entire country. It is also significant that the loans made by the joint-stock land banks are materially larger than those of the Federal land banks. Since their organization the loans of the joint-stock land banks have averaged $7,714, compared with an average of $3,065 for the Federal land banks. The joint-stock land banks, as previously stated, are permitted to make loans up to $50,000, and this no doubt has been an advantage in their competition with the Federal land banks. (Fig. 20.)

State Funds and State Credit Agencies

In a number of States funds are made available for farm mortgage purposes through State funds or State credit agencies. In some States permanent school funds are used for this purpose, in others teachers' retirement funds, and in still others special funds are provided to assist ex-service men. Permanent school funds are loaned to farmers on mortgage security in a number of States. Estimates indicate that over $40,000,000 has been loaned from these funds to perhaps 40,000 farmers in 10 of the Western States. As a rule the interest rate on these loans is relatively low, and frequently the term covers a reasonable period of years. Some States have been fairly successful in the use of such funds for farm mortgage loans; with others, however, the losses have been quite heavy.

Special rural credit laws have been passed in the States of North Dakota, South Dakota, Minnesota, and Oregon. Under these laws State systems of farm mortgage credit that resemble in many respects the Federal farm loan system have been organized. The funds from which loans are made are obtained through the sale of bonds. Loans varying in size from $200 to $15,000 are made to actual farmers.

From available information it appears that State credit systems have not been entirely successful. Several factors seem to account for their difficulties. Perhaps the wisdom of establishing State credit systems that in a measure at least overlap the services performed by the Federal land bank system may be questioned.

Terms and Conditions of Farm Mortgage Loans

Various elements enter the cost of farm mortgage loans. While interest rates usually are taken as a measure of differences in cost, it is necessary to consider additional charges, such as commissions, discounts, and bonuses, as elements in the cost of mortgage credit. In the case of loans made by sellers of land a part of the interest cost may be included in the sale price of the land. In short, differences in interest rates may be offset in some measure by additional

charges of one kind or another. While interest rates are not a complete measure of differences in the costs of credit, yet the variations in such cost are in general reflected in the interest rates.

Interest rates on farm mortgage loans vary not only as between regions and institutions but also in the matter of time. The studies that have been made show that the interest charges of all credit agencies increased somewhat between 1914 and 1921. During the last few years general credit conditions have been easier and a decline in farm mortgage rates has resulted.

The interest rates of three important farm credit agencies during the year 1923 are shown in Figure 21. The rate of 5.5 per cent charged by the Federal land banks is uniform for the country as a whole. It should be added, however, that there are certain additional costs that tend to offset the low interest rate shown for the Federal land banks. The savings effected by these institutions are

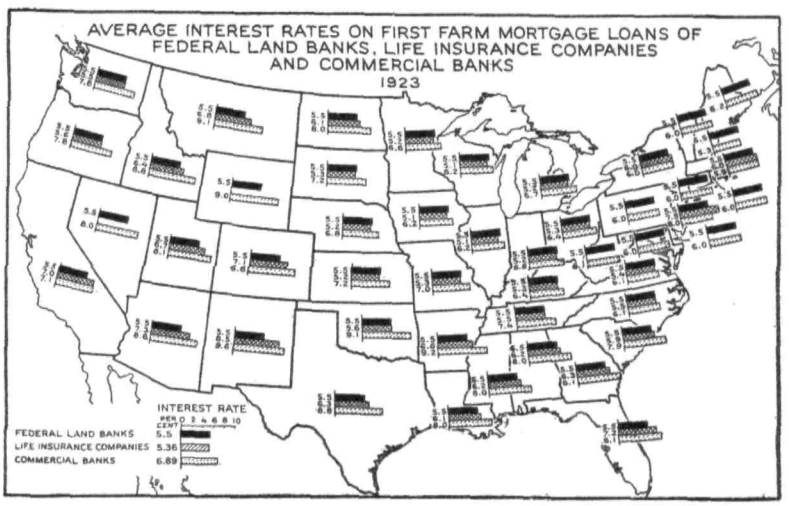


FIG. 21.—The interest rate of 5.5 per cent on Federal land bank loans in 1923 was uniform throughout the country. The rates on life insurance loans compared favorably with this rate in regions where they make the bulk of their loans; in fact, their rates in 14 States during 1923 were slightly lower. On the other hand, interest rates on bank farm mortgage loans were higher than those of both Federal land banks and life insurance companies in all States but three.

mainly in connection with the reduction of interest rates and the elimination of commission charges. Little, if any, reduction in the cost of appraising land has been effected by the Federal land banks. A survey made in 1920 of the cost of obtaining Federal farm loans shows that the initial cost averaged about 1.4 per cent of the amount of the loan. This cost was much larger in the case of loans of $1,000 or less, amounting in such cases to 4.8 per cent of the loan, as compared with less than 1 per cent for loans ranging from $7,500 to $10,000. It should be remembered, however, that the initial costs of obtaining a Federal farm loan, when distributed over the entire term of the loan, represent a relatively small annual cost.

Borrowers from the Federal land banks have also suffered certain losses in connection with the dividends on their stock. While the

Federal land banks from the very beginning have paid substantial dividends to the national farm loan associations, these dividends have not in all cases been passed on to the borrowers but have been used in paying expenses, meeting delinquent payments on loans, and in building up required reserves. According to a survey made of a large number of the local associations, only about 46 per cent of the dividends dispersed by the Federal land banks from the date of their organization to November 1, 1922, had been distributed to the borrowers.

The loans of life insurance companies usually are made at relatively favorable rates. The loans of these companies are made under strict supervision and are carefully selected. The average rate on life insurance loans in 1923 was 5.36 per cent. In some States, the rate was as low as 5.09 per cent, while in other States the rate was as high as 8.48 per cent. In regions where life insurance companies do a large volume of business competition is keen and rates are correspondingly low. The rates of life insurance companies have naturally reflected conditions that have obtained in the money market. Between 1914 and 1921 the average rate on their outstanding loans increased from 5.55 per cent to 5.86 per cent. This increase was comparatively small, amounting to less than one-third of 1 per cent, notwithstanding the fact that rates in general advanced much more during this period. The average rate on their new loans in 1921 was 6.46 per cent, and between that date and 1923 it declined to 5.36 per cent, a drop of slightly more than 1 per cent. The rates on life insurance companies' loans are usually quite favorable, and their influence often leads to a lowering of rates charged by other private agencies.

The interest rates on first-mortgage loans of commercial banks in 1923 averaged 6.89 per cent. The variation in the rates on bank loans is much wider than that on life insurance loans, ranging from 5.3 per cent in New Hampshire to 9.6 per cent in New Mexico. Interest rates charged by commercial banks on their loans declined between 1921 and 1923 considerably less than the rates on life insurance loans. The failure of rates on bank mortgage loans to respond as fully to changes in general credit conditions may be explained in part by the fact that commercial banks use much of their funds for purposes other than mortgage loans and can shift their loans from farm mortgage to short-term loans. They are therefore not as responsive to the competition of other farm mortgage credit agencies.

There are several factors that account for the wide variation in interest rates between various sections of the country. As shown in Figure 22, the interest rates on mortgage loans in the East and Central West are relatively low compared with the rates that obtain in the South and West. These variations are even more marked in the case of loans based on personal and collateral security. The rate, in the first place, will naturally vary with the demand for loanable funds. This demand fluctuates with the opportunities for profitable use of funds, with the seasonal need for funds, and with the interest rate charged. An equally important factor is the supply of loanable funds. In regions where local savings are large both individuals and banks are able and willing to make loans at

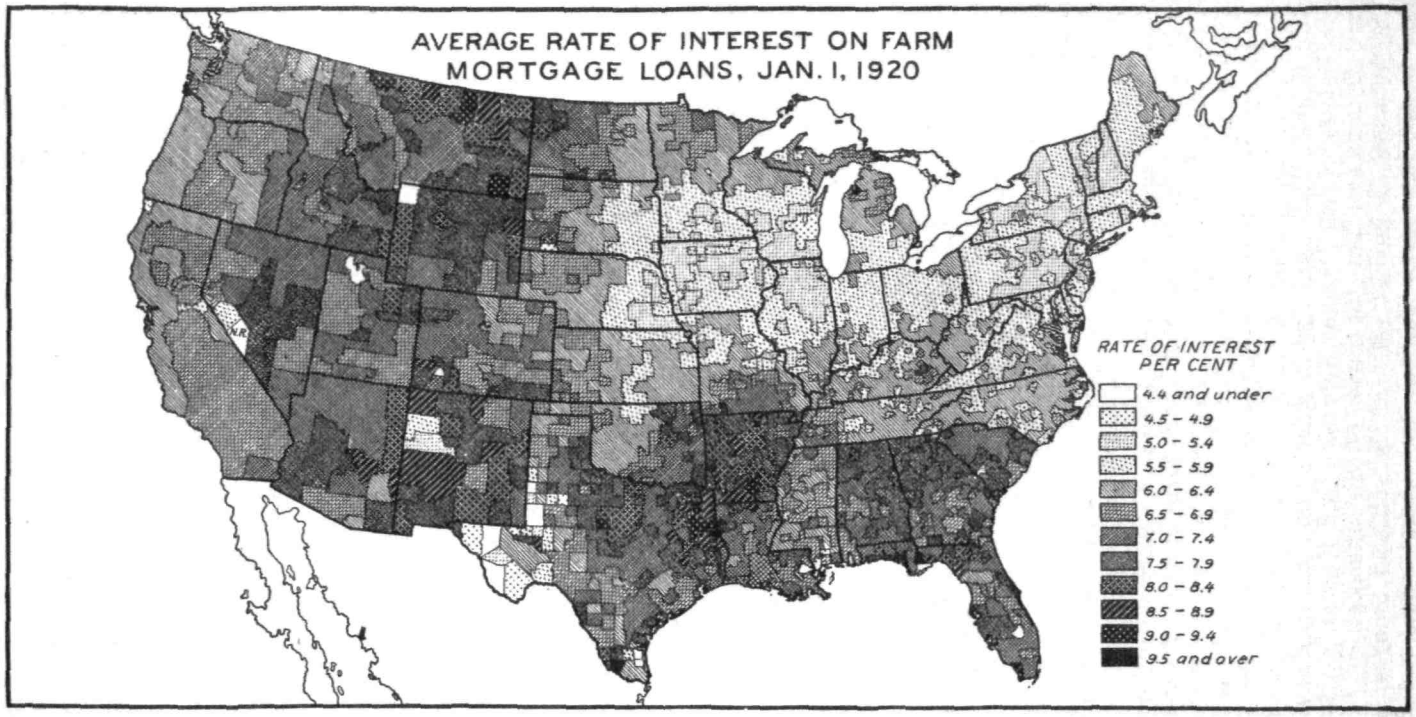


FIG. 22.—Based on average interest rates reported by the Bureau of the Census January 1, 1920, on mortgaged farms operated by full owners

relatively favorable rates. On the other hand, regions that are deficient in savings and capital must bring in capital from outside sources, and naturally a higher interest rate must be charged in order to cover the additional cost of determining and supervising the security of loans, as well as any additional risk that may be taken by the lender.

The availability of funds for farm mortgage purposes, both locally and from outside sources, will depend in no small measure upon the general condition of the money market and upon the competition for such funds for other purposes. In the past the distance of a region from financial centers apparently has exerted an influence on interest rates. With the establishment of the Federal farm loan system, as well as the Federal reserve system, channels have been provided through which funds can freely flow from financial centers

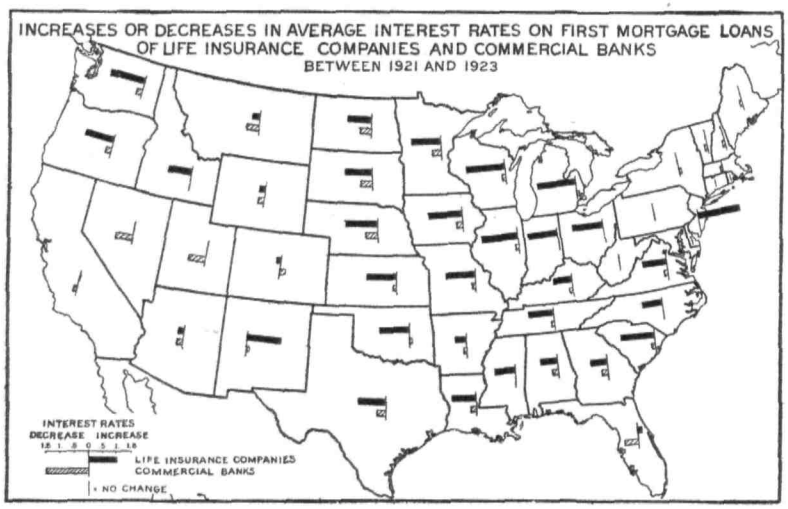


FIG. 23.—Between 1921 and 1923 interest rates on first-mortgage farm loans of life insurance companies declined considerably more than rates on first-mortgage loans of commercial banks. Rates on life insurance loans declined more than 1 per cent in 14 States. On the other hand, in only 3 States did rates on first-mortgage farm loans of banks drop as much as one-half per cent. Rates on life insurance loans have increased in only 4 States and on bank mortgage loans in only 5 States

to all parts of the country, and this probably has had a tendency to lessen the importance of the distance factor.

The interest rate charged on loans will also vary with the risk which the lender takes. The greater the risk, the higher the rate. Various factors enter the element of risk. Climatic conditions affect both the amount and the stability of the farm income, and, therefore, also the interest rates charged. The semiarid regions, where rainfall is low and uncertain, do not attract capital as freely as regions of ample rainfall. Insurance companies and savings banks, in fact, often refuse to make loans in regions where the rainfall is below a certain figure. The rapid rise in rates as one moves westward, in North Dakota, South Dakota, Nebraska, and Kansas, as shown in Figure 22, is an excellent illustration of this influence.

The influence on interest rates of the soil and topography of a region is also apparent. Capital, for example, does not flow as

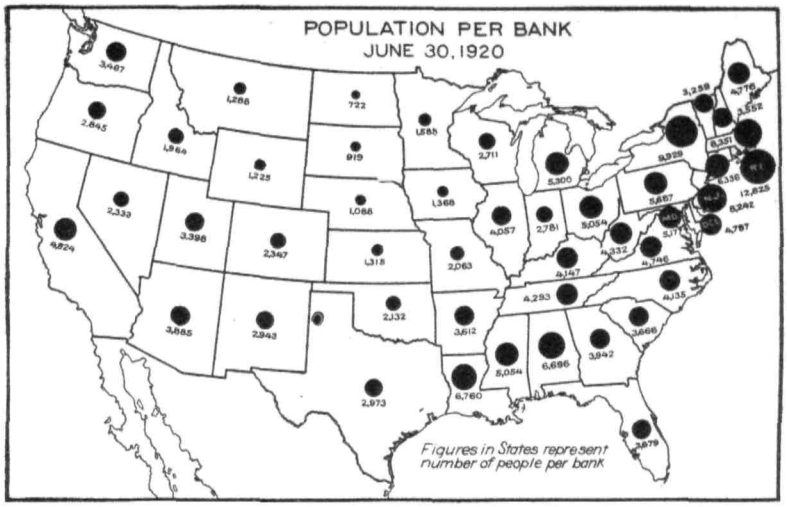


FIG. 24.—Small banks with limited resources and clientele characterize the banking situation in parts of the West. While the number of persons per bank in the Middle Atlantic States averaged 7,517 in 1920, the average in the West North Central States was only 1,388. Since 1920 many banks in farming regions have failed and others have been consolidated. Probably some agricultural sections would be better served with fewer well-managed banks of larger resources

freely to southern Illinois as to central and northern Illinois. The Red River valley of North Dakota is better supplied with capital than some parts of northern Minnesota. While natural conditions have an influence upon interest rates, it does not necessarily follow that differences in rates between regions must remain equally wide.

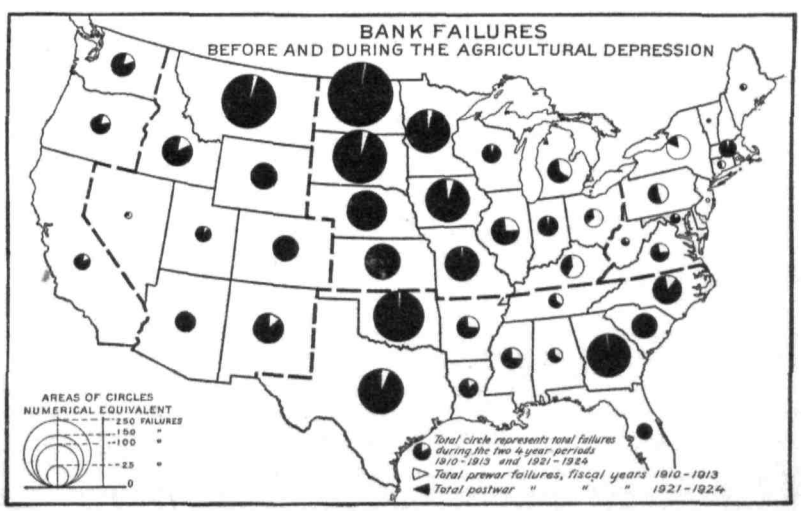


FIG. 25.—Bank failures during the four years between June 30, 1920, and June 30, 1924, totaled 1,960, as compared with 202 during the four years 1910–1913. Most of these failures were in the farming sections of the country. While the depression in agriculture was a large factor in these failures, inadequate resources, and inefficient banking methods were important contributing causes

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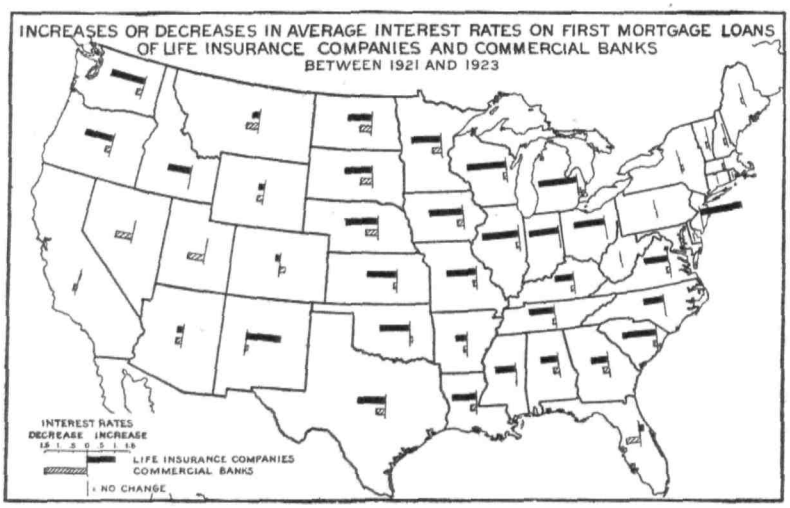


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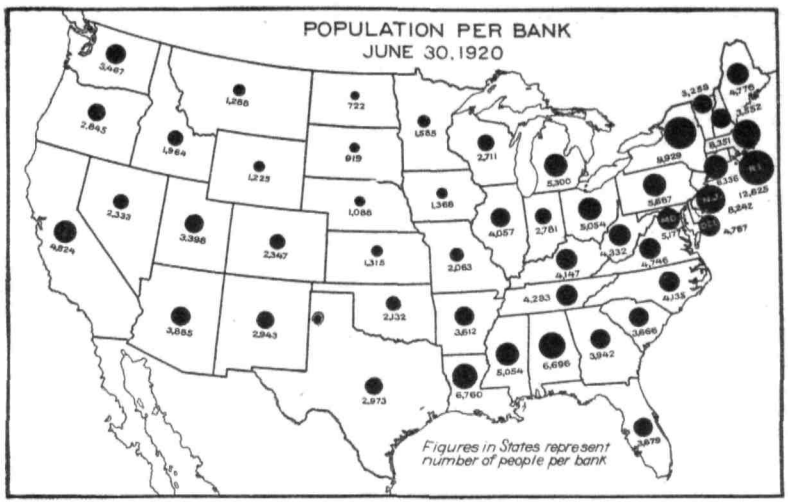


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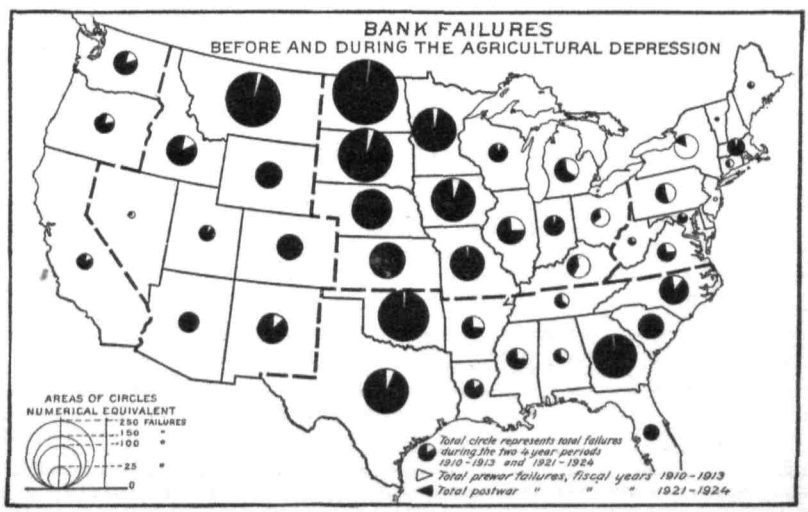


FIG. 25.—Bank failures during the four years between June 30, 1920, and June 30, 1924, totaled 1,960, as compared with 202 during the four years 1910–1913. Most of these failures were in the farming sections of the country. While the depression in agriculture was a large factor in these failures, inadequate resources, and inefficient banking methods were important contributing causes

Some importance also must be attached to the type of farming as an influence upon interest rates. In one-crop farming regions the chances of sustaining heavy losses are greater than in regions where the farm income is derived from several sources. A well-balanced system of farming not only tends to reduce the amount of credit needed by the farmer, but eliminates the danger of ruinous losses should one of his crops fail. The character and business ability of the farmer also affect the interest rate. The borrower must be both honest and efficient if he is to command the confidence of the lender. Good business methods in farming reduce losses, promote good credit, and help to create good relations between the farmer and the banker.

It has frequently been said that the usury laws of various States have had an important influence on interest rates. Recent studies tend to show that such laws can not be enforced and are usually evaded by means of additional charges if the supply and demand for funds warrant rates higher than those permitted under the laws. It appears, for example, that in five States that have no usury laws interest rates are not widely different from those that have such laws.[2]

It is also probable that heavy taxes which tend to reduce net farm incomes have some influence on interest rates. In States where both land and farm mortgages are taxed, investment in mortgages is discouraged and interest rates are apt to be high. It is perhaps also true that the laws governing foreclosure on mortgages have considerable influence on the inflow of capital, and thus on the interest rates.

While difficult to show, it is probable that the Federal and joint stock land banks have operated not only to reduce but to equalize interest rates throughout the country. Their loans are made according to strict standards and at a very nearly uniform rate in all States. Furthermore, the funds used in making their loans are obtained through the sale of tax-exempt bonds, which makes possible a lower interest charge. Various factors, no doubt, have contributed to reduce and equalize interest rates the country over. It is probable, however, that the influence of the Federal and joint-stock land banks is partly reflected in the greater reduction that took place between 1921 and 1923 in the interest rates of life insurance companies than those of commercial banks. (Fig. 23.)

Defects in the organization of the banking system without doubt have had an influence on credit costs in some parts of the country. In some regions many of the banks are small, have but limited capital, and too small a clientele. The population per bank in 1920 in North Dakota, for example, was 722, compared with 12,625 in Rhode Island. (Fig. 24.)

This excessive number of small banks with small clientele results in an abnormally high overhead cost per unit of business, keen competition for deposits with high-interest rates on such deposits, greater risk on loans heavily concentrated in limited areas, and a lack of adequate reserves. Higher costs and greater risks are translated into higher interest rates. A banking situation of this kind carries with it disadvantages to both borrowers and lenders, and while the effects of the depression upon the agricultural industry

[2] F. W. Ryan, Usury and Usury Laws (1924).

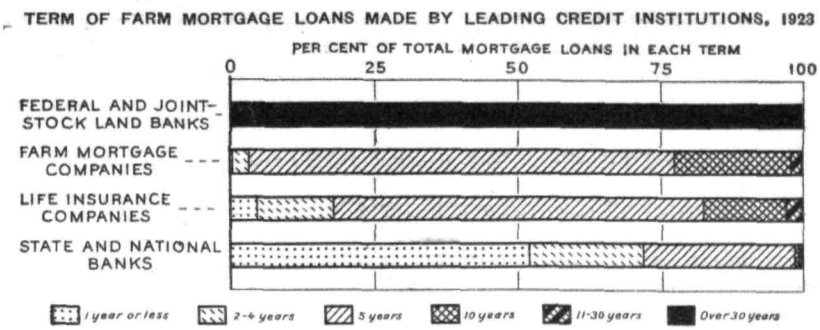


FIG. 26.—Most farm mortgage loans of life insurance and farm mortgage companies are made for periods of five years or less. The loans of commercial banks are even much shorter. This is in marked contrast to the long-term loans made by the Federal and joint-stock land banks

undoubtedly contributed to the failure of many banks, yet these failures were in no small part the result of inefficient banking methods. (Fig. 25.)

For the purpose of buying land farmers need mortgage loans for relatively long periods. Practically all of the loans of the Federal and joint-stock land banks are made for periods averaging from 33 to 35 years. Life insurance and farm mortgage companies, according to a recent survey, make a large part of their loans for periods of 5 years, although from 15 to 20 per cent are made for periods of 10 years. (Fig. 26.) State and national banks, on the other hand, make mortgage loans for much shorter periods. A recent study shows that 52 per cent of their loans in 1923 were for periods of 1 year or less, 72 per cent were for periods under 5 years, and 26 per cent for periods of 5 years. The periods were shortest in the East and the South. (Fig. 27.) Farmers use a large amount of mortgage

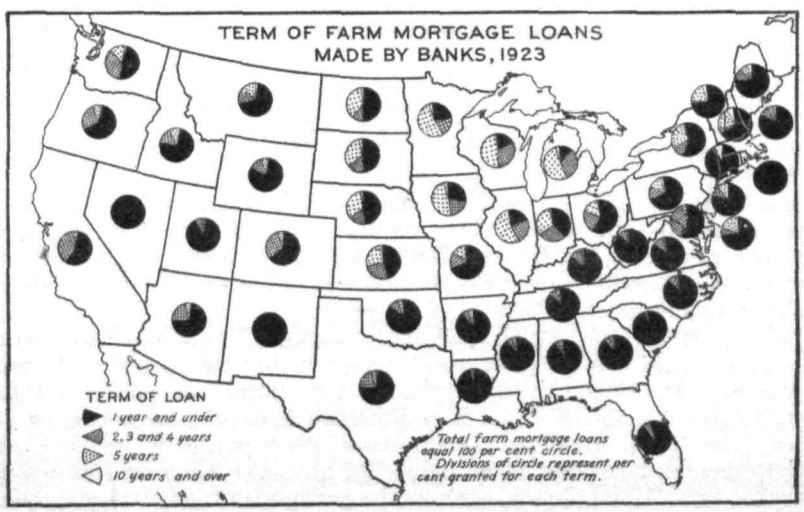


FIG. 27.—Commercial banks operate under laws that require them to keep most of their assets in liquid form. In most parts of the country, therefore, banks make farm mortgage loans for relatively short periods, although in the Middle West five-year loans are fairly common

loans for development and equipment purposes. Such loans usually run for periods ranging from 1 to 5 years, and commercial banks are thus meeting an important mortgage credit need of farmers.

The plan of repayment on which loans are made may be as important as the interest rate. Sometimes it may be better for the borrower to pay a somewhat higher interest rate if the plan of repayment enables him to apply his earnings at frequent intervals in liquidating his loan. The amortization plan whereby an annual or semiannual payment is made, covering the interest and a part of the principal, is used altogether by both Federal and joint stock land banks. The practice of life insurance and farm mortgage companies appears to vary somewhat, but the policy of requiring annual payments on the principal of the loan is becoming more prevalent. Bank loans are most commonly paid at maturity, although arrangements are frequently made whereby borrowers from time to time may make payments on their loans.

The percentage of appraised valuation advanced on land and buildings by various mortgage credit agencies in 1923 ranged from 36 per cent in the case of Federal land banks to 49 per cent in the case of State and national banks. More important, however, from

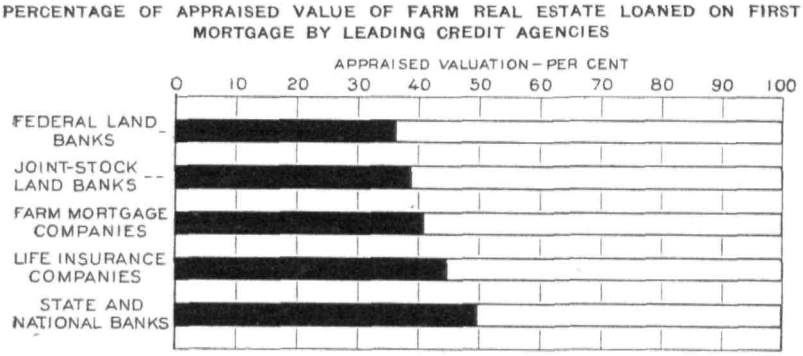


FIG. 28.—Except in the case of State and national banks, which advanced 49.8 per cent of the appraised value of farm real estate, other agencies advanced considerably less than 50 per cent of such values during 1923. The basis on which the appraisals of land is made, however, is quite as important as the percentage of value advanced

the viewpoint of the security back of the loan, is the valuation placed on the land itself. The available information indicates that the valuations by the Federal land banks have been made on a conservative and safe basis. Comparable information for other credit institutions is not available. (Fig. 28.)

The purpose for which mortgage loans are made throws considerable light on the services rendered by the different credit agencies. In 1923, for example, a very large percentage of the loans made by the Federal and joint-stock land banks, life insurance, and farm mortgage companies were made to replace old mortgages and refund other debt. (Fig. 29.) Commercial banks, on the other hand, made a much larger percentage of their loans for improvement, equipment, and other farm purposes.

Significant changes have taken place within recent years in the purposes for which mortgage loans are made. From their organization to October 31, 1920, the Federal land banks made 18.3 per cent of their loans for the purchase of land, 65.3 per cent for the refunding of mortgages and other debts, and 7.1 per cent for buildings and improvements, as compared with 3.7 per cent, 85 per cent, and 4.5 per cent, respectively, during 1923. The commercial banks show an equally marked change in the purposes for which loans were made. During the year 1914, 19.6 per cent of the bank loans were made for the purchase of land, 20.4 per cent for refunding mortgages and other debts, and 34.6 per cent for buildings and other improvements, as compared with 18.2 per cent, 55.3 per cent, and 7.9 per cent, respectively, during 1923. In short, there has been increased activity in the refunding of mortgages and debts, particularly in regions that suffered most during the depression.

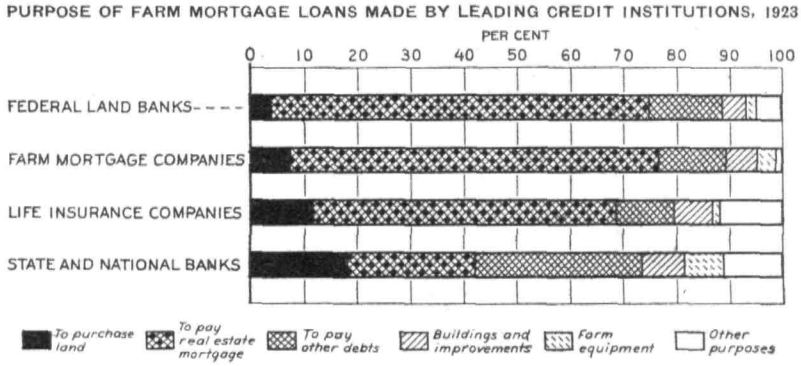


FIG. 29.—Most farm mortgage loans of Federal and joint-stock land banks, as well as of life insurance and farm mortgage companies, were made in 1923 to replace other mortgages and fund other debt. Commercial banks, on the other hand, advanced more of their funds for the purchase of land, for funding other debts, and for general farm purposes

The loans of the Federal and joint stock land banks, as well as those of the life insurance companies, are all made on first mortgages. Most of the loans of the farm mortgage companies are also made on first mortgages, although some of the companies make a small number of second-mortgage loans. Commercial banks, on the other hand, particularly in some sections of the country, advance a good deal of credit on second-mortgage security. (Fig. 30.) During 1923 about 80 per cent of the bank mortgage loans were made on first-mortgage security, 19 per cent on second-mortgage, and 1 per cent on third-mortgage security. Most of the second-mortgage loans were made in the West North Central and West South Central States.

Second-mortgage credit has never been extensively advanced by mortgage credit institutions. However, a considerable volume of such credit is advanced by sellers of land, relatives, private individuals, and country banks. According to a survey made in 1920 of 1,000 Federal land-bank loans, over one-half of the borrowers had obtained second-mortgage loans with which to purchase their

lands. About 40 per cent of the second-mortgage credit used in the purchase of land was advanced by sellers of the land, who also were relatives, 37 per cent by other sellers of land, and about 23 per cent by parties who were not sellers of the land.[3]

Where second-mortgage credit is advanced by sellers of land, the interest rate is often no higher than that advanced on first-mortgage security. This may be explained by the fact that the seller is willing to give very favorable terms in order to effect a sale of his land. The rates charged by commercial banks on second mortgages in 1923 were somewhat higher than those on first mortgages, particularly in the West North Central States where a considerable volume of second-mortgage credit was advanced. (Fig. 31.)

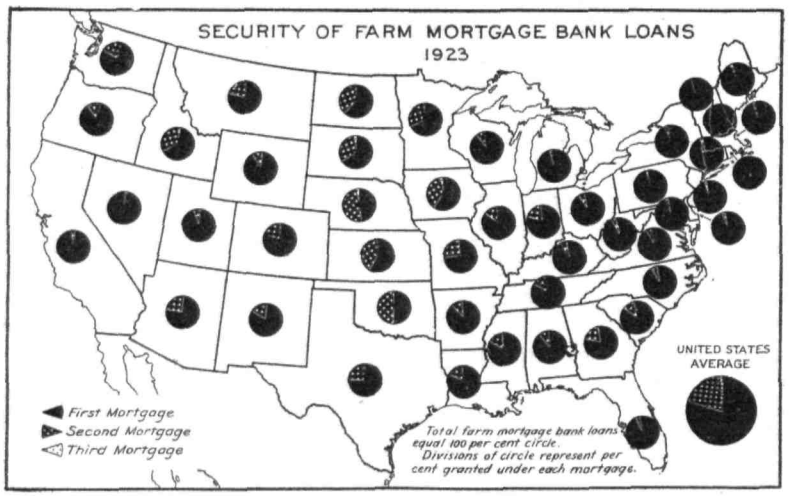


FIG. 30.—Bank farm mortgage loans are usually secured by first mortgages. During the depression, however, the use of second-mortgage security appears to have increased. About one-fifth of the loans made in 1923 were based on second mortgages. Many second mortgages were probably taken as additional security for existing debts

There is a growing need and demand for second-mortgage credit which has not as yet been adequately met. Farmers who do not have some capital of their own find it difficult to become land owners even though they may be successful in obtaining first-mortgage loans. The failure to develop adequate second-mortgage credit facilities is probably due to the prevailing methods used by first-mortgage credit agencies. Most of the first-mortgage loans until recently have been made for short periods, and the borrower is confronted with the possibility of foreclosure should he be unable to repay the loan at maturity. This fact has limited the ability of the borrower to take on additional debt in the form of second-mortgage loans. With the expansion of the Federal farm loan system the field for second-mortgage farm loans has been materially broadened. Loans made under these and refinancing are carefully placed, the appraisal of the land on the other hand is made, loans are advanced for less than half of the for improvement, good land titles are assured, and provision is made

[3] Howard L. Turner. Buying Farms with Land Bank Loans. U. S. Department of Agriculture, Bulletin 968.

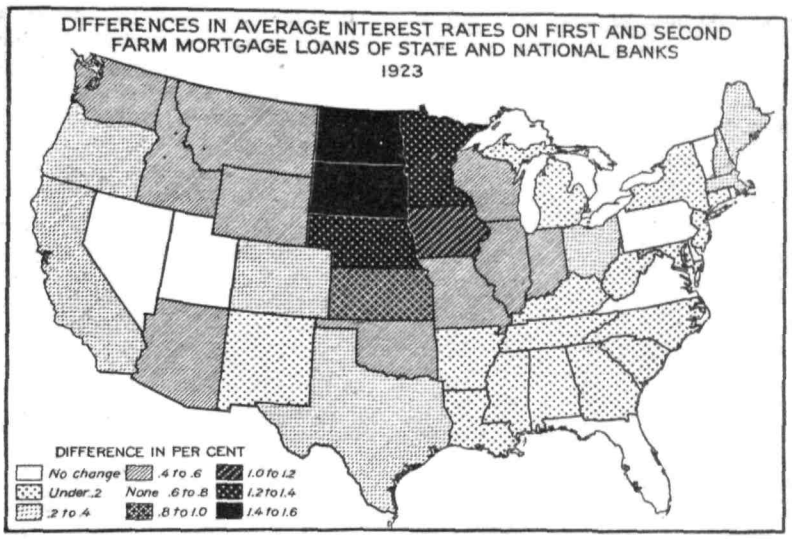


FIG. 31.—In most States the interest rate on second-mortgage farm loans made by banks in 1923 was higher than the interest rate on first mortgages. In the West North Central States, where second mortgages are quite common, the differences in interest rates between first and second farm mortgage loans are quite large

for an annual reduction in the principal of the loan. Under conditions such as these second-mortgage loans can be made more safely.

With the development of a more stable agriculture, the adoption of long-time amortized loans, and a more scientific appraisal of land, second mortgages will undoubtedly become more acceptable to lending agencies.

Short-Term Credit

In addition to farm mortgage credit, most commonly used in the purchase and improvement of land, farmers annually need large amounts of short-time credit for the production and marketing of their crops. The total amount of short-time credit outstanding has been variously estimated at from 30 to 35 per cent of the total credit used by farmers. Short-term credit is obtained by the farmer in a number of ways. While commercial banks are by far the most important source of such credit, large advances are made by local merchants, implement dealers, livestock and produce commission firms, canning factories, fertilizer companies, cotton factors, livestock loan companies, and private lenders.

Short-Time Bank Loans

Short-term cash loans constitute the largest part of the short-time credit used by farmers. In a survey made in the summer of 1924 it was found that short-time cash loans amounted to around 28 per cent of the total outstanding credit of owner-operator farmers.

Commercial banks are the chief source through which such loans are obtained. During the year 1923 it appears that about 9.5 per cent of the total loans and discounts of the banks of the country were used in making short-time loans to farmers. (See Fig. 7.) A relatively small part of bank loans and discounts in many of the

eastern States were used for such purposes, in many cases amounting to less than 1 per cent of the total loans and discounts of the banks. On the other hand, the resources of banks in the South and West were more largely devoted to financing the needs of agriculture, the banks of some States using well over one-half of their resources in making such loans.

The total amount of credit advanced to farmers by banks in the form of short-term loans is large. According to the best available estimates it appears that the total personal and collateral bank loans outstanding December 31, 1920, amounted to about $3,870,000,000.[4] During the three following years there appears to have been a substantial decline in the volume of such loans, but it is probable that short-time bank loans still amount to around $3,000,000,000. Preliminary estimates indicate that the personal and collateral loans of banks to farmers in the early part of 1924 amounted to about 9.5 per cent of their total loans and discounts, compared with 13.3 per cent three years before. Short-time bank loans are made in considerable volume in all sections of the country, but the volume is especially large in the States of the Middle West, a number of the Southern States, and in California.

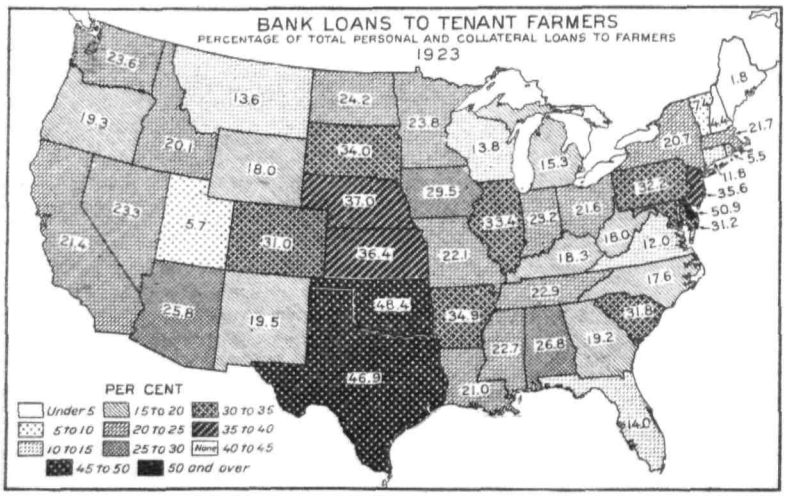


FIG. 32.—This map is based on 7,400 replies from State and national banks which made loans to tenants in 1923. The percentages in some States may be influenced by the relatively low returns received

While the largest percentage of these loans are made to farmers who own their lands, yet a very substantial amount of such credit is advanced to tenant farmers. During the year 1923 it is estimated that about 28 per cent of such loans were made to tenants. Naturally tenants in all parts of the country did not draw to an equal extent upon banks for assistance. In the New England States tenant loans amounted to about 11 per cent of short-time bank loans to farmers in contrast to about 45 per cent in the West South Central States. (Fig. 32.) In this connection it should be added that the

[4] V. N. Valgren and Elmer E. Engelbert. Bank Loans to Farmers on Personal and Collateral Security. U. S. Department of Agriculture, Bulletin 1048.

extent to which loans are made to tenants is probably a factor influencing the terms and conditions of such loans, particularly in some regions.

Terms and Conditions of Short-Term Bank Loans to Farmers

As in the case of farm mortgage loans, there are various items which enter into the cost of short-term bank loans to farmers. The interest rate, however, is the best measure of cost and will indicate sufficiently well differences in rates between sections of the country and in point of time.

The variations in interest rates on short-term bank loans are even more marked than in the case of farm mortgage loans. As shown in Figure 33, the rates are especially high in regions where the demand for capital exceeds the supply and where the element of risk is relatively high. Interest rates on short-time bank loans are usually higher than those on farm mortgage loans. This is no doubt due to the fact that the security for such loans is often less ample and the costs of making short-time loans are relatively higher.

Sometimes additional charges are made such as commissions, minimum balance requirements, and collection of interest in advance that materially influence the cost of credit. The practice of charging a commission on loans is more prevalent in some regions than in others. A good many institutions also require that the borrower maintain a minimum balance on deposit during the life of his loan. During 1923 about 3 per cent of the banks of the country reported that they required such balances amounting to around 16 per cent of the loan. The practice of requiring minimum balances on deposit is most prevalent in the Southern States. In still other instances the cost of short-time credit is increased by the collection of interest at the time the loan is made. About 40 per cent of the banks reporting in 1923 indicated that this additional charge was made on roughly 66 per cent of their loans. The collection of interest in advance is practiced more extensively in the States of the Northeast and the South than in other parts of the country.

There has been a measurable decline in the cost of short-time bank loans during the last decade. The average rate of such loans in 1914 was 8.1 per cent. The rate declined somewhat during the war, rising to an average of 7.9 per cent in 1921, but thereupon declined again to 7.6 in 1923. What is even more encouraging is the fact that the decline has been most marked in regions where the level of rates has been abnormally high, particularly in the Southern and Mountain States. Between 1914 and 1923 the average rate on short-term bank loans declined as much as 2.6 per cent in Oklahoma, 1.6 per cent in Alabama, and 1 per cent in Wyoming. Even with this decline the interest rates on short-term loans in some sections of the country remained relatively high.

There appears also to have been a decline in the use of additional charges. The use of minimum balance requirements is reported by 3.3 per cent of the banks in 1923 as compared with 6 per cent of all banks in 1920, and 34 per cent of the banks indicated that they collected interest in advance in 1923 as compared with 40 per cent in 1921. This tendency toward more favorable costs of short-term bank loans is due probably in part to easier credit conditions that

INTEREST RATES ON PERSONAL AND COLLATERAL BANK LOANS TO FARMERS, 1914, 1921, 1923

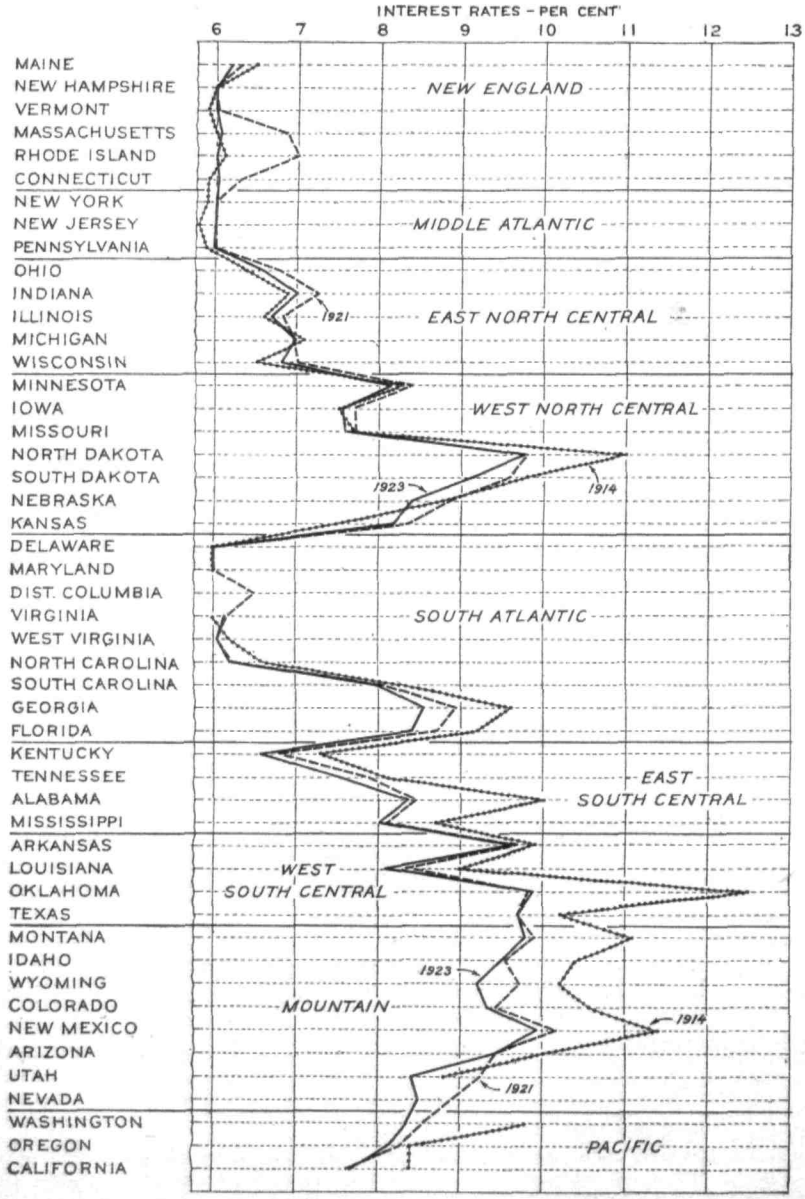


FIG. 33.—Interest rates on short-term bank loans to farmers are usually highest in regions where loanable funds are inadequate or where risks are relatively great. In recent years rates have declined more in regions where the general level of interest rates has been high

have obtained and to the larger flow of funds seeking investment to all sections of the country.

Short-term bank loans are usually repaid from the proceeds of crops. These crops may be damaged or destroyed by drouth, frost, plant diseases, insect pests, or other causes, and the element of risk in making short-time loans to farmers is often greater than in the case of industry. While the banker may take various types of collateral, such as mortgage on livestock and machinery, crop liens, warehouse receipts, and the like, yet he counts largely on the honesty, integrity, and ability of the farmer as his principal security. Approximately two-thirds of the short-time banks loans to farmers are made on the basis of personal security. Loans secured in this manner are especially prevalent in the East and in the Middle West. (Fig. 34.) There is, however, a more marked tendency in the East to require that borrowers' notes be indorsed.

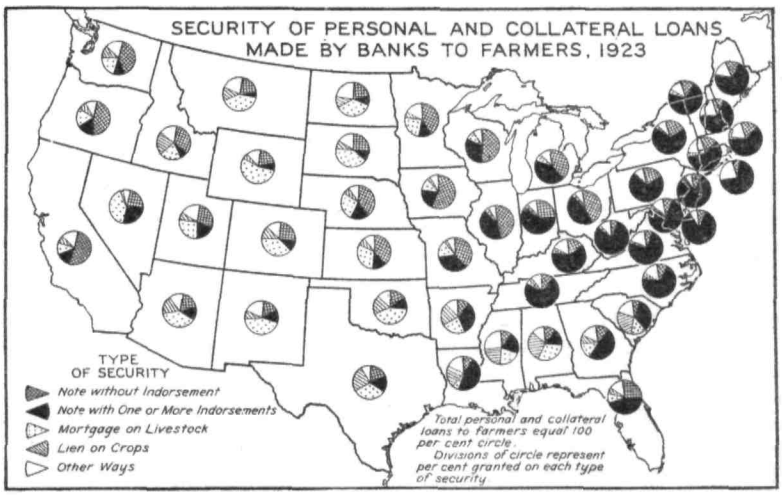


FIG. 34.—For the country as a whole over two-thirds of the short-term bank loans to farmers in 1923 were made on personal security. One-half of these loans were made on unindorsed notes and the other half on indorsed notes. The balance of such loans were secured by various forms of collateral, of which livestock, crops, farm machinery, stocks, and bonds were the most important

About one-third of the total short-time bank loans to farmers are secured by collateral of one form or another. Mortgages on livestock are the most important collateral, loans thus secured amounting in 1923 to over 15 per cent of the short-time bank loans to farmers. Security of this kind is required especially in the range and cattle feeding States, mounting as high as 55 per cent of all short-time bank loans to farmers in Wyoming. Crop liens are used as security for about 6 per cent of the loans. This security is used most extensively in the South and a few of the Northwestern States. In Alabama, for example, over 29 per cent of the short-time bank loans to farmers in 1923 were secured by crop liens, and in Idaho 22 per cent of such loans were secured in this manner. Chattel mortgages on farm machinery are taken by banks as security to a much smaller extent. The banks in 1923 reported that about 3.5 per cent of their loans were thus secured. It appears that the depression may have

increased the use of this form of collateral in States such as North Dakota and Montana, where farm machinery was reported as security for over 14 per cent of the short-time bank loans.

Staple farm products adequately warehoused afford sound collateral, and warehouse receipts are used to an increasing extent as collateral for bank loans, particularly in some sections of the country. The lack of adequate supervision over stored products has been an obstacle in the past to the extensive use of warehouse receipts. In order to improve this situation, the United States warehouse act was passed in 1916. The purpose of this measure was to create a uniform and sound system of warehousing farm products and to provide a warehouse receipt which would be generally acceptable to bankers as security for loans. This has been accomplished under the United States warehouse act through the enforcement of provisions requiring suitable storage, through frequent inspections of stored products, and through a careful control over the issuance and cancellation of warehouse receipts. The original act applied only to cotton, grain, wool, and tobacco. Under the amendment passed in the spring of 1923 the Secretary of Agriculture was authorized to extend the provisions of the act to such products as he might consider suitable for storage.

The United States warehouse act is a permissive measure, and during the first five years after its passage but few warehouses were licensed. Since 1921 activities under the act have expanded rapidly. At the beginning of 1925 the capacity of the cotton warehouses licensed under the act amounted to over 2,500,000 bales, that of grain to almost 29,000,000 bushels, and that of tobacco to 572,000,000 pounds. While thus considerable warehouse capacity for storage of farm products has been licensed under the Federal warehouse act, particularly in the cotton and tobacco States, it is probable that the provisions of the act during the next few years will be rapidly extended to other sections of the country. Warehouse receipts on farm products at the present time constitute but a small percentage of the collateral of bank loans to farmers. Through the influence of the United States warehouse act their use no doubt will widen. Warehouse receipts issued by federally licensed warehouses are accepted by both Government and private financial institutions as prime collateral, and without doubt have helped to broaden the sources of credit available to the farmer.

Stocks and bonds are offered by farmers as collateral for their short-time loans only to a very limited extent. During 1923 it is estimated that only 2.8 per cent of their short-time loans to farmers were secured in this manner. The largest use of such collateral was in the New England States, where almost 13 per cent of the loans were secured in this way.

No complaint has been more frequently made against the short time credit advanced by banks to farmers than that the term of such credit is usually too short. During the year 1923 it is estimated that three-fourths of the short-time bank loans to farmers were made for periods of six months or less. Thirty-seven per cent of the banks reported that their loans averaged from three to six months, and 30 per cent reported that their loans averaged from one to three months. The length of short-time bank loans increases as one proceeds westward and south from the Atlantic seaboard.

The percentage of loans over six months ranged in the West from 13 per cent of all short-time bank loans in Nevada to 65 per cent in North Dakota and in the South from 5 per cent in West Virginia to 59 per cent in Arkansas, and yet in only six States (North Dakota, South Carolina, Alabama, Mississippi, Arkansas, and Louisiana) did loans for terms over six months exceed those for six months and under. (Fig. 35.)

The relatively short term for which banks make personal and collateral loans to farmers illustrates a weakness in the service rendered agriculture by commercial banks. Commercial banks do a deposit banking and must depend upon short-term loans to function safely. They are, therefore, not as well suited to the needs of agriculture as to industry. The periods for which farmers need credit with which to produce and market their crops are usually

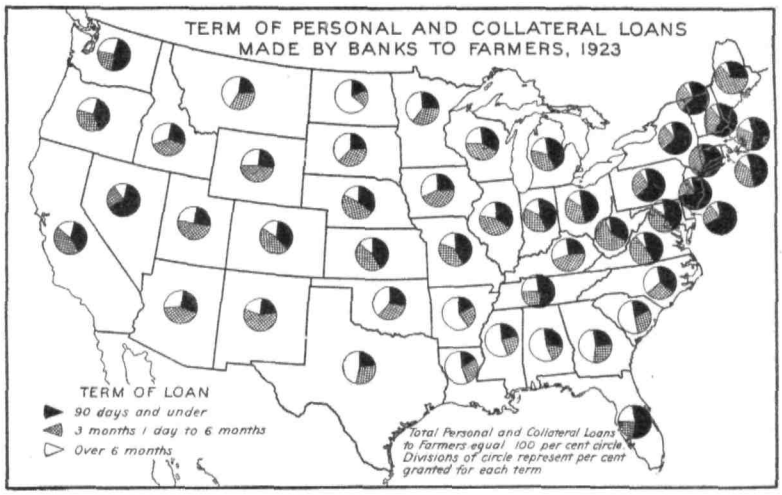


FIG. 35.—This map illustrates the relatively short term for which personal and collateral bank loans are made to farmers. Over a third of these loans are made for 90 days, or less. The shorter-term loans are especially prevalent in the East. In the farming sections of the West and South banks advance production and marketing credit for somewhat longer periods

much longer than in industry. In the past farmers have depended largely upon obtaining renewals of their short-time bank loans. In periods of good yields and good prices the practice of renewing loans has not worked a hardship to either banker or farmer. It is a policy which has its advantages to the banker, since it enables him to evaluate from time to time the security for his loans. On the other hand, the dependence upon the renewal of bank loans has not always operated in the interest of the farmer. The short-time loan places the farmer at the mercy of the creditor, since payment can be demanded at maturity even though the purpose for which the loan was made has not been accomplished.

Federal Reserve System

The Federal reserve system controls a large reservoir of capital upon which banks can draw to provide funds for both agriculture

amendment about 4,000 banks became eligible as members, yet only five of these institutions have joined the system since then. So long as country banks serving agriculture have adequate funds with which to meet the credit demands of farmers, there is no reason why they should pass on their paper for discount. Many of the country banks, no doubt, have satisfactory discount arrangement with city correspondents. In order, however, to establish a well-coordinated banking system which is fully prepared even in times of depression to meet the credit needs of farmers, it would seem desirable that such measures be adopted as would tend to induce the State banks to join the Federal reserve system. This would have the effect of making available direct to the farmers of this country the vast banking resources controlled by the Federal reserve system.

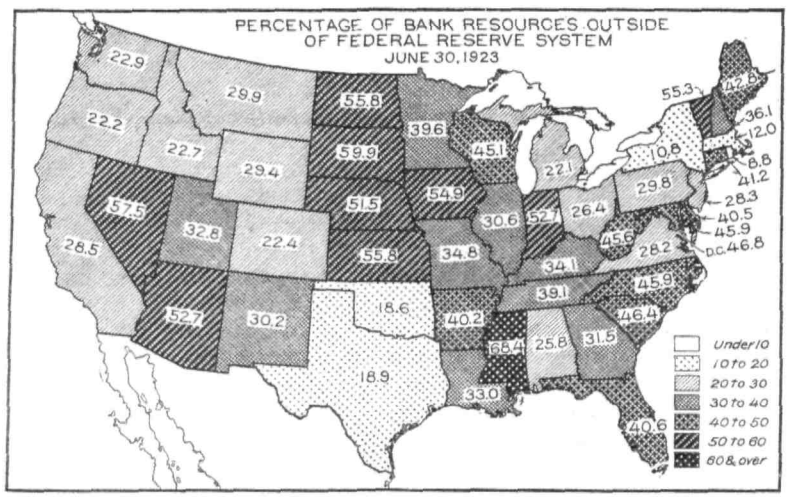


FIG. 37.—Only member banks can obtain funds direct from Federal reserve banks. While efforts have been made to bring all elegible banks into the system, approximately 67 per cent of all the banks, representing about 30 per cent of the total banking resources of the country, were not members of the Federal reserve system in 1923

Other Sources of Short-Term Credit

While commercial banks are the chief sources through which farmers obtain short-term loans, large advances of short-term credit are also obtained from local merchants, implement dealers, commission firms, private lenders, and other sources.

The amount of credit which country banks are permitted to advance to any one individual is fixed by the amount of their capital and surplus. Many farmers, therefore, are unable to obtain from banks all of the credit they need and must seek additional credit from the larger financial centers or from merchants and dealers of various kinds. Though more or less common in all parts of the country, merchant credit is most extensively used in the South. In a number of regions covered by special studies a very large percentage of the tenants and even a large number of the owner farmers used merchant credit. (Fig. 38.) In fact in these areas merchant credit is used more extensively than bank credit. Most of the mer-

chant credit in the South is obtained from stores, factories, and agents, and tenants often receive large credit accommodations from landlords. While a substantial amount of such credit is advanced on open account, especially to owners, much of it is secured by chattel mortgage or crop lien. In some parts of Tennessee, for example, 31 per cent of the merchant credit advanced to tenants in 1923 was

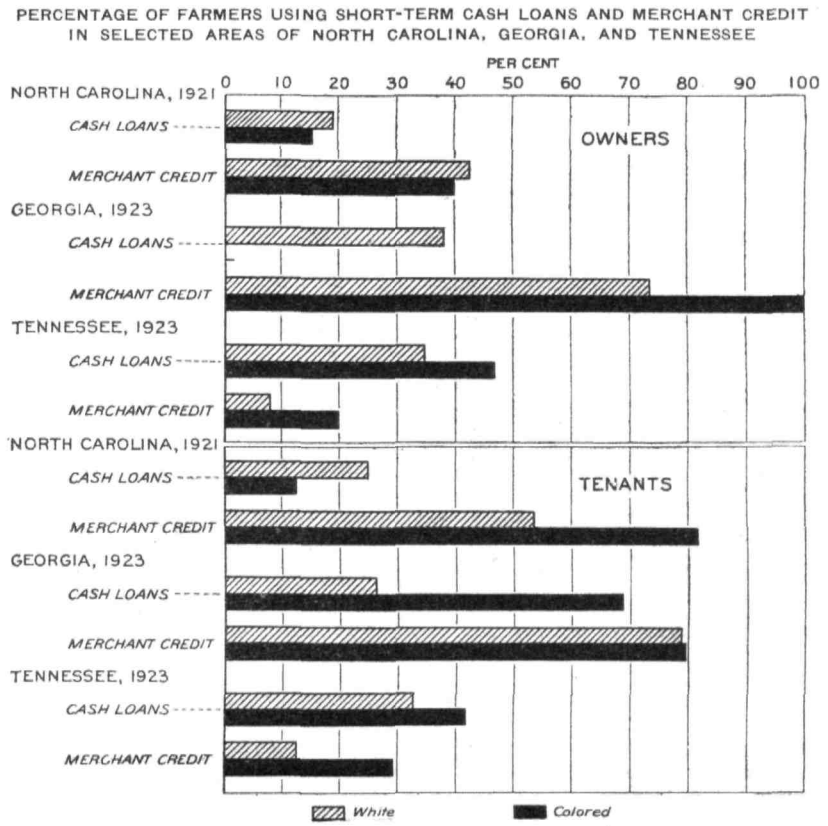


FIG. 38.—This chart is based on recent credit surveys made in selected areas of North Carolina, Georgia, and Tennessee. Both owners and tenents in these areas of North Carolina and Georgia used merchant credit more extensively than cash loans. On the other hand, more farmers in the Tennessee areas used cash loans in place of merchant credit

secured by crop liens, and in Georgia the percentage of credit so secured amounted to 60 per cent. The cost of merchant credit is relatively high. A fixed interest rate is not ordinarily charged the farmer for such advances, but the cost is usually covered in a higher price paid for supplies purchased on credit. During the year 1921 the average cost of merchant credit in selected areas of North Carolina was 22.3 per cent, as compared with 24.3 per cent in Georgia in 1923 and 11.6 per cent in Tennessee. (Fig. 39.)[5]

[5] North Carolina Department of Agriculture, bulletin, May, 1923. Farm Credit in North Carolina. Also unpublished data of U. S. Department of Agriculture.

Merchant credit in general is both costly and unsatisfactory. The use of it frequently places the farmer in a position where he can not freely market his crops and receive the best prices for them. It has also been one of the difficulties with which cooperative marketing associations in the South have had to contend. In the absence of adequate facilities provided by local banks merchants have no doubt met an imperative credit need of the farmer. It is evident, however, that both farmers and merchants would be benefited if farmers could obtain most if not all of their credit from specialized credit institutions.

A substantial volume of credit is advanced to livestock farmers through livestock commission firms. A large part of such advances

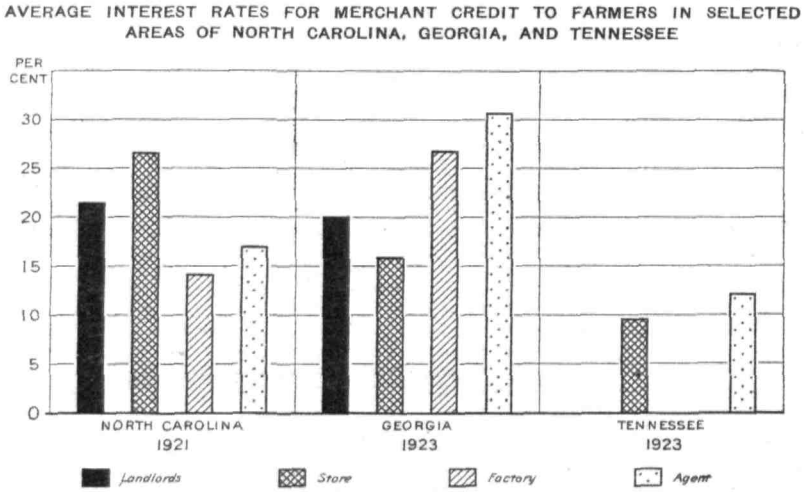


FIG. 39.—While the cost of merchant credit advanced by various agencies in the South varies considerably, such credit is usually more expensive and less satisfactory than credit obtained from specialized credit agencies

has been made on feeder cattle. The firms making these loans not only purchase the cattle for the farmer, but require that the cattle be sold through them when marketed. In this manner the firm which advances the credit maintains a control over the marketing of the product. A situation more or less similar has obtained in the truck-crop and fruit-growing industry. In highly specialized truck-crop and fruit-producing centers the grower is frequently unable to obtain the necessary credit from local agencies, and therefore seeks assistance from fruit and vegetable commission dealers and brokers in northern and eastern cities. In obtaining such credit assistance the grower often relinquishes all control over the marketing of his crop and is compelled to rely on the dealer's judgment in securing for him an adequate return. The degree of control exercised by commission dealers by reason of these advances varies from almost no control in some districts to almost complete control in other sections. In many of these truck-crop and fruit districts local banking resources are not sufficient with which to finance the needs of the growers. In other districts the hazards are so great that local credit

agencies do not care to assume the risks attaching to advances of credit. Usually, where much dependence is placed upon commission firms, the cost of credit is high and the control exercised over the marketing of the products is frequently unsatisfactory to the grower.

In some sections of the country credit unions or credit associations have been organized to assist members in obtaining loans to promote thrift and to encourage good business methods. In the United States the credit union is not essentially a rural institution, yet it is well adapted to rural needs. A total of 22 States have now passed credit union laws to stimulate the organization of such associations. While a number of States have organized credit unions under these laws, more progress has been made in North Carolina than in any other State. The success of the movement in North Carolina is no doubt due to the State supervision which has been provided. At the present time there are 35 credit unions in the State, with total resources of about $100,000. Of these 35 credit unions, 3 are urban, 1 is semiurban and semirural, and the balance are rural.

Emergency Credit for Farmers

While commercial banks and other established credit agencies have in the past provided farmers with most of their short-term credit, the inability of these institutions to meet adequately the needs of farmers under all conditions was well illustrated during the recent depression. With the collapse in prices of farm products in 1920 and 1921 a credit emergency arose which has few parallels. Banks and other established credit agencies in many sections of the country were unable to cope with the situation and Federal, State, and local governments were called upon to provide emergency funds. In several Northwestern States where crop failures, high operating costs, and the drop in prices of farm products combined to create a serious situation Federal funds in the amount of $3,500,000 were made available in 1921 and 1922 for the purchase of seed grain. Various county governments in these States also provided farmers with large sums for seed and feed purposes.

The situation in the fall of 1921 became so critical that Congress voted to broaden the powers of the War Finance Corporation to permit advances for agricultural purposes. The War Finance Corporation describes the situation which existed at that time in the following words:

> When the agricultural credits act was passed (August 24, 1921), there was a state of demoralization everywhere among all classes of agricultural producers. Farmers and stockmen generally were in a desperate plight; breeding herds were being sacrificed on a wholesale scale; immature stock was being sent to the block; and cotton, corn, and other agricultural commodities commanded prices that were discouragingly low, in many cases materially below cost of production. Forced liquidation and hasty selling impaired the farmer's buying power, and this, in turn, brought about a reduced demand for the products of industry. Bank deposits were being withdrawn and reserves depleted, loans could not be collected, and the stability of our whole agricultural and banking structure was seriously threatened.

Under its broadened powers the corporation made between August 24, 1921, and November 30, 1924, advances totaling $297,934,000. Of this amount 58 per cent was advanced to banking and financial institutions, 29 per cent to livestock loan companies, and 13 per cent

to cooperative marketing associations. (Fig. 40.) At the date of the last report only 15.3 per cent of these advances remained unpaid. The influence of the War Finance Corporation in stabilizing credit conditions, however, is not measured solely by the advances it actually made. During these three years it approved loans amounting to almost $480,000,000. The willingness of the Federal Government to approve large advances for agricultural purposes at a time when the prices of farm products were demoralized helped to restore the confidence of both farmers and bankers and greatly relieved the financial stringency.

The life of the War Finance Corporation was extended to December 31, 1924. This extension was made for the purpose of relieving the acute credit situation that developed in the Northwest

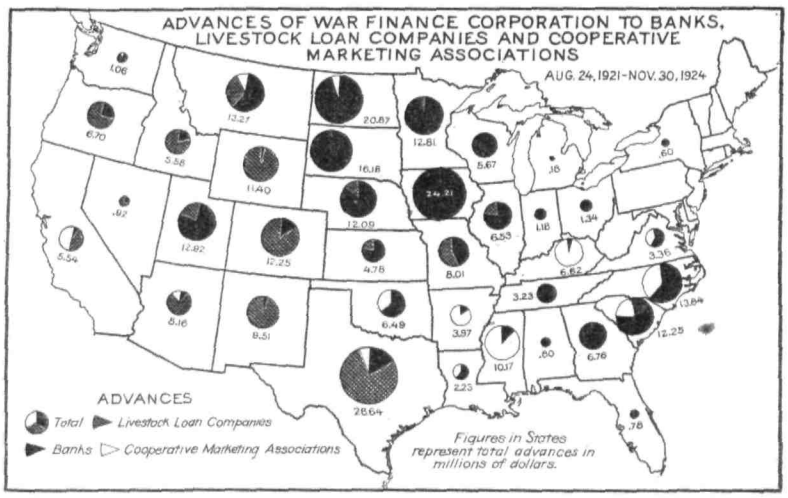


FIG. 40.—The War Finance Corporation helped relieve the credit stringency in farming regions hardest hit during the depression. Over 94 per cent of its advances for all agricultural purposes were made west of the Mississippi River and south of the Potomac

during the winter of 1923 and spring of 1924. In order to devise ways and means for meeting the situation, the President called in the spring of 1924 an agricultural conference, out of which grew the Agricultural Credit Corporation. This credit corporation was provided with a capital of $10,000,000, privately subscribed, to assist in relieving the credit strain in the rural districts of the Northwest. It was understood that the corporation might rediscount some of its paper with the War Finance Corporation. The funds of the corporation derived from the sale of its capital stock were sufficient, however, to take care of its needs, and none of its paper was passed to the War Finance Corporation for rediscount.

The work of the War Finance Corporation has been completed and its business is being closed. Without doubt it has performed yeoman's service in relieving the credit stringency which accompanied the collapse in prices of farm products.

Intermediate Credit

Short-term credit, strictly defined, has been supplied farmers fairly well by commercial banks and other credit agencies. Farmers,

however, frequently need loans for longer periods than commercial banks can safely make. For the production and marketing of livestock, for example, they may need loans ranging from one to three years. The gap between short-term loans ordinarily made by banks and the longer time credit needed by farmers in their operations has been bridged in the past by the renewal of short-term bank loans. This policy of renewing short-term bank loans serves perhaps well enough when conditions are normal. When, however, such loans are called during periods of credit stringency, considerable hardship if not severe losses to farmers may result.

At least 75 per cent of the short-time loans made by banks to farmers are for periods of six months or under. In some sections of the country the percentage of such loans is even much higher. This weakness in short-time bank credit from the viewpoint of the farmer was recognized in the reports of the American and United States commissions in 1913 and has been a subject of more or less discussion ever since. The collapse in prices of farm products in 1920 and 1921 centered attention upon this problem as never before. The extension of the activities of the War Finance Corporation was made necessary by the inability of commercial banks to meet the credit stringency that developed. The Joint Commission of Agricultural Inquiry in its report urged upon Congress the need of providing better intermediate credit facilities for the farmer, and these findings were indorsed by the National Agricultural Conference that met in Washington to consider the state of agriculture in the spring of 1922.

These and other influences led to the passage of the agricultural credits act in the spring of 1923. The principal object of this act was to establish a Federal credit system through which farmers could obtain production and marketing credit for periods longer than those ordinarily supplied by commercial banks. It was not the intention of Congress that the new system should supplant the commercial banks already serving farmers, but merely supplement these institutions in financing the needs of agriculture.

The act provided for the establishment of 12 intermediate credit banks with districts corresponding to those of the Federal land banks. The Federal intermediate credit banks are Government owned and operated. The law provided for each bank a capital of $5,000,000 subscribed by the Federal Treasury. By December 31, 1924, each bank had called $2,000,000 of its capital. The funds from which loans are made to farmers are obtained in part through the capital stock subscribed by the Treasury and also through the sale of short-time debentures that are secured by the agricultural paper accepted by the banks. The 12 banks are jointly liable for all of the debentures issued by any of the banks. The debentures of the intermediate credit bank are tax-exempt, and, while not Government securities, they are sold under close Government supervision. A ready market, therefore, has been found for their sale.

The intermediate credit banks do not make direct loans to farmers. Their advances are made either in the form of direct loans to farmers' cooperative marketing associations or in the discount of agricultural and livestock paper for banks, livestock loan companies, and other credit institutions. While the system has been in operation

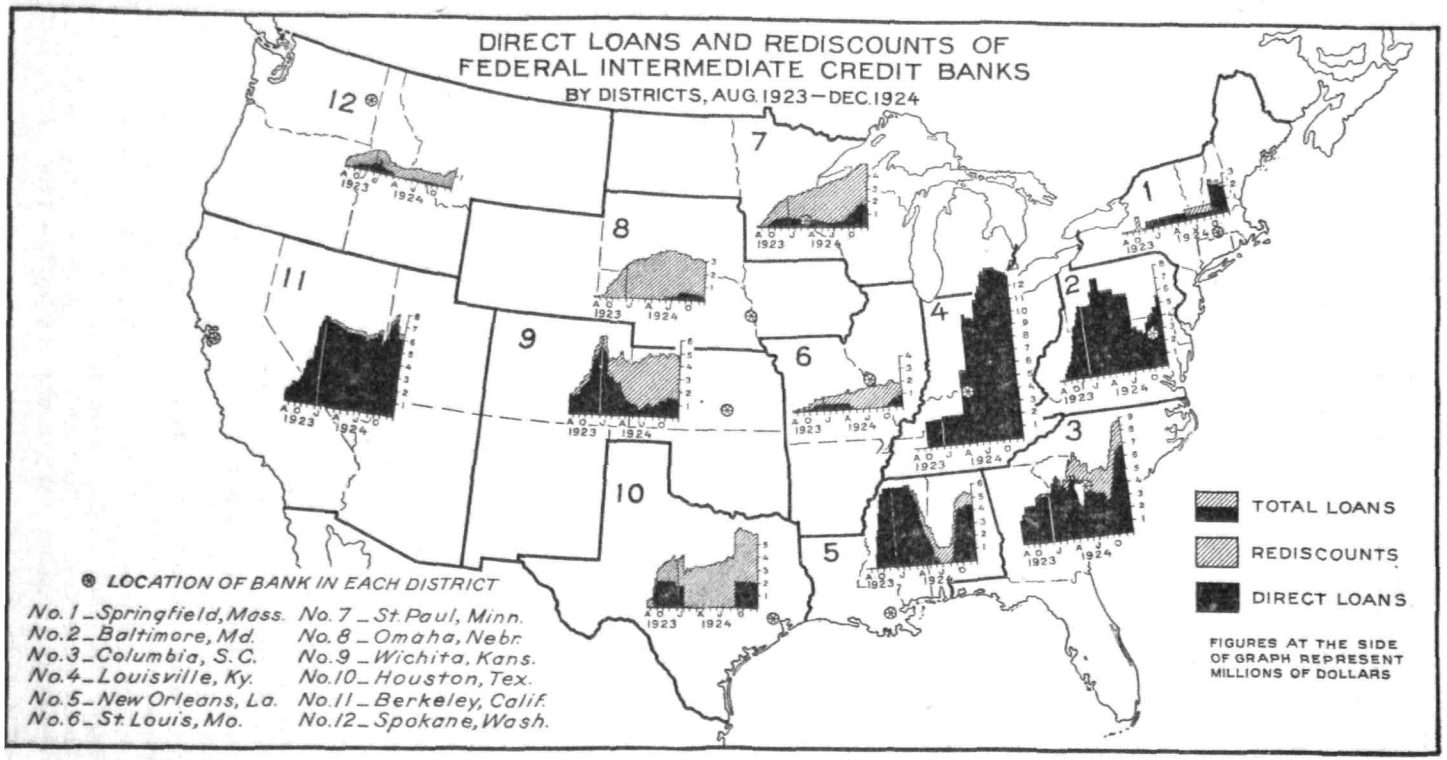


FIG. 41.—The Federal intermediate credit banks serve farmers through direct loans to cooperative marketing associations and by rediscounting farmers' paper for financial institutions. Most of their direct loans have been made to cooperatives in the South and on the Pacific coast. Their rediscounts have predominated in the Middle West

but little more than a year and a half, its growth has been rapid. (Fig. 41.) The direct loans which it makes to cooperative marketing associations are secured by warehouse receipts or shipping documents on staple agricultural products. The following products have to date been declared eligible for loans: Corn, cotton, wool, tobacco, peanuts, broom corn, beans, rice, alfalfa and red-top clover seed, hay, nuts, dried prunes, dried raisins, and canned fruits and vegetables. The interest rate charged by the intermediate credit banks on direct loans to cooperative marketing associations may not be over 1 per cent above the interest rate at which the last issue of debentures was sold. During the past year a ready market for debentures has been found at relatively low rates, and the intermediate credit banks, therefore, have been able to make direct advances at rates ranging from 4½ to 5½ per cent.

The Federal intermediate credit banks may also discount for local banks, livestock loan companies, and other credit agencies agricultural paper with a maturity of six months to three years. The discount rate charged by the intermediate credit banks may not exceed by more than 1 per cent the rate paid on the last debentures sold. On the other hand, the rate which banks or other institutions using the Federal intermediate credit system may charge their borrowers may not exceed by more than 1.5 per cent the discount rate except by special ruling of the Federal Farm Loan Board.

Provision also has been made for the organization of agricultural credit corporations in regions where established credit institutions do not provide farmers adequate credit accommodations. These agricultural credit corporations may be organized by any group of citizens. They are organized under State law and must have a minimum paid-up capital stock of $10,000. The law provides that these corporations may rediscount agricultural paper with an intermediate credit bank up to ten times their capital and surplus. In some instances they have been established as subsidiaries of banks in order to relieve bank portfolios of slow agricultural paper. In other sections they have been organized by farmers and local business men for the purpose of providing a more ample supply of production credit. In still other parts they have been set up as subsidiaries of cooperative marketing associations with the purpose of providing production credit for the members of the association. Many of the cooperative marketing associations have found their activities restricted by the credit arrangements of their members. Crops that are mortgaged to local lenders must frequently be sold when harvested in order to pay maturing notes. To meet this situation a number of state-wide agricultural credit corporations have been organized by the cotton and tobacco cooperatives. Some of these corporations have been formed to supply production credit and others to finance the delivery of mortgaged crops. They should all serve to reduce the dependence of the farmer upon local sources of credit and give him greater freedom to market his crop through the cooperative association.

During the relatively short period of their existence the intermediate credit banks have made substantial advances both in the form of direct loans and in discounts. Up to the present the larger part of their advances have been made in the form of direct loans to

DIRECT LOANS BY COMMODITIES AND REDISCOUNTS BY FINANCIAL INSTITUTIONS MADE BY THE FEDERAL INTERMEDIATE CREDIT BANKS, AUGUST, 1923, TO DECEMBER, 1924

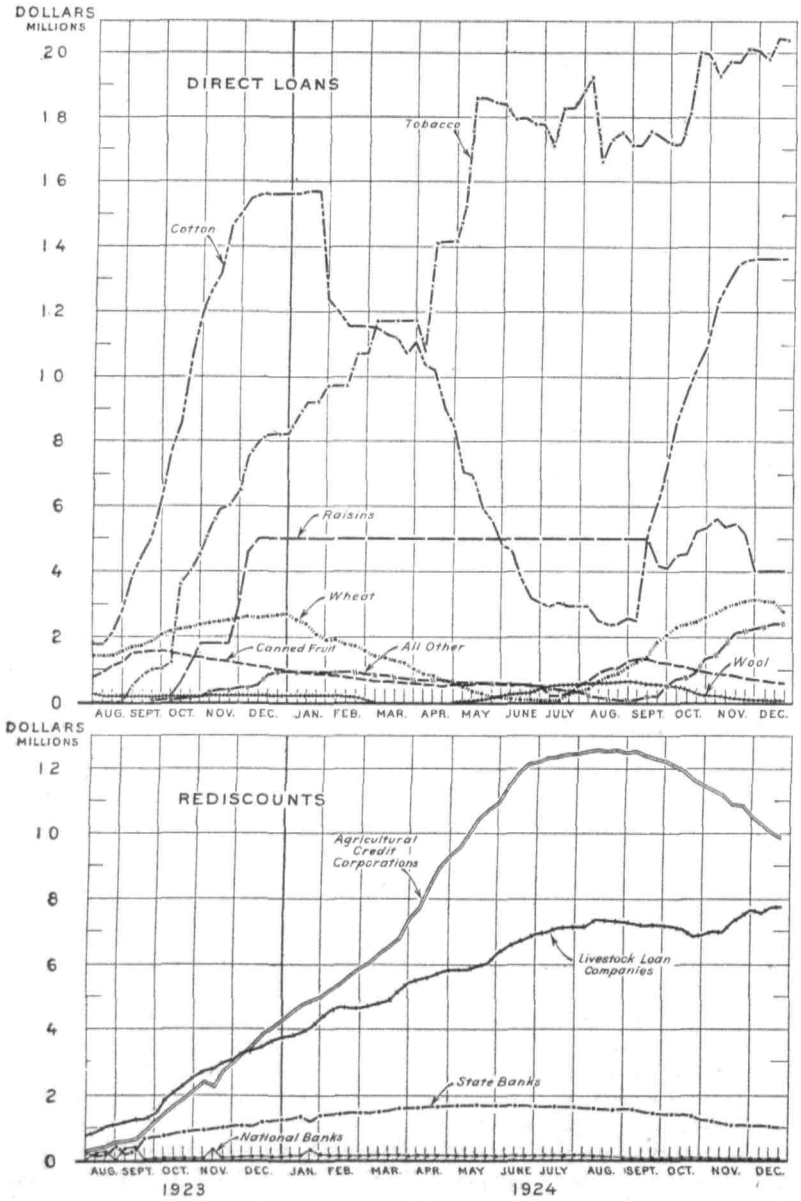


FIG. 42.—The 12 banks of the Federal intermediate credit system had outstanding December 27, 1924, direct loans amounting to $43,775,452. Over three-fourths of these loans were made on cotton and tobacco. The rediscounts of the 12 banks amounted to $18,606,984, of which over 94 per cent were made for agricultural credit corporations and livestock loan companies. Since January, 1925, the rediscounts of the system have increased materially. Data supplied by Federal Farm Loan Board

cooperative marketing associations. At the close of the year just passed the total direct loans outstanding for all banks amounted to $43,775,452. Most of these loans have been made to the tobacco, cotton, and raisin associations. (Fig. 42.) The enlargement of the credit facilities upon which cooperative marketing associations can now draw has contributed no doubt to the recent more rapid development of such associations. The advances of the War Finance Corporation during the years 1921 to 1924, followed by those of the intermediate credit banks, have been of vital importance to the cooperatives and have also served to encourage private banking institutions to extend credit accommodations more freely to cooperatives.

The rediscount facilities of the intermediate credit system have been used mostly by agricultural credit corporations and livestock loan companies. The total discounts outstanding December 31, 1924, amounted to $18,606,984. While to date the largest volume of rediscounts have been made through agricultural credit corporations, the cattle loan companies have availed themselves of these facilities to an increasing degree. The disastrous experience of eastern and middle western bankers with cattle loan paper in 1920 and 1921 resulted in all but drying up these sources of credit with which to finance the needs of range cattle men. It is probable, therefore, that the intermediate credit banks will gradually assume the rôle held by the city bankers before the depression in the cattle industry. Some hesitancy has been shown on the part of cattle loan companies to rediscount all of their paper with the new banks, largely because of the limitation placed upon the interest rate they may charge borrowers. The recent ruling of the board permitting these companies to charge borrowers a maximum of 2.5 per cent over the discount rate should result in a still further use of the system by the cattle loan companies.

State and national banks have used the rediscount facilities of the Federal intermediate credit system to but a very small extent. This no doubt is in part due to the easy credit conditions that have obtained and the ready accommodations afforded by city correspondents. In rediscounting with the intermediate credit banks commercial banks also encounter a disadvantage in the provision which limits the amount they may rediscount with the intermediate credit banks to twice their paid-in and unimpaired capital and surplus. Furthermore, they are limited in the interest rate they may charge borrowers on rediscounted paper to 1.5 per cent over the discount rate of the Federal intermediate credit bank. In regions, therefore, where interest rates are relatively high and local banks can readily obtain funds through city correspondents or through the Federal reserve banks, there is little to induce them to apply for the rediscount privilege of the intermediate credit bank except in case of urgent need.

National agricultural credit corporations are also authorized under the act. These corporations, which are chartered by and operated under the Comptroller of the Currency, are authorized to make direct loans to individuals and to rediscount agricultural paper. They may also issue debentures up to ten times their paid-in capital and surplus. Under the act as originally passed they were not permitted to rediscount paper with the Federal intermediate credit banks, and this may explain why none of these cor-

porations have been organized. An amendment to the act was passed extending to such corporations the rediscount privilege of the intermediate credit banks. The extension of this privilege to national agricultural credit corporations may serve to accelerate their development.

Through the establishment of the intermediate credit system a new channel has been opened through which intermediate credit for the production and marketing of crops may freely flow into all parts of the country. Loans are made to both owner and tenant farmers on terms and conditions that are liberal. Renewal privileges are freely granted and partial repayments at the option of the borrower are accepted. Through the sale of tax-exempt debentures the intermediate credit system should be able to provide adequate working capital for agriculture at reasonable cost and for suitable periods. The system has been in operation but a short time and it is too early to fairly appraise its work. While there remain many problems in the development and administration of the system, it is already apparent that the intermediate credit banks will admirably supplement the commercial credit institutions in providing for the credit needs of the farmer.

Wise Use of Credit

The credit problem of the farmer does not depend solely upon the availability of credit institutions that provide funds for farmers. Credit is based not only upon the security that is offered for loans, but quite as much upon the character and ability of the borrower. It is important, therefore, that farmers so conduct their business that they establish good credit standing. Prompt repayment of loans when due, the efficient organization and management of the farm, and reputation for honesty and integrity are all important factors in giving farmers a good credit rating.

The use of credit creates obligations which ordinarily must be paid off when due. Loans may be obtained by farmers for both productive and nonproductive purposes. When obtained for productive purposes, they should be paid normally out of the farm earnings. When loans are obtained for nonproductive purposes, care should be used in providing for their payment. Frequently farmers can reduce the amount of credit needed through a well-balanced type of farming, through which an income is derived from several sources throughout the year. Since the earnings in farming are often low and uncertain, it is usually unwise to purchase and operate a farm solely on borrowed capital.

Credit requirements of farmers will vary between periods when conditions are normal or abnormal. When times are good and credit is easy, there is often a tendency to use credit more freely than is safe. On the other hand, when times are hard creditors are likely to press for settlement of their loans, with resulting hardship to borrowers. Many farmers during the past years of depression have found themselves in a difficult position because they borrowed too freely during the years of prosperity. It is important, therefore, that farmers follow a sound policy in their use of credit and that they provide in years of good returns a reserve of liquid assets upon which they can draw when times are bad.

Farm Insurance

The risks in farming are many and great. These risks may be reduced materially through the use of insurance. Insurance does not eliminate losses, but it distributes losses from the individual to the group.

The insurance needs of the farmer are as numerous as those of the city dweller. His fire hazards are almost as great. His buildings are more exposed to the hazards of lightning and windstorm than buildings in the city. The lightning hazard, it is true, may be reduced materially by the rodding of buildings and the grounding of fences. But even with these precautions the losses of farmers from this cause are relatively heavy.

In order to be adequately protected, the farmer must also carry livestock and crop insurance. While facilities for obtaining protection against fire and windstorm are adequate, suitable livestock and crop insurance are still in the process of development.

Fire Insurance

Protection against fire is one of the most important insurance needs of the farmer. It has been estimated that the value of farm property that is insurable against fire amounted in 1920 to approximately $26,000,000,000. We do not know how much of this farm property was insured, nor do we have adequate data in regard to the fire losses sustained by farmers.

Fire insurance is made available to farmers through three types of insurance agencies—the old-line or joint-stock fire insurance companies, farmers' mutual insurance companies, and a class of larger mutual fire insurance companies. This last group of fire insurance companies resembles the old-line or joint-stock fire insurance companies in their mode of operation, and they are least important in the field of farm fire insurance.

Farmers' mutual fire insurance companies are estimated to carry about one-half of the fire insurance now written on farm property. The total farm fire risk carried by old line insurance companies is probably considerably less than that carried by the mutuals. It is apparent, of course, that much farm property is uninsured, particularly in the South and in some sections of the West. (Fig. 43.)[1]

Perhaps no form of farmers' cooperation has been more successful than that of the farmers' mutual fire insurance companies. The first farmers' mutuals were organized in the third decade of the nineteenth century, and about half a hundred of the companies now in existence were organized before 1850. The period of most rapid development of farmers' mutuals was the decade 1870 to 1880, when nearly 500 of the companies now in operation were organized. At the present time there are about 2.000 farmers' mutual fire insurance companies carrying risks amounting to over $8,000,000,000. Most of these companies are located in the East and Middle West. (Fig.

[1] V. N. Valgren. Farmers' Mutual Fire Insurance in the United States (1924).

44.) Much less progress in developing farmers' mutuals has been made in the South. This may be explained in part by the tenure and race conditions obtaining in that region, by the lack of adequate State laws governing the organization and regulation of such companies, and by unwise attempts in the South to organize state-wide farmers' mutual companies operating through county branches. Many of these state-wide associations fell into the hands of promoters whose interests were not primarily those of the farmer. The failure of many of these state-wide associations did much to retard the development of farmers' mutual associations in that section of the country.

Farmers' mutual fire insurance companies usually operate in a relatively small territory. A number confine their activities to

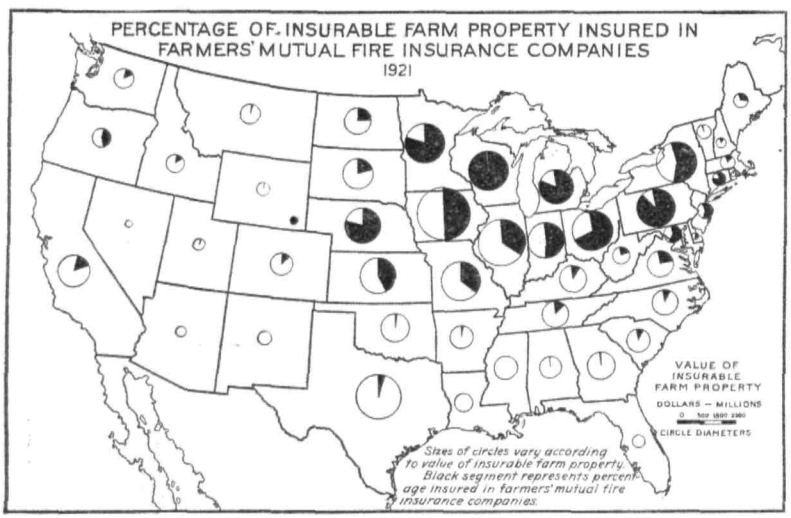


FIG. 43.—The value of insurable farm property in 1921 has been estimated at $26,047,000,000. About 40 per cent of this property was insured in farmers' mutual fire insurance companies. No estimate is available of the fire insurance carried by farmers in other fire insurance companies

single townships. It is more common, however, for a company to operate in a group of townships or even in an entire county, and over one-half of the companies now in existence operate in areas of several townships or a county. In a few instances two or more contiguous counties are included in the territory of the company, and only rarely do farmers' mutual fire insurance companies operate in an area as large as a State.

The farmers' mutual insurance company is a business enterprise organized on the mutual plan without capital stock. Its management is vested in a board of directors, the number of which may vary from 5 to 15, although the most usual number is 9. These directors may serve from one to three years. A large number of the mutuals operate under the unlimited liability plan, whereby the insured obligates himself to pay his pro rata share of the losses and expenses of the company. A much smaller number of the companies limit the liability of the members to a fixed sum per annum.

The methods of operation are relatively simple. Applications for new members are taken by officers and directors. Some mutual companies put on active membership campaigns, while others favor a policy whereby farmers themselves seek admission to the company. The application fee is limited to a nominal sum ranging from $1 to $2, which has the advantage of reducing the temptation for solicitors to place more insurance than the value of the property warrants. Funds with which to pay expenses and losses of the company are obtained partly through premiums and partly through assessments. Only a few companies collect cash premiums in advance. The large majority of the mutuals work under the assessment plan, whereby losses and expenses are prorated as incurred. Initial premium charges with annual advance assessments, however, have been growing in favor. This policy is better than the more prevalent plan of

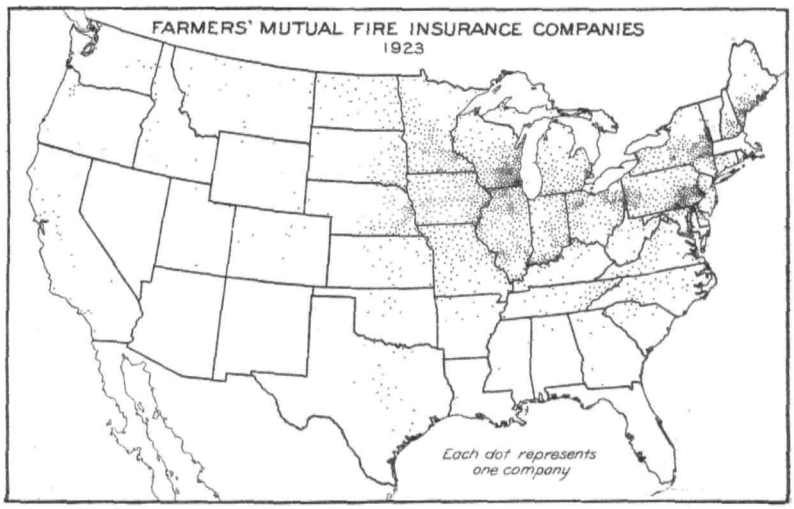


FIG. 44.—Fire insurance on farm property is written by about 2,000 farmers' mutual fire insurance companies. Over 65 per cent of these companies with risks in force amounting to almost 70 per cent of the total risks carried by such companies are located in the east North Central and west North Central States

borrowing to pay losses and then levying assessments to repay borrowed funds. It not only permits prompt payment of losses, but also eliminates any need of coercing members when losses are heavier than usual.

An increasing number of farmers' mutual fire insurance companies are adopting the policy of building up surpluses or reserves against which to draw when losses are unusually large. Such reserves afford protection and reduce the need of special assessments.

The adjustment of losses sustained by farmers' mutual fire insurance companies is made either by a single member, who acts as a general adjuster for the company, or by the directors of the company, each in his own district. While the adjustment of losses by directors of the company is perhaps the cheapest method of adjustment, it is probable that the adjustments by a single individual, who acts as a general adjuster, are somewhat more equitable.

In the field of reinsurance, farmers' mutuals have been lacking in adequate facilities. In some States local mutuals are now prepared to go beyond their legal territory and write joint or concurrent insurance with companies in whose territories such risks are located. In other States one company may grant reinsurance to another company. In order to meet this situation more effectively, farmers' mutual companies in Iowa, Indiana, and Minnesota, have organized special reinsurance organizations to serve farmers' mutuals. This policy, whereby farmers' mutuals reinsure a part of their risks, will no doubt strengthen and expand the work of the farmers' mutual fire insurance companies.

The mutual companies have been very successful in supplying farmers' insurance at a very reasonable cost. During the five-year period 1917 to 1921 the average annual cost per $100 of insurance ranged between States from $0.06 to $0.51 and averaged $0.26 for the country as a whole.

The cost of such insurance is somewhat higher in the South than in the East and Middle West. (Fig. 45.) Individual companies can show records of unusually low insurance cost. One mutual which has a large amount of insurance in force has had an average annual insurance cost of $0.075 per $100 covering a period of over a half century. In comparison the rates of commercial insurance companies are materially higher. These rates vary from $0.35 per $100 for some of the Northern States to about $1.50 per $100 for some of the Southern States. Several factors account for the lower insurance costs of farmers' mutual insurance companies. The physical hazards are materially reduced through more careful inspection of risks and the insistence upon reasonable standards of safety. The moral hazard is lowered by avoiding overinsurance and by the development of a spirit of loyalty to the company. Equally important is the fact that the operating cost of these companies is relatively low. Much free service is performed by the officers, salaries are small, and such items of outlay as rents, traveling expenses, and attorney fees are either absent or relatively small. Farmers' mutuals have thus been able to effect economies that have contributed to their own success and made fire insurance available to farmers at very reasonable cost.

The history of farmers' mutual fire insurance companies to date would indicate a continued development of such companies in years to come. The States of the East and Middle West are now fairly well supplied with such companies. There is no doubt room, however, for further development in the South and in parts of the far West. The organization and operation of new companies in these regions should be built on the experience of successful companies in other sections of the country.

In conclusion it should be added that farmers themselves can do much to reduce the fire hazard. A recent survey of causes of farm fires showed that practically one-third of the fires were preventable. In a recent survey of farm fires caused by lightning it was found that out of every 100 fires resulting from such cause about 95 occurred in connection with unrodded buildings. Insurance does not eliminate the loss; it merely distributes a part of it. It is therefore very important that farmers themselves use every care to reduce their losses from the fire hazard.

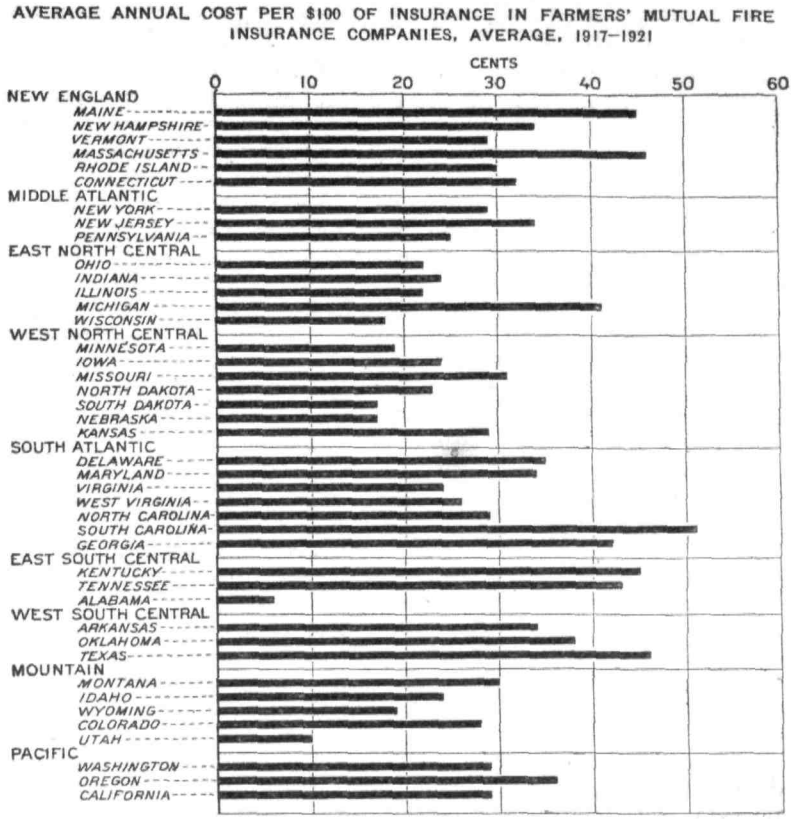


FIG. 45.—The average annual cost of insurance written by farmers' mutuals during the five-year period 1917–1921 was 26 cents per $100 for the country as a whole. Losses account for about 70 per cent and expenses for 30 per cent of the cost

Windstorm Insurance

Farmers annually sustain severe losses from windstorms. Recent studies show that during the eight years between 1916 and 1923 there were 752 tornadoes in this country, or an average of 94 annually. These tornadoes were most numerous in the Middle West. In only eight States of the country were there no tornadoes during this eight-year period. The aggregate loss of life from tornadoes during this period was 1,929, and the total damage to property is estimated to have exceeded $62,000,000.[2] Data are not available showing the percentage of this loss that was sustained to farm property. It is well known, however, that farmers often suffer heavily from such storms, and farmers, therefore, should be adequately protected against this hazard.

Windstorm insurance on farm property is provided by both joint stock and mutual companies. Most of the windstorm insurance

[2] United States Weather Bureau.

carried by joint stock companies applies to the risks insured by these companies against fire.

Windstorm insurance is written by three classes of mutual companies. About one-sixth of the farmers' mutual fire insurance companies write policies covering both fire and wind. In several of the Middle Western States a number of specialized windstorm mutuals have been organized. The most recent development, however, is the organization of state-wide windstorm companies by State associations of fire insurance mutuals. In some instances State associations of fire insurance mutuals have merely given windstorm companies their indorsement and support. State-wide windstorm companies of this kind have been organized in Iowa, Indiana, Missouri, Ohio, North Dakota, and South Dakota. Since they work in close cooperation with local fire insurance mutuals, they are able to provide protection at a minimum of cost. The applications are almost always taken by representatives of the fire insurance mutuals, and the risks are well scattered over the entire State.

The cost of wind insurance in the mutual companies varies much more than in the case of fire insurance. This is to be expected, since each group of buildings is a separate and distinct risk in the case of fire, whereas a windstorm may sweep clean the buildings of an entire area. Local mutual companies operating in a single county or limited area, therefore, should not write and carry insurance covering the wind hazard. An entire State, in fact, is not too large a territory for the windstorm insurance mutual.

Livestock Insurance

Farmers also have a large investment in livestock, for which they need insurance protection. The losses from disease, for example, are at times quite large. During the last 35 years the estimated yearly losses of horses from disease have ranged from 14 to 22 head per thousand, of cattle from 12 to 24 head per thousand, and of hogs from 41 to 144 head per thousand.

Protection against disease or accident to livestock is written by 12 or more joint-stock insurance companies that operate in several States. Most of these joint-stock insurance companies write insurance on horses and cattle, but a few of them write insurance on hogs. The policies written by these companies are, as a rule, relatively small, and the risks are frequently reinsured with other companies.

A number of mutual companies have written livestock insurance for a number of years. Altogether there are about 30 local mutual insurance companies, nearly one-half of which are in Pennsylvania. These mutual livestock insurance companies operate on a plan very similar to that followed by the farmers' mutual fire insurance companies. The bulk of their insurance is written on horses. While these companies have been operating for a number of years, the writing of livestock insurance by mutual companies is still in the experimental stage.

In the past the demand for livestock insurance in the United States has been much smaller than in a number of European countries. This may be explained perhaps by the fact that livestock epidemics, with the exception of hog diseases, have been relatively

fewer in this country than abroad and by the fact that the American farmer usually possesses larger herds of livestock than the European farmer and feels the loss of an individual animal perhaps less severely. There has been, however, an increasing demand for insurance covering purebred livestock. With the introduction of better livestock throughout the country, together with the increasing attention to the elimination of risks in agriculture, the field for livestock insurance will undoubtedly grow.

Crop Insurance

In order to supply food and the raw materials of manufacture, the American farmer annually stakes his labor and, perhaps, even a good part of his past earnings. The values represented in crops

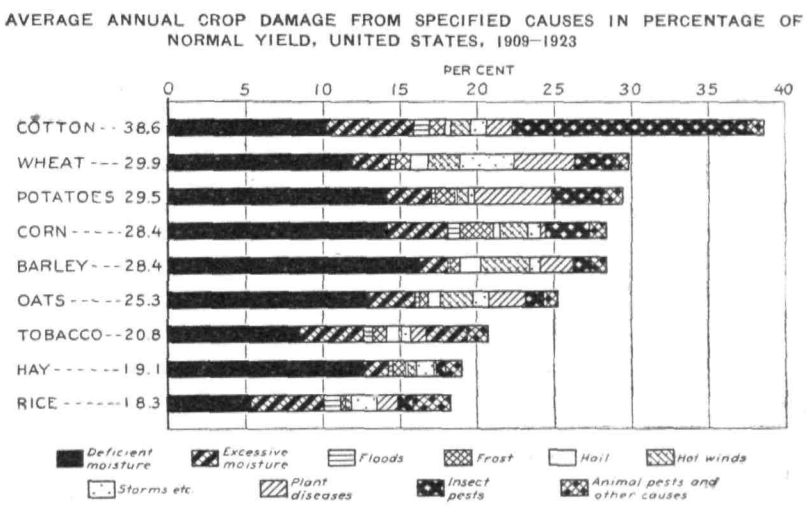


FIG. 46.—Average annual crop damage in terms of normal yields during the period 1909–1923 ranged from 18.3 per cent for rice to 38.6 per cent for cotton. Deficient or excessive moisture, plant diseases and insect pests caused the major part of these losses

grown on American farms mount annually into the billions. Between 1919 and 1924 the estimated value of all crops ranged from $7,500,000,000 to $16,000,000,000.

The farmer assumes many hazards in the production of these crops. As a rule these hazards are beyond his control. Yields may be influenced by climatic conditions, plant diseases, and insect pests. As a result of these influences yields may vary between wide limits. During the 16-year period, 1908 to 1923, the average yield of wheat per acre in the United States ranged from 12 to 17 bushels. In individual wheat-growing States yields during the same period ranged from less than 3 to slightly more than 30 bushels per acre. These losses in yield result from a variety of causes that vary considerably in their importance. As appears from the accompanying chart (Fig. 46), moisture is the most important cause of crop damage. Other causes, however, such as hot winds, plant diseases, and insect

protection can be had only through contract insurance. Until recently the farmer has had but little opportunity to obtain insurance protection on his crops against weather and other hazards.

Hail Insurance

Hail insurance is practically the only form of crop insurance that has been generally available to the farmer. It appears to be about the only kind of crop insurance that has been placed on a fairly satisfactory basis. The hail hazard is relatively high in some sections of the country. While damage resulting from hail over large areas is not as great as that from other causes, the losses to those who suffer are often very severe. Since hail losses are concentrated on a relatively small number of farmers and may be singled out from losses from other causes, it has been practical to insure against the hail risk and keep expenses within a reasonable part of the premiums.

Hail insurance is written by mutual hail insurance companies, joint-stock fire insurance companies, and State hail insurance departments. The mutual hail insurance companies confine their business largely to the insuring of growing crops. They were the first to write this form of insurance. The first mutual hail insurance company was organized in 1880. By 1900 there were 37 companies in existence. Many of these early mutuals proved to be failures partly because they lacked adequate knowledge of the hail hazard and partly because they were the products of reckless promotion. Out of a total of 121 mutual hail insurance companies of which we have record 41 are now in existence.[4]

The joint-stock fire insurance companies that write hail insurance do so more or less as a side line. The first hail risks written by joint-stock fire insurance companies date back to 1883. Until 1910 hail insurance written by joint-stock fire insurance companies was of slow growth. Between 1910 and 1915, however, there was marked expansion in this field. In these five years the number of joint-stock fire insurance companies writing hail insurance increased from 5 to 35, and their premiums increased from $735,000 to $6,400,000.

Beginning in 1911 a number of States entered the field of hail insurance. In that year North Dakota passed its State hail insurance law. By 1919 South Dakota, Montana, Nebraska, and Oklahoma had established State hail insurance systems.

The peak in the volume of hail insurance business was reached in 1919. The total risks in force in that year are estimated at about $560,000,000. Of these risks 43 joint-stock fire insurance companies carried about a half, 41 mutual hail insurance companies carried about a quarter, and 4 State hail insurance departments still another quarter. Since 1919 the amount of hail insurance written has declined. The premiums of all joint-stock and mutual companies, as well as State hail insurance departments, in 1923 amounted to $18,000,000, as compared with $28,000,000 in 1919. While a number of causes may have contributed to this decline, it is probable that smaller farm incomes during the past few years has been a major influence.

[4] V. N. Valgren. Hail Insurance on Farm Crops in the United States. U. S. Department of Agriculture, Bulletin 912.

Since 1919 the amount of hail insurance written by State hail insurance departments appears to have increased relative to that of the joint-stock and mutual companies. The joint-stock companies collected 69 per cent, State hail departments 21 per cent, and the mutuals 10 per cent of the premiums in 1919, compared with 61, 28, and 11 per cent, respectively, of such premiums in 1923. During the last few years the losses of both joint-stock and mutual insurance companies, as well as State hail insurance departments, have been relatively high as compared with their premiums, and a number of companies have discontinued writing this form of insurance. As a result of this experience greater care is now exercised in the placing of insurance. By adjusting their commissions and making various other economies the level of premiums has not been materially, if at all, increased.

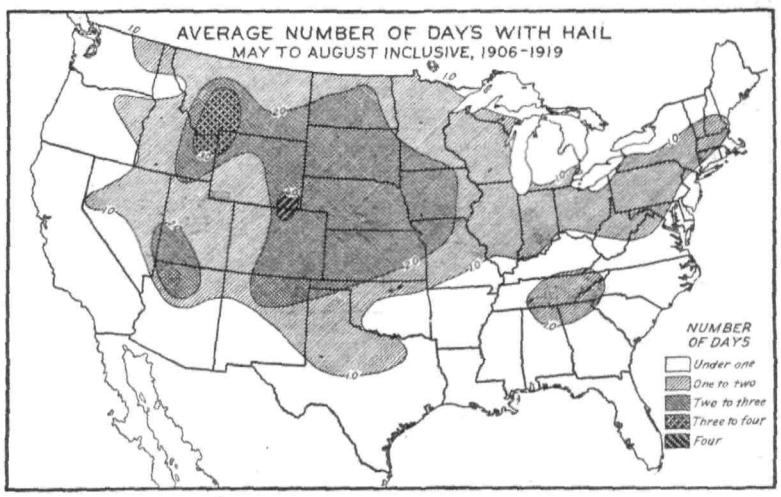


FIG. 48.—This map is based on reports of the United States Weather Bureau. Since hailstorms are often of a local character their average frequency is not fully shown in the map.

Hail insurance is written in farming regions where the acreage in crops subject to damage is large and where the hail hazard is relatively severe. The hail hazard, as appears in Figure 48, is especially high in the West and North Central States. This map, however, merely shows the annual frequency of hailstorms and does not indicate the destructiveness of such storms. Most of the hail insurance is written in the States of Kansas, North Dakota, Iowa, Nebraska, South Dakota, and Minnesota. In 1919 more than one-half of the total hail risks in force in the United States were written in the States of Kansas, North Dakota, and Iowa. (Fig. 49.)

The cost of hail insurance varies widely. In the early days of hail insurance 5 per cent was a common rate. As companies became more experienced in the field, rates were gradually adjusted to reflect differences in the hail hazard. The rates in Minnesota, Iowa, Missouri, and States farther east and south were lowered until a rate of 3 per cent became general for the more common cereal crops.

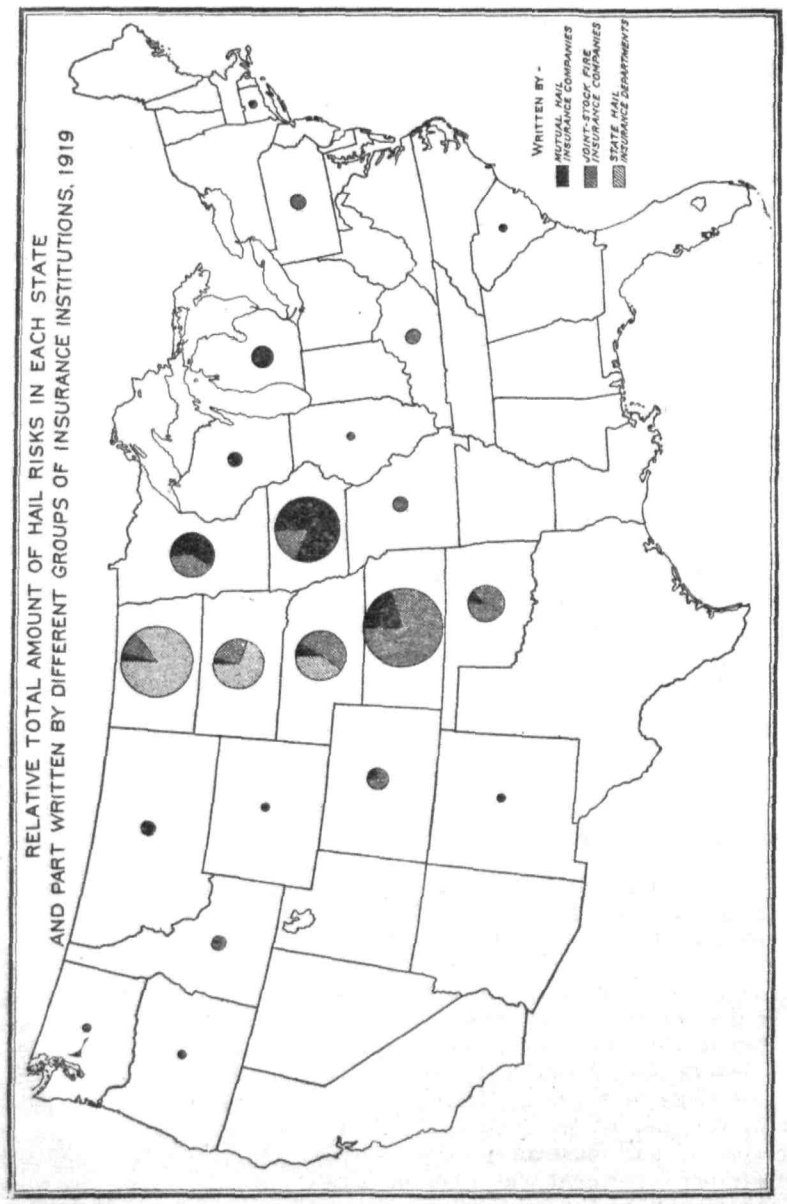


FIG. 49.—It is estimated that the total hail risks in force in 1919 amounted to about $560,000,000. Of this amount almost four-fifths were written in seven Middle Western States

On the other hand, the rates in more western States were gradually increased and in some regions reached as high as 16 per cent. Most of the mutual hail insurance companies operated on the assessment plan, and premium and assessment rates can not be given. A number of mutual companies, however, operated on the plan of predetermined rates, which were usually from a fourth to a third lower than the rates charged by the joint-stock companies. The variations in rates charged by joint-stock fire insurance companies in 1919 are shown in Figure 50. The rates shown in the map are for the common cereal crops, such as wheat, oats, corn, flax, and spelt. The rates on barley and rye, as well as tobacco and cotton, ranged somewhat higher.

Fire insurance is invariably written for a specific period of time, but the term of hail insurance covers the period of crop development. The insurance may remain in force up to a specific date or until the crop is harvested. The policy usually covers a specific crop grown on a designated piece of land. It should be added, however, that a number of mutual hail insurance companies operating in the eastern part of the United States write a term policy for three or five years and cover a number of enumerated crops on a given farm. In the writing of hail insurance there has been a tendency in the past to overinsure. Farmers have found it possible to obtain concurrent insurance from a number of companies amounting at times to as much as $30 or $40 per acre. This may be designated as gambling in insurance. The more recent tendency to prescribe a limit per acre for concurrent insurance no doubt is a move in the right direction.

A number of special problems arise in the writing of hail insurance. The business is of a seasonal nature and competent solicitors and adjusters are difficult to employ for relatively short periods. This makes it necessary to offer special inducements, which increase the cost of operation.

The hail hazard, also, is very erratic in its behavior. Losses vary widely from year to year, and the net profits in the hail insurance business vary accordingly. The ratio of losses paid to premiums received has materially risen during the last few years. Since 1919 the ratio of losses to premiums in the case of joint stock fire insurance companies has ranged from 41 to 94 per cent. The loss for these companies from 1890 to date averages 68 per cent. These fluctuations, as illustrated in Figure 51, show the need of long experience in determining probable loss from the hail hazard.

The losses from hail are also likely to be heaviest in one-crop regions. One or more severe hailstorms during the critical period of the main crop may cause ruinous losses. Uusually the main crop in such regions is insured without including other field crops. In regions of diversified farming, on the other hand, there is not the same danger of ruinous damage from hail. All crops at a given time are not equally susceptible to damage from this cause. Furthermore, it is a more general practice in regions of diversified farming to insure more than one crop.

One of the more difficult problems in hail insurance is the adjustment of losses. In the past it is probable that more losses have been overpaid than underpaid. In some instances unfair adjustments have been made to embarrass competing companies, and competition

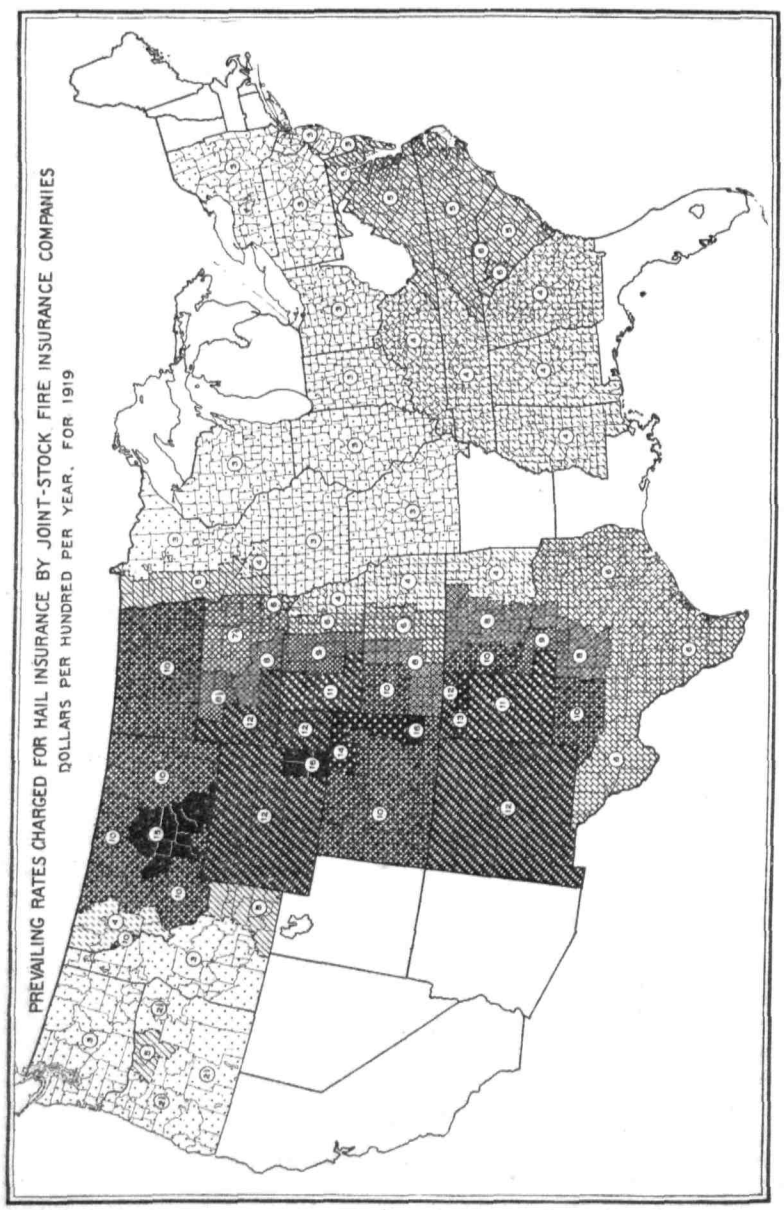


FIG. 50.—In comparing this map with Figure 44 it will be observed that rates charged for hail insurance are highest in the Great Plains region, where the hail hazard is greatest

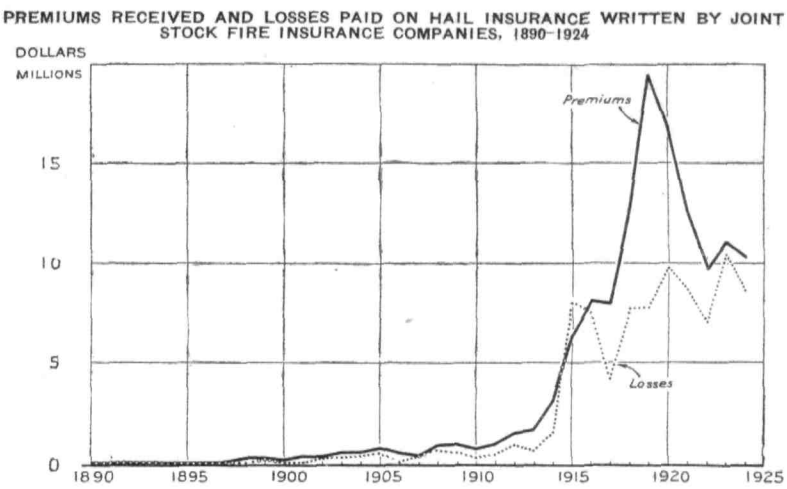


FIG. 51.—Beginning with about 1914, the hail insurance business of joint-stock fire insurance companies expanded rapidly, as shown by their premiums. As a result largely of the depression their premiums dropped from $19,459,000 in 1919 to $9,720,000 in 1922. Between the same years the ratio of their losses to their premiums increased from 41 to 73 per cent

of this kind has not infrequently resulted in overpayment of losses. This, in the long run, is damaging to both insurer and insured, and there is need of working out a plan under which losses may be fairly adjusted. Perhaps this can be best effected through a joint adjustment bureau maintained by the several agencies writing hail insurance in a region.

It is of course important that the risks in hail insurance be distributed over a wide territory. The acreage accepted for insurance within a square mile, a township, and a county is usually limited by the better companies. It is equally important that hail insurance companies maintain adequate surpluses or reserve funds for protection in years when their losses are especially heavy. This applies equally to mutual and joint-stock hail insurance companies. Where mutual companies have found it necessary to prorate heavy losses in a single year, it has often resulted in a loss of membership.

Since the mutual hail insurance company must cover a wide territory, it is not possible to maintain the same democratic control as in the case of the mutual fire insurance company. The management must, therefore, be placed in the hands of a relatively small group of men, who should always be responsive to the interests of the members. During the last few years there has been some decline in the business of hail insurance, but it seems likely that in the future farmers will give increasing attention to protection against the hail hazard.

General Crop Insurance

Hail insurance protects against one of the severe crop hazards in certain sections of the country, but it does not adequately cover the needs of the farmer for crop insurance protection. This is equally true of other kinds of crop insurance written to cover sepa-

rate risks. While hail insurance is the outstanding example of relatively successful crop insurance, some progress has been made in writing insurance on other separate risks.

During the last few years some frost insurance has been placed with associations of fruit growers in Florida and California. The placing of such insurance through associations of growers has had the advantage of making the risks more uniform and in simplifying the writing of the business. Insurance written against frosts in these States has been distributed among a pool of companies, and fairly satisfactory results, apparently, have been obtained with this class of insurance. Some attempts also have been made to insure raisin makers in California against rain while the grapes are in the process of drying. The insurance experience in this field has been short, and it is not possible to appraise fairly the success of this type of insurance.

Insurance against separate risks of this kind is serving a useful purpose, but it is apparent that a form of blanket insurance should be developed which will protect the farmer against all hazards that are beyond his control. Some attempts have been made already to develop or produce a blanket crop insurance policy. The joint stock fire insurance companies have shown the greatest interest in this field. The earliest attempt at writing general crop insurance dates back to 1899. The company met with poor success, and no further effort appears to have been made to write this kind of insurance until 1917. All of these attempts at writing general crop insurance on cereal crops proved unsuccessful. These failures were primarily due to a lack of knowledge of the physical hazards, as well as a lack of adequate facilities to guard against certain forms of moral hazard. The selection of applicants for insurance was in some instances detrimental to the interests of the company. In other cases the amount of losses was exaggerated through concealment of the yield actually obtained. Furthermore, the companies did not adequately protect themselves against the assumption of risks after severe damage to crops had taken place. It is therefore quite apparent that the experience of these companies in writing general crop insurance does not adequately test the possibility of writing this form of insurance.

Within the last two or three years there have been renewed attempts by joint-stock fire insurance companies to write general crop insurance. A fair degree of success appears to have been attained in writing insurance on certain fruit crops against all major hazards, but, in the main, covering only the actual expenses of producing and marketing such crops. There has also been some credit insurance written to protect concerns making credit advances on crops.

General crop insurance is still in the experimental stage, and an entirely satisfactory blanket policy covering all hazards perhaps still remains to be drawn. There are certain principles that should underlie any sound plan of crop insurance. Insurance of this kind should protect against only such crop damage as will result in serious financial loss. The amount of insurance per acre must be reasonable and must not cover theoretical losses resulting from failure to reap expected profits. Insurance that is written to protect against

anticipated profits will not only be too costly, but it will tend to discourage diligence and care on the part of the farmer.

The investment in the crop should probably serve as the basis for fixing the amount of insurance carried. The insurance should be sufficiently high to cover damage that is so severe as to bring the value of the crop materially below the investment which the farmer has in the crop. This loss may be caused not only from physical hazards to the crop but from declines in price. The average yield of crops over a reasonable period, together with the average price for such crops during the same period, will serve perhaps as the best guide in arriving at a reasonable amount of insurance per acre.

If crop insurance is to protect adequately it must cover all of the principal hazards over which the farmer has no control. The omission in the policy of one of the hazards may leave the farmer in worse financial condition than without the insurance. On the other hand, it is important that such insurance does not protect the farmer against losses resulting from his own negligence. The moral hazard in general crop insurance is important, since insurance is written on crops that are still in the making. Negligence on the part of the farmer, therefore, may result in severe losses to such crops without the intervention of physical hazards. Crop insurance written to protect against the negligence of farmers is not only costly but operates to the detriment of the honest and efficient farmer. The development of some plan of cooperation among farmers for adjusting losses and for generally reducing the moral hazard would, no doubt, speed the day when general crop insurance will be more commonly written.

The cost of crop insurance must be reasonable if farmers are to find it practicable. Reasonable premiums can be charged, however, only if the physical hazards are adequately measured and the moral hazards are reduced to a minimum. The adjustment of losses must be fair to both the insured and to the insurer. There must also be the widest possible distribution of risks, and liberal reserves must be maintained, in order to meet the excessive losses of bad years.

It is only within the last few years that the subject of crop insurance has been given serious consideration. It is now a subject of national interest. In the spring of 1923 a special Senate committee was appointed to investigate the entire subject of crop insurance. This committee presented a valuable report in which it was brought out that to be successful crop insurance must be based upon a more detailed knowledge of the hazards of growing crops and must be nationwide in scope. It is probable that the present widespread interest in this subject will result in the development of a form of crop insurance which will adequately protect farmers against the hazards of weather, plant diseases, and insect pests, and to some extent against fluctuations in price. Adequate insurance of this kind would help stabilize the farm income and place the business of farming on a more satisfactory basis.

Life Insurance

Life is longer and health is better for those who live in the country and smaller towns than for city dwellers. The country boy may

expect to live 7¾ years longer than the city boy, and the country girl 6 years longer than the city girl.

While this is true, the need of life insurance by the farm population is as great as that for any other group. The primary object of life insurance is to provide protection for dependents. There are many uncertainties in farming, and the farmer has no assurance that at his death he will have adequately provided for the needs of his family. The mortgage encumbrance on farms is frequently very heavy, and many a farmer at death has left an indebtedness with which his dependents find it difficult to cope. Against such contingencies life insurance provides invaluable protection.

There is another phase of life insurance that merits careful consideration. Business men have found that life insurance materially enhances their credit standing. It should be no less valuable in bettering the credit standing of farmers. The mere possession of a life-insurance policy in itself is evidence of thrift and forethought.

Farm Taxation

Taxes on farm property in the United States increased approximately 140 per cent from 1914 to 1923.[1] The value of farm products in 1923 was only 58 per cent more than in 1914, while net business receipts of farmers, according to the best available estimates, were little if any greater in 1923 than in 1914.[2] Farm taxes have increased, but the fund from which the tax is paid has not increased in proportion. Although this change in the relation of taxes to income is not confined to agriculture, certain conditions of State and local revenue systems tend to intensify the problem of taxation for farmers more than for any other class of producers.

The greater part of the farmer's tax is levied on real estate, although in 1923 he paid 25 per cent in addition on personal property.

TREND IN TAX PER ACRE IN OHIO, INDIANA, MISSOURI, AND KANSAS, 1913–1924

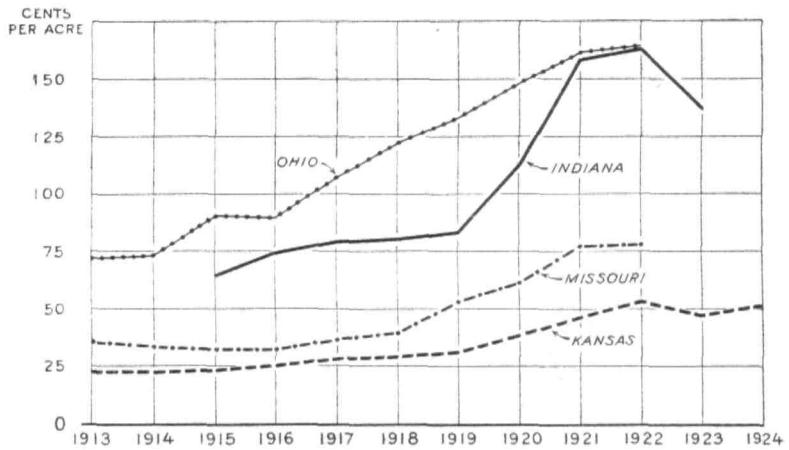


FIG. 52.—With few exceptions, the annual trend of the farm real-estate tax has been upward. The Kansas figures were taken from Bulletin 232 of the Kansas Agricultural Experiment Station

Since real estate and other forms of property are usually taxed at the same rate according to value, the increase in the farm real estate tax per acre is indicative of the trend of all taxes on farm property. The real estate tax, as shown in Figure 52, moved continually upward in Ohio, Indiana, Missouri, and Kansas from 1915 to 1922. A slight decline in tax per acre took place in 1923 in Ohio and Indiana, but available information indicates continued increases in Missouri and Kansas.

Although the rate of annual increase varied with the States, the net result was an increase of more than 100 per cent from 1916 to

[1] Agriculture Yearbook, 1923, p. 8.

[2] For 1914 estimate, see report of the Bureau of Economic Research, Vol. II, pp. 55–59; and for 1923 see report of the Department of Agriculture—August Supplement of Crops and Markets, 1924, p. 286.

FARM TAXES AND THE VALUE OF FARM PRODUCTS, COMPARED WITH THEIR PURCHASING POWER, 1914–1923

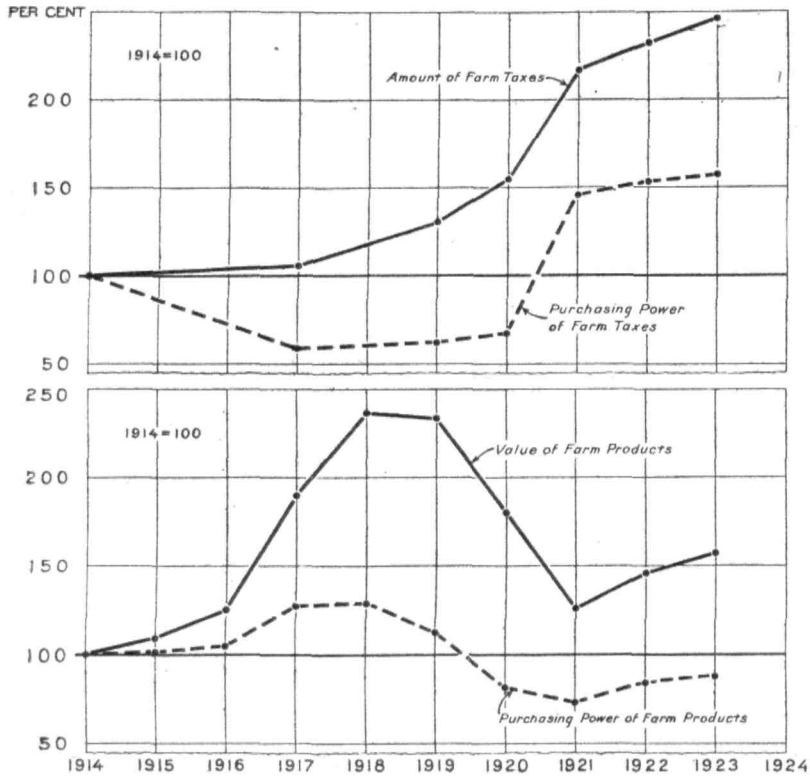


FIG. 55.—Farm taxes in the United States were higher in 1923 than in any previous year, being 146 per cent above the 1914 level. Their purchasing power, however, was only 57 per cent above that for 1914. High price levels from 1917 to 1920 kept the purchasing power of taxes below that of 1914, although the tax in dollars was increasing steadily. The total value of farm products was highest in 1918, whether measured in dollars or in terms of power to purchase commodities used by farmers. In 1923 the total volume of farm products sold for 57 per cent more than in 1914, but the total purchasing power of farm products was less than in 1914. Purchasing power of taxes was determined from the general commodity index of the United States Department of Labor, and that for farm products was determined from the index of prices of agricultural supplies prepared by the Division of Crop and Livestock Estimates, United States Department of Agriculture

things which the farmer needs than they were in 1914. (Fig. 55.) The general picture is that of an industry trying to support a bigger and better governmental structure while experiencing the most acute difficulties in meeting private obligations.

The Farmer's Problem Under the General Property Tax

Inasmuch as the general property tax is the principal tax the farmer pays, the farm tax problem is concerned directly with the methods of general property taxation. Under this system the tax obligation is based on the ownership of property and is measured by the value of the property. In actual practice, however, not all property is subject to the tax, and many other considerations than true value have weight when tax liability is being determined.

A large volume of property escapes taxation because of legal exemption. Sweeping exemptions of tangible and intangible property of a public or semipublic nature make it impossible to tax uniformly. In addition, much property escapes because assessing officials are unable to discover it, thus precluding all possibility of appraisal for tax purposes. Only a small proportion of intangible personal property is assessed, and the property tax paid on this class amounts, as a rule, to little more than a voluntary contribution on the part of the owner, since he could avoid payment if he chose to do so. Even tangible personal property frequently escapes taxation in the cities. This is especially true of property held by persons who are not also the owners of real estate, as the names of such persons seldom appear on the tax rolls. Of recent years there has been a tendency to improve this side of the assessment problem through the use of automobile registrations in preparing tax rolls.

Nor is there any close approach to full value assessment and equality of taxation between the classes of property which are assessed. Personal property put to industrial uses is frequently favored in valuation in order to attract capital from competing political units.

The class of property most subject of all to complete evaluation is real estate, yet even here great variations in assessments appear. While real estate is easy to discover, the individual character of each tract tends to establish for it a special value which may correspond but roughly to the value of neighboring properties.

Real estate, like other property, is commonly assessable for taxes at its sale value, but the low annual turnover of this class of property leaves the valuation of most of it to be determined independently of an actual sale. In the absence of any generally accepted method of measuring sale value where an actual sale has not been made, the great bulk of real estate assessments in the United States are largely based upon the personal opinions of assessors or of reviewing bodies.

It is not surprising, therefore, that assessments in the different subdivisions of the States frequently show gross inequalities, some of which are attributable to errors in judgment and some to other causes. In the first class we may place the tendency to assess small properties at a higher percentage of full value than large properties. The second class of errors should probably include the differences in general assessment levels which are found between the different local districts of the same State.

While many factors contribute to bring about different assessment levels between local districts, there are believed to be two chief causes of inequalities. The wide use of the property tax base for State taxation promotes a competition between local districts for the lowest possible assessment of property consistent with local needs, since such assessments may lead to the avoidance of a portion of the State tax which otherwise would fall upon the local unit. The absence of adequate information upon which to base corrective equalizations in turn renders reviewing officers loath to make equalizations except in cases where the local assessments are flagrantly out of line.

Great improvements have been made in the machinery of assessment under the property tax, but it is generally held that even with the best of systems the property tax has proved unsatisfactory in

gauging tax liability on the value of property owned. However, it is income and not capital value which should serve as the measure of the individual's financial obligation to the Government according to modern standards.

In the earlier period of our history, when practically all income was derived from land, the capital value of property was perhaps as good a measure as any of personal tax-paying ability, and the method certainly was easily applied. The demand for public expenditures at that time was comparatively moderate, and such inequalities as may have existed were probably insignificant. With the development of modern society this situation has changed. Instead of wealth consisting almost entirely of real estate or real estate equipment, as formerly, some now employ one class of property, while others employ an entirely different class in making a living or deriving income. Still others, notably the professional classes, require practically no property at all in the conduct of their business.

The outstanding feature of our present tax system is the failure of the general property tax to accommodate itself to the change that has taken place. The general property tax fails to reach the newer and diversified forms of wealth as efficiently as it reaches real estate, and, besides, it levies no tax at all on personal earnings. The result is that the property tax, once general in character, has come perilously close to degenerating into a tax solely on real or tangible property. The tax has, in fact, lost its character as an approximate measure of personal ability to pay.

The defects of the general property tax have long since been recognized. The justification for the tax appears to have shifted ground. No one any longer justifies the tax as a means of reaching tax-paying ability, but rather as a convenient method of taxing property as such. Meanwhile certain other sources of income remain untaxed, or, as in a few States, are reached in another way. Yet the general

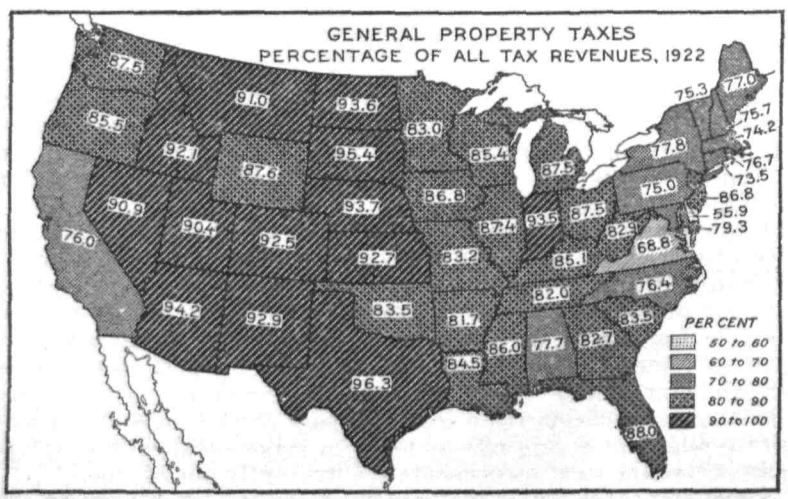


FIG. 56.—The general property tax is the leading source of State and local revenues in every State and is especially important as the source of State as well as local revenues in most agricultural States or in the States with the least industrial development

property tax still stands out as the leading source of tax revenue, as is shown by Figure 56.

Even within the restricted limits wherein the tax now operates it falls with unequal weight upon incomes from the property it reaches. As long as practically all capital was used in agriculture the rate of returns realized by investors tended to be about the same on similar values. However, the wide range of returns now possible from equal investments in many of the newer classes of property destroys the reliability of a capital value tax as an equitable measure of taxes to be levied on property or on the owners of property.

Almost everywhere property used in agriculture stands out as the most ill-favored of all classes when the tax is considered in relation to earnings. The tax on farm real estate, together with taxes on farm machinery, livestock, and other property, all of which are easily reached by the property tax, has caused the agricultural industry to bear an undiminished tax burden despite the rise of more productive industries.

Who Pays the Tax—Consumer or Farmer.

While most classes of business pay considerable taxes in one form or another, it happens in some cases that the tax is not borne finally by the taxpayer of the first instance. The ultimate burden of the tax, therefore, depends upon the extent to which the tax is shifted.

A tax on any class of property is nothing more than a fixed charge from the point of view of the owner. Industrial property must earn enough to pay the costs of producing and marketing its products, and in addition must satisfy all overhead charges not directly related to the quantity of output before a profit may be realized. Two of the chief forms of overhead are interest on mortgage debt and taxes. There are distinct differences between these two types of expense. An interest charge is usually voluntarily assumed and usually is in payment for the use of additional capital which in turn makes it possible to do business on a larger scale and therefore tends to increase the gross earnings from which the interest charge is deductible. Taxes, on the other hand, are levied by the whole social group without reference to individual desires in the matter or to the amount of benefits to be derived therefrom by the person or industry paying them.

Taxes, however, are similar to other overhead charges in that they must be counted as one of the factors which help to determine at what price a product must be sold if the producer is to be remunerated for his time, labor, capital, management, and risk. It is evident, therefore, that the conditions which govern the possibility of shifting a tax originally laid on a producer to the consumer of the product are quite similar to the conditions which must prevail when other costs of production may be added to sale price. The degree to which price reflects costs of production depends upon supply and demand, in the main, and upon the relative production costs of one producer as compared to others in the same field.

It is generally held that taxes on farm land are not shifted to any appreciable degree in the form of higher prices of goods sold. There are several reasons for this belief, but two stand out as especially significant. In the first place, farm products whether

marketed in this country or abroad necessarily come into competition with similar products raised in other quarters where a different tax rate obtains. Land taxes vary widely as between countries and within the same country. Farm real estate taxes ranged from 7 cents to $2.22 per acre in the United States in 1922, according to estimates by the Department of Agriculture. If these taxes could be stated in terms of tax per bushel of corn or wheat, per bale of cotton, or per pound of tobacco, the range of variation would probably have been considerably reduced. Cheap lands in undeveloped communities where taxes are low produce less per acre than do high-value lands in older settled localities where taxes are higher. However, it doubtless is true that there would have been wide variation of taxes per unit of product as between States or localities.

Since the price at which the bulk of a given crop sells is fixed in the general market, the tendency for buyers to pay the least possible price causes producers who have experienced the higher taxes to assume at least a part of the burden of the tax in order to prevent other lower-taxed producers from underselling them. In this way a large part of the total tax on farm land is fastened finally upon the farmer.

Secondly, it is not likely that even the part of the farm tax which is uniform in terms of the product is shifted to the purchaser of farm crops. Theoretically, the weight of this tax falls heaviest on the producer who just breaks even on the year's business and who would be forced out of business if he could not make all of his expenses, including taxes. The retirement of all persons from the field who can not make expenses would tend to reduce the available supply of farm crops and therefore to increase their value so that prices would stabilize at a point where the cost of producing the last units of the quantity in demand would just equal the price which consumers would pay with such a supply available. If such a process led to an immediate abandonment of land this would permit the working out in actual practice of the theory of tax shifting. However, farmers are not prone to give up their occupation, even when operating at a loss. This fact has been noted frequently.

In addition to the universal resistance to change found among all classes, the farmer is particularly handicapped in entering new fields of endeavor. The nature of his occupation and training affords him little opportunity for familiarizing himself with other methods of making a living. On the other hand the prospect, even if remote, of bumper crops or high prices the next year causes him to hold on year after year in spite of his losses.

While some farmers may sell their land and avoid the losses attendant upon its ownership in times of depression, the effect of such sales is merely to transfer the burden from one farmer to another. If land actually sold at a price which corresponded with fluctuations of land earnings, new purchasers would buy at a price which would free them from the inflated values that led to the low rate of returns experienced by their predecessors. However, land values in this country have responded more readily to upward price trends than to downward trends.[8] This is partly to be attributed to reluctance of owners to sell, for reasons already discussed, and partly to the gen-

[8] Babcock, F. M., The Appraisal of Real Estate. McMillan, 1924.

eral optimism which has always been in evidence as to the ability of land to recover its value after a time. While later events have finally demonstrated that this optimism was warranted in the past, it is yet true that the disproportionally high values of land have led to a continuance of high taxes based on sale value and of large interest payments resulting from increased farm mortgages during periods of depression. The farmer may have found it impossible to break even, perhaps for several years in succession, but yet has been impelled to continue producing in the hope of meeting some part of his expenses from the proceeds of the crop, even though he was foredoomed to stand some loss as the result of his year's effort. It follows, therefore, that farm crops have frequently sold on a market whose ruling price was determined not by costs of production but by the smaller sum which unsuccessful farmers were willing to accept rather than to suffer a total loss. Under a condition such as this it is impossible to shift to the consumer of agricultural produce even that part of the land tax which is uniform on all land.

Since farm products sell mainly on national or world markets, the likelihood of meeting this type of competition in sufficient volume to beat down the price is great. It therefore must be concluded that certainly a very large part of the farm tax is not shifted in the form of additions to the price of products sold, but remains as a deduction from the profits of farm operation and ownership. In fact, it is held by most economists that "under actual conditions the tax on agricultural land is rarely shifted to the consumer."[4]

Has the Farmer Bought Himself Free of Taxation?

On the other hand, to what extent has the farmer bought himself free by capitalizing the tax? Capitalization is the process whereby the purchaser discounts the tax in the purchase price and by this means shifts the tax for all time on to the original owner. Because of the possibility of capitalization some are inclined, although recognizing the apparent heavy annual tax on farmers, to minimize the seriousness of the tax situation. Upon examination it will be found that this factor in affording relief to farmers is not so important as it may at first appear.

In the first place, for the tax to be avoided by this means the farm must change hands. Although statistics are not available to show the rate of land turnover, limited evidence indicates that by no means the majority of farms change hands even within a considerable period. In Iowa during the land "boom" period it is estimated that not more than 10 per cent of all farms were affected, although some farms were sold several times within a single year. In normal times the rate of turnover is much lower than 10 per cent per year. It was found also in Iowa that most of the farms were sold by farmers to farmers, and the same is believed to be true in the great majority of cases where farms change hands. A farmer in selling his farm turns about and buys another. Therefore, by the process of capitalization, the tax is avoided by one farmer and borne by another, and some farmer bears the tax after all.

[4] Seligman, E. R. A., The Shifting and Incidence of Taxation, Columbia Univ. Press, 4th edition revised, p. 275.

In the second place, capitalization can affect only that part of a tax which can reasonably be expected in advance. Any tax in addition to that which was anticipated at the time of purchase could not have been discounted in the purchase price, and therefore is borne not by the original owner but by the present owner. Almost 40 per cent of the present annual farm tax has been added since 1920. Since comparatively few farms have sold since 1920, in the majority of cases this part of the present tax has not been borne by the original owner but by the present owner. For these two general reasons the great mass of farmers have not bought themselves free of the bulk of the present tax.

And, finally, is the tax on farm real estate always capitalized anyway? During a period of land speculation, such as was experienced in 1918–19 in many parts of the country, it is doubtful if the mere matter of a few cents per acre in taxes was even thought of when the purchaser expected to turn the land for several dollars per acre profit within a short time. To the extent that the tax is ignored owing to excitement or bad judgment the tax is borne by the present owner rather than the original owner. It appears, therefore, that the farmer not only pays an excessive annual tax but that the tax which he pays in the first instance is fastened on him.

Farm Earnings in Relation to Farm Taxes

If farm taxes can neither be shifted, nor avoided through capitalization, it seems plain that the tax must remain as a charge upon the earnings of the agricultural industry. We have already seen that taxes rose rapidly during a period of falling prices. It is therefore obvious that the tax must have become a great and growing burden upon the earnings of the industry in recent years. This, in fact, was the case from 1919 to 1922, as farm tax studies have shown.

Even in 1919 a department survey shows the tax consumed from 5 to 65 per cent of the return from cash rented farms. These returns were net except for taxes. In the North Central States the tax, expressed in percentage of rent, varied from 11.7 to 38 per cent, while in Southern States it ranged from 5.6 to 29.2 per cent. In the more western States the highest percentage was 37.8 per cent and the lowest 9.8 per cent. The ratios of tax to rent as determined in this study are graphically illustrated by counties in Figure 57.

High as these figures seem in some instances, the rise in taxes and the fall in farm earnings since 1919 must certainly have produced a situation still less favorable to landowners. Other studies reinforce this conclusion.

Rented farms in Indiana, Ohio, and Missouri, where ratios of tax to rent have been ascertained, show marked increases in the relative importance of the tax. The general property tax on 105 Indiana farms averaged 39.6 per cent of rents, net except for taxes, in 1923. In 1922, 100 farms in that State reported a tax averaging 47.1 per cent of rents, while averages for the preceding years were 41.5, 23.9, and 12.4 per cent for 1921, 1920, and 1919, respectively. The tax on farm real estate in Missouri, expressed in percentage of net rent, increased from 10 per cent in 1919 to 20 per cent in 1923. A study

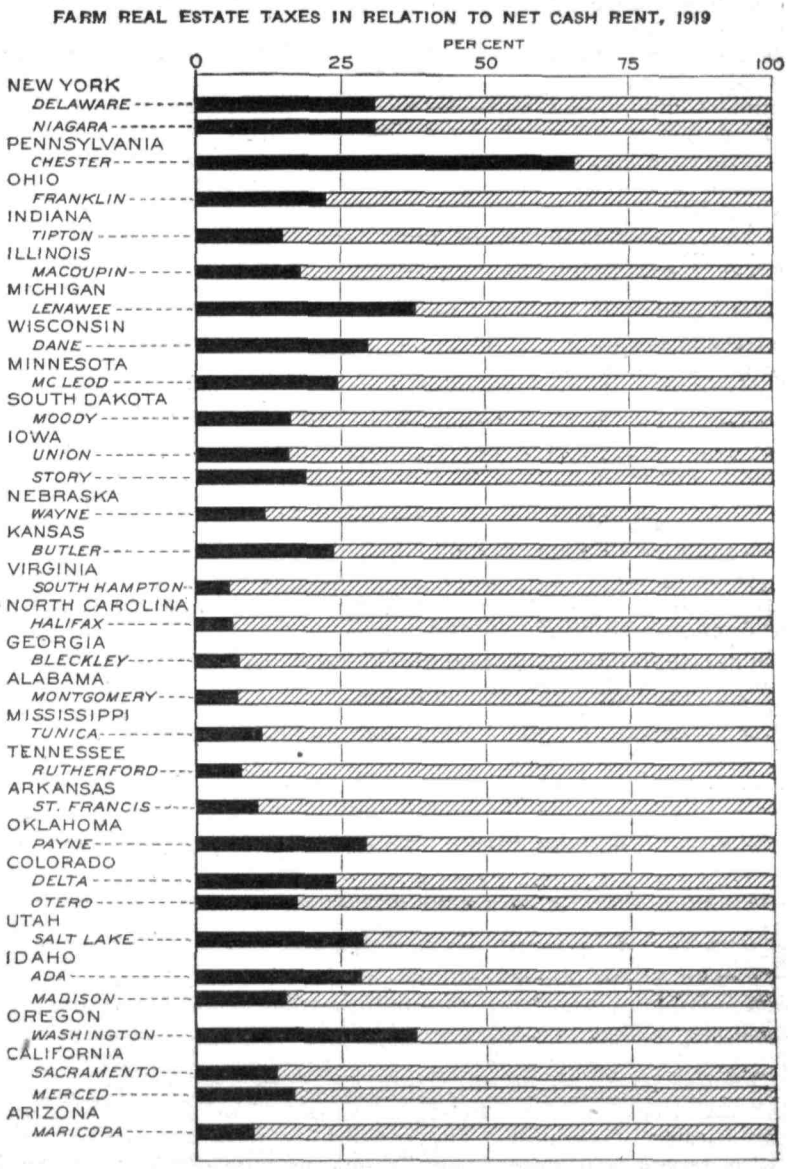


FIG. 57.—The real estate tax absorbs a large percentage of the net cash rent of farms in most of the States. The low percentage shown for southern counties is due to comparatively low real estate taxes and to higher cash rentals, which include not only land earnings, but payment for supervision and risk

From "Taxation of Rented Farms, 1919," preliminary report of the Department of Agriculture, March, 1925

of cash rented farms in Ohio revealed the steady climb of taxes in relation to rents from a percentage of 31.1 in 1919 to 41 per cent in 1922, as shown in Table 2.

TABLE 2.—*Tax in relation to net rent for rented farms in Ohio, Indiana, and Missouri*

State	Indiana [1]	Ohio [2]	Missouri [3]
	Per cent	*Per cent*	*Per cent*
1919	12.4	31.1	10.0
1920	23.9	34.0	12.7
1921	41.5	37.8	22.0
1922	47.1	41.0	18.2
1923	39.6	----------	20.1

[1] From Taxation of Farm Real Estate in Indiana, preliminary report, by the U. S. Department of Agriculture, March, 1925.
[2] Unpublished materials.
[3] Press release by the Department of Agriculture in cooperation with the University of Missouri, January, 1925.

While the different levels reached in the three States show the extent to which the farm tax is a local State problem, the fact that notable increases took place in each of them is also significant. Low land earnings and high real estate taxes are known to have been the general experience of farm owners throughout the country.

The figures shown do not, of course, represent the whole picture of farm taxes. Land in neither the sole source of the farmer's income nor the only base upon which he pays taxes. However, land is the most necessary and largest of all capital investments connected with agriculture in most of its forms, and it is taxed separately and objectively by the States.

TABLE 3.—*Relation of farm taxes to farm income [1] for selected farms in the United States, by geographic divisions, 1923*

Geographic division	Number of reports	Farm income (before deducting taxes)	Taxes	Relation of taxes to farm income
				Per cent
United States	16,183	$1,210	$190	15.7
North Atlantic	1,800	1,230	160	13.0
South Atlantic	2,131	850	110	12.9
East North Central	3,395	1,250	220	17.6
West North Central	3,817	1,350	240	17.8
South Central	3,320	1,030	140	13.6
Western	1,720	1,580	270	17.1

[1] As reported in the July, 1924, Supplement of Crops and Markets, p. 221. "Farm income" represents net business receipts, plus or minus change in inventories for the year. Farm income is not the same thing as reported under the provisions of the Federal income tax law.

It is possible to show, in addition, the effect of taxes upon the whole farm income. However, since that part of farm income which represents the labor and management of the operator is not subject to property taxation, such a figure must be interpreted broadly. These ratios are not comparable with taxes in relation to return from other industries because salaries and wages paid to persons employed are not always included in the net returns of other indus-

tries. Table 3 presents the relation of property taxes to net cash receipts before the deduction of taxes, plus or minus changes in inventories for the farms reporting. It appears that taxes were lower in 1923 than in 1922 when measured by this standard except in the West North Central States. The decrease for the whole country, however, was slight, being only from 15.9 per cent of net cash receipts to 15.7 per cent, because there was little change in the tax in the sections where agriculture is relatively important.

Taxes and Earnings in Other Industries

The farm tax is high in dollars, in terms of property earnings, and in terms of farm income. It is also high in comparison with taxes paid by other classes. Evidence of this fact may be gathered from a recent report of the Bureau of Internal Revenue. In 1922 corporations throughout the country which were engaged in agriculture and allied industries paid taxes other than Federal income and excess profits taxes to the extent of 65.3 per cent of their profits. This ratio was far higher than that for any other class of industry, as Figure 58 shows. The data for agricultural and allied corpora-

RELATION OF TAXES, OTHER THAN FEDERAL INCOME AND PROFITS TAXES, TO NET PROFITS OF CORPORATIONS, 1922

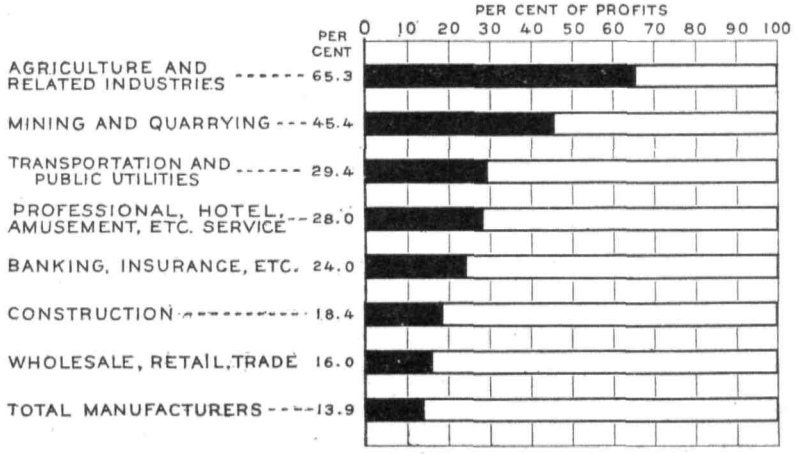


FIG. 58.—Most of the taxes upon which this chart is based were State and local property taxes. Practically all of the tax paid by agricultural corporations is levied on property. The higher ratio of tax to profits in the case of farm corporations is due mainly to the relatively larger investments in real estate, which is especially subject to the property tax and which normally earns a lower rate of return than most other classes of property
Rearranged from "Statistics of Income, 1922," Bureau of Internal Revenue

tions represent 9,092 organizations, of which 7,747 were farm corporations proper. It is unlikely that the ratio shown for the whole group conveys an overdrawn picture of conditions for farm corporations alone. In most instances the taxes shown for corporations were largely general property taxes. Practically all of the tax on those engaged directly in farming was of this nature.

Figures similar to those for corporations have been prepared for partnerships in the State of New York. The partnership data on which Figure 59 is based have been grouped as nearly as possible in the same way that the Bureau of Internal Revenue released the corporation statistics on which Figure 58 is based, with the exception that advantage has been taken of the opportunity to separate farming from other industries closely allied to it. As Figure 59 shows, agriculture stands second in the percentage of net profits consumed by taxes other than income taxes. It will be noted that mining and quarrying, which stand first, are also industries whose property is largely tangible and therefore easily taxed under the property tax. But it should be said that mining is frequently conducted under the corporate form of organization, so that the mining firms considered

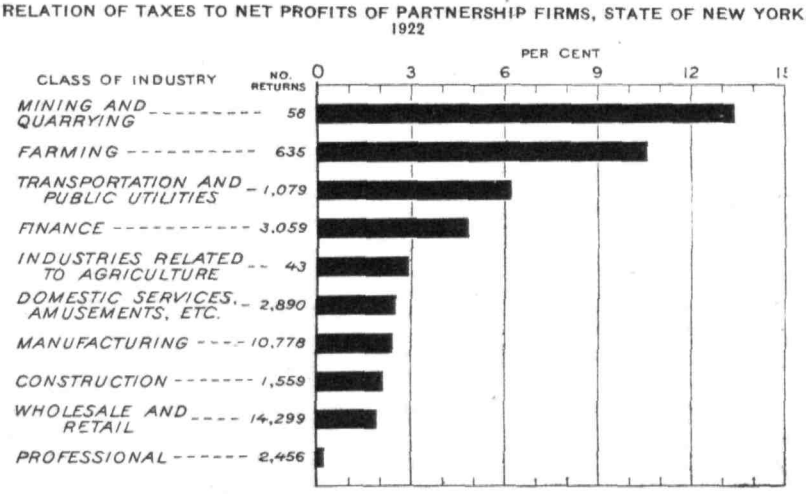


FIG. 59.—The high percentage of profits absorbed by taxes for partnership firms engaged in mining and quarrying is due, in part, to the relatively large investment in real estate, which these firms as well as those engaged in farming are forced to carry. Also the ratio for these firms was high because the small number of coal mines included had an exceptionally high ratio of tax to profits in 1922. With the exception of mining and quarrying, farming partnerships paid the highest tax in comparison with income

Rearranged from the annual report of the New York State Tax Commission, 1923

here may not necessarily be representative of the industry. Inspection of the figures on which the chart is based bears out this conclusion, as there were but nine mines included, with a combined gross return of less than $1,000,000. Such mines could not be considered representative of the mining industry over the country generally, yet the extremely high taxes which they reported (31.4 per cent of net profits) were sufficient to raise the general level of the mining and quarrying class to a point above that of agriculture.

The wide difference in the ratios of taxes to earnings between corporations and partnerships engaged in the same industry, as shown in Figures 58 and 59, is believed due to the accounting practice of deducting salaries to officers of corporations as an expense, while

the drawing accounts of members of partnerships are treated as distributions of profits.

Neither of the above comparisons are entirely adequate to determine the exact comparative effects of taxes upon the profits from different industries. But it is significant that agriculture stands first in one case and second in the other. The presumption seems to be that the farm business is subject to far more burdensome taxation than any other line, with the possible exception of mining and quarrying. This would normally be expected when it is remembered that the property tax, under which agriculture makes most of its contributions to the Government, is a tax apportioned according to the value of property. The low earnings of farm property preclude any other consequence than a high tax in relation to returns.

Use of Earnings in Fixing Taxable Values

How are we to harmonize taxes under the general property tax system and the annual earnings of property? Steps taken to improve assessments of recent years have, with certain exceptions, disregarded earnings and have been confined to an attempt to develop more efficient measurements of sale value, the tax base used during the period in which these inequalities have come about. This situation has had three main causes.

First, as has already been shown, from the popular point of view, sale value is the accepted measure of tax liability, rather than evidence of earning power. The importance of the latter factor and the changes that have taken place in the relative earnings of property appear to have been lost from view.

Secondly, inequalities in taxation are always more apparent as between two properties of the same class than between properties of different classes. However, notwithstanding the greater possibility of error in the case of different classes of property, the alert taxpayer knows less of the extent of these inequalities than he does of the amount of misplaced assessment of property of the type which he himself owns. Like the assessor, the taxpayer is unable to ascertain the true value of classes of property with which he is not familiar. For this reason he usually contents himself with keeping a more or less close watch over the assessments of persons situated somewhat like himself. The result has been a growing demand for careful equalization as between properties of the same class, somewhat to the exclusion of properties of other classes. Moreover, in a period when real estate has come more and more to form the tax base for the property tax, more attention has been given by the public to the taxation of this class of property than of most others.

Side by side with the development of popular interest in the assessment of real estate, however, there has grown up an increasing interest on the part of public officials in the assessment of other classes of property. While many of these are by their nature difficult or impossible to discover and others are hard to evaluate, improvements in the machinery of sale value assessments are being made year by year, both between classes and within classes. To many of those whose interest has penetrated this far into the prob-

lem of taxation it has seemed that a full assessment on the basis of sale value would eliminate the most important evils of taxation, because of the close relationship between the value of property and its earnings. The prevalence of this idea constitutes the third reason why the direct consideration of income has been omitted in the course of tax reforms in many States.

But it is not necessarily true that more efficient assessment at sale value would lead to an equalization of taxes in relation to income or earning power. It was found by the Department of Agriculture that banks in Indiana counties where farm taxes were studied paid taxes which were below those paid on farm lands when measured by incomes. In fact, when levies for similar purposes only were considered, banks paid a tax only half as heavy as that paid on rented farms. Yet, according to the study, the same banks were usually assessed at a decidedly higher percentage of full value than were the surveyed farms.

The situation in Indiana is believed to have its counterpart in every State when all classes of property are considered. The reason lies in the wide variation in rates of return which are earned on capital investments in different fields. Even where it does not occur that a given class of property is undertaxed on the basis of sale value and overtaxed in terms of income at one and the same time, it is almost always true that the degree of over or under assessment differs materially from the degree of over or under taxation when taxation is considered in terms of earnings.

Since property taxes, like all other contributions to the State, are paid from current income and are burdensome or light according to the degree to which they consume income, it would seem advisable to consider this side of the question when assigning the amount of tax to be paid by owners of property.

Consideration of the earning power of property has been widely recommended in recent years. Both the special tax committee of Iowa and the committee on tax investigation of Oregon urged it in 1923. The 1921 enactment of the Indiana Legislature providing that in ascertaining the "true cash value" of personal property assessors may consider "the earning capacity of such property" further indicates the tendency to incorporate this principle into tax laws.

Effect of Financing State Activities by Local Taxation

The mere consideration of earnings in assessing property for taxation does not necessarily guarantee a material reduction of taxes on all farm lands. Such a change will have the effect of reducing assessed valuations and of shifting more of the total tax bill to other property. In sections where but little other property exists the farmer must continue to pay the bulk of the taxes regardless of assessment reforms. As it is at present one of two things must be true. Either the farmer has no claim to tax relief beyond that to be obtained from an equalization with more direct regard to farm earnings and from a reduction in expenditures or else there is a fundamental defect in some other feature of present State and local taxation methods.

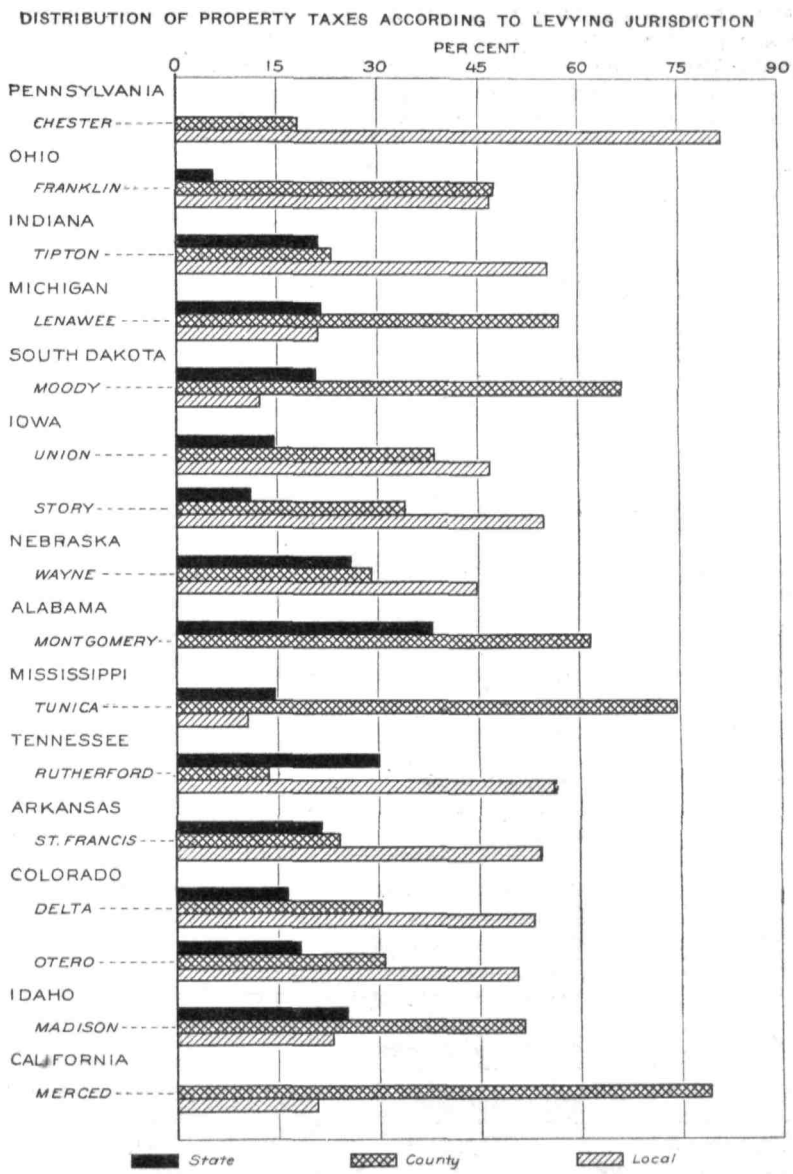


FIG. 60.—The proportions of property taxes levied by the State, by counties, and by townships and local districts vary widely with the States. The share of the total tax levied by the different political units depends upon the taxation policy in the State, that is, whether the major functions of government are financed largely by the State as a whole or by county and local governments acting separately

From "Taxation of Rented Farms, 1919," preliminary report of the Department of Agriculture, March, 1925

The bulk of the farmer's tax, as shown in Figure 60, is levied by local taxing units. The percentage of local taxes of the total has been rapidly increasing in recent years, not because of decreasing State expenses, but because of additions to local levies. This fact has led to the belief that the farmer's tax problem is mainly local. An examination of the purposes for which taxes are levied will show that this belief is not altogether sound. The issue turns upon the propriety with which so large a proportion of the total tax is left to be raised by the local districts.

County and other local taxes in 14 counties representing an equal number of States (Fig. 61) were levied mainly for the support of schools and roads in 1919. While these functions of government do

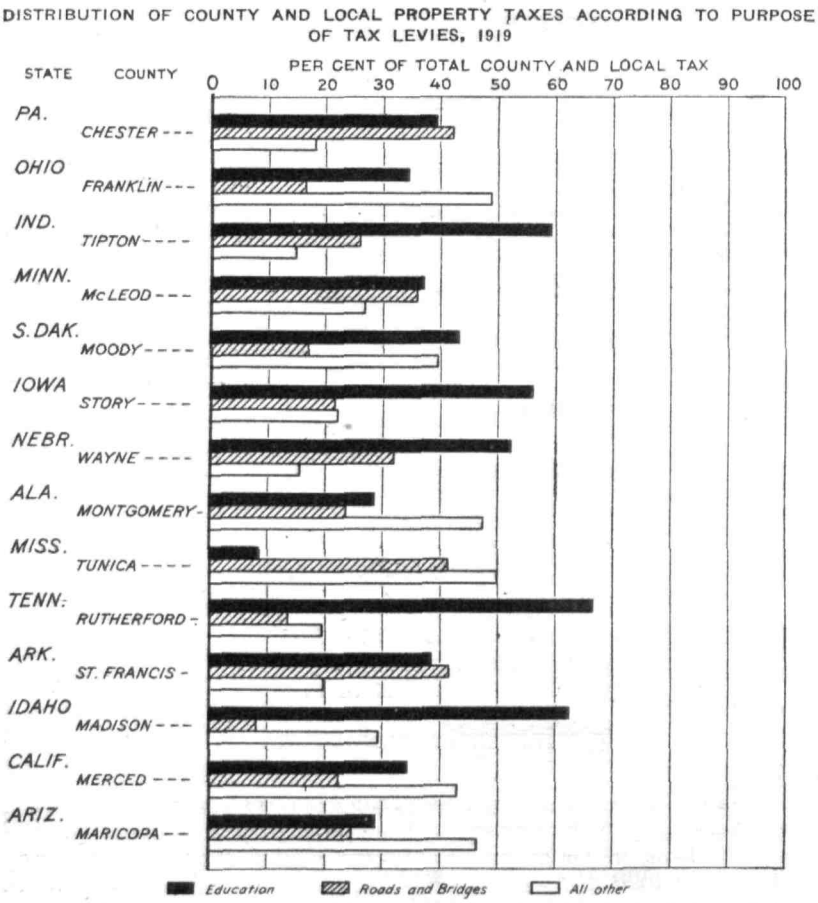


FIG. 61.—The local school tax stands out as the principal tax levy in 7 of the 14 counties, while the road tax levy was the principal item in 2 of the counties

not play so large a part in State levies paid by the same counties, Figure 62 shows that both are found in the general property levies of five of these States, while schools alone appear in the State levies of three States and highways in two States. In two cases there were State property levies, but not for these purposes, while two other States levied no state-wide property taxes at all.

DISTRIBUTION OF STATE PROPERTY TAXES ACCORDING TO THE PURPOSE OF LEVY, 1919

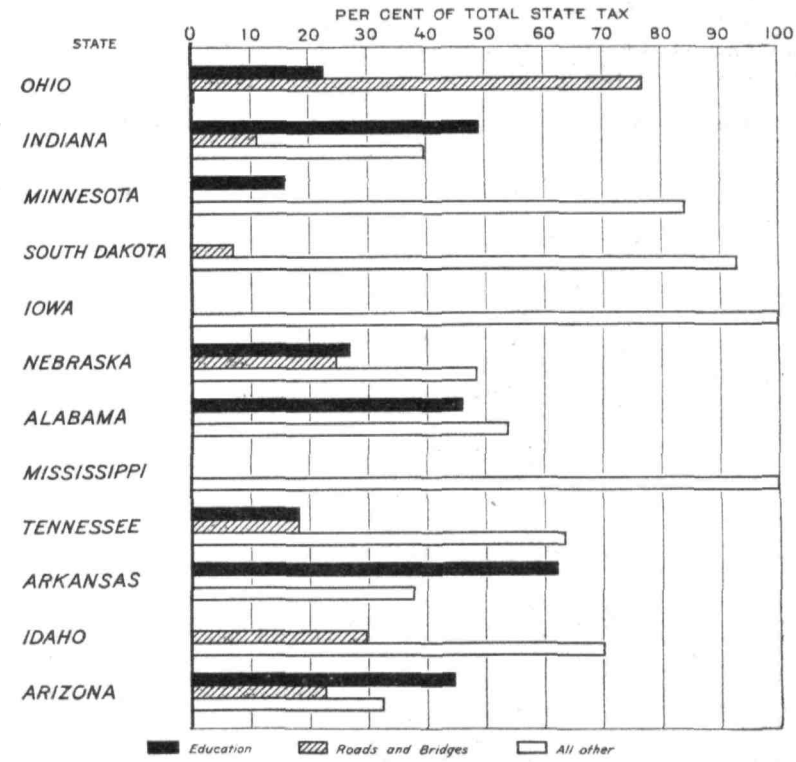


FIG. 62.—The use of State property tax levies for the support of public education and highways varies widely with the States. State-wide levies for schools were found in 8 of the 12 States represented in this chart, and state-wide levies for roads were found in 7 of the States. Two of the 14 States represented in the preceding figure, Pennsylvania and California, levied no State property tax in 1919

A more recent and detailed picture of the same problem is presented in Figure 63, where the Indiana average farm tax dollar paid in 1923 is analyzed. Of every dollar paid in taxes by the farmers of that State in 1923, 76.1 cents went for the support of roads and schools. The road funds had to be divided between three jurisdictions, 1.7 cents going to the State, 22.2 cents to the counties, and 2.9 to townships. Educational levies were divided between the State and the townships, 8.1 cents going to the former and 41.2 to the latter. The Indiana situation has been changed somewhat since

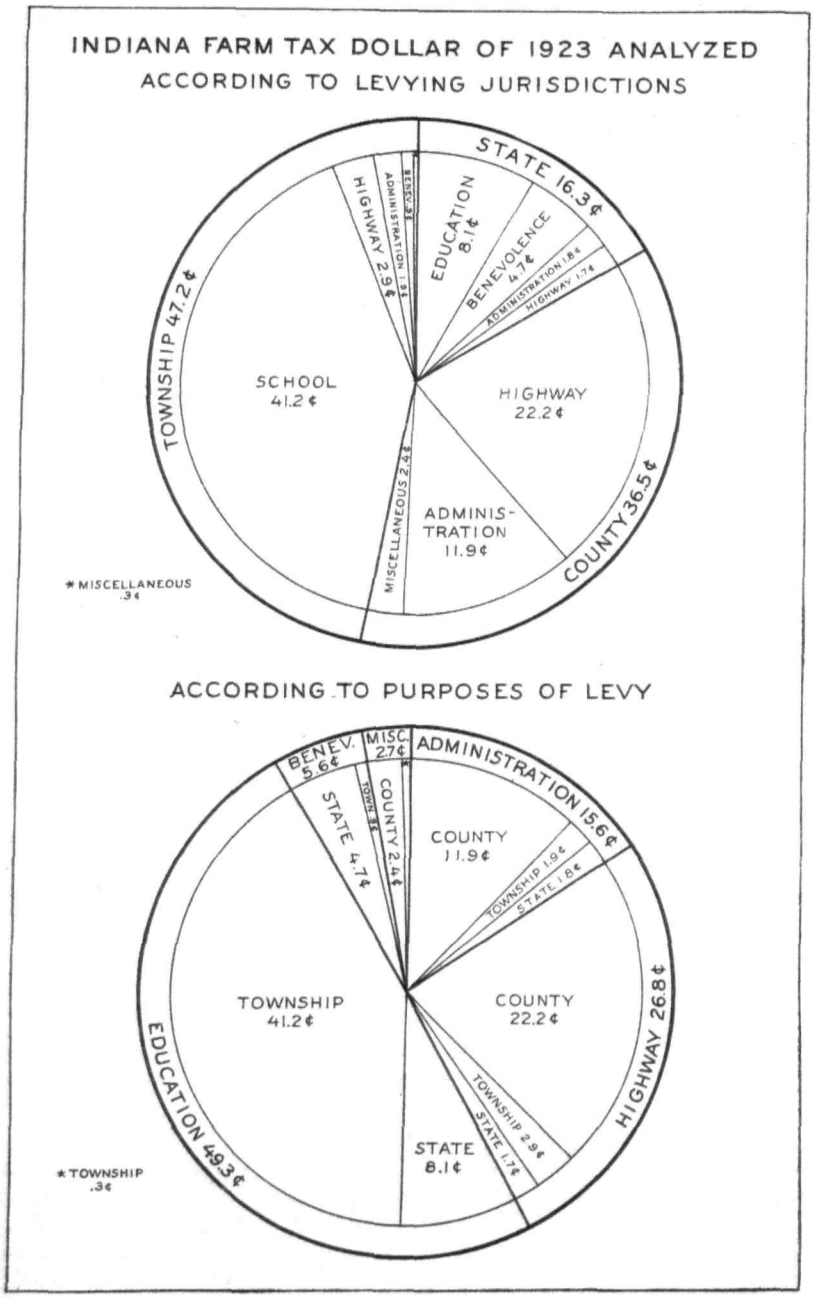


FIG. 63.—In Indiana 49.3 cents of the 1923 farm tax dollar went to the support of public education and 41.2 cents of this amount was levied by townships. Highway costs accounted for 26.8 cents of the farm tax dollar, and 22.2 cents of this was levied by counties. All other governmental expenses, including benevolent, administrative, and miscellaneous items, required 23.9 cents of the farm tax dollar

From "Taxation of Farm Real Estate in Indiana," preliminary report of the Department of Agriculture, March, 1925

1923 with the advent of a gasoline tax, but the figures presented are typical of the distribution of taxes in many general property tax States.

The question is at once raised as to whether the financing of schools and highways is properly to be regarded as a function of the State, of the local subdivisions, or of both. Figure 62 illustrates the diversity in State policies on this point. The reasons for the divisions of tax responsibilities now in force are mainly historical. Both schools and roads were originally financed by means of local tax levies. The importance of public education to society generally was not recognized for a long time, and before the advent of the motor vehicle, roads had almost entirely a local community function. In view of the less complex economic and social conditions and the limited social and political objective, local taxation and local control of the special functions of government was consistent with sound fiscal policy.

These conditions, however, have changed. Public education is now generally considered essential to the proper development of society as a whole and for this reason is held to be of primary concern to the State as well as to the separate localities. With the coming of greater unity in commercial and social intercourse, public highways no longer function merely for the benefit of the local community. Their service has been extended until they now serve the public generally. While this change has taken place gradually and is by no means complete, it has reached the point where it becomes an important consideration in the theory and practice of State and local finance.

Theoretically the scope of the collective benefit determines the scope of taxation for a particular purpose.[5] According to this principle, public functions of state-wide importance should be supported by the resources of the State as a unit rather than by a combination of independent taxing jurisdictions covering the State in the aggregate. The fiscal unit should be limited only by the extent of the common interest. Where the collective benefit is considered to be part general and part local, the financial obligation will be divided accordingly between the central and the local divisions of government.

A collection of independent taxing districts, although covering the State, is by no means the same as the State operating as a unit. If a tax for a common purpose is levied in different districts but at different rates, the tax may be equitable enough within each of these districts but inequitable as between districts. One district may be far more able to bear the tax, while the cost per unit of service may be greater in the less wealthy community. The burden of the tax, although for a common purpose, may be as between taxing districts inversely proportional to taxpaying ability.

For example, the cost of public education per pupil, assuming equal standards, is greater in rural communities than in the more populous districts, while the wealth and income per capita is less.

[5] Bastable, C. F., Public Finance, Chap. VIII, 3d edition, revised. McMillan & Co., London, 1917.

The same type of inequality exists as between road districts or as between counties that attempt to provide continuous highways. The cost per mile of highway of uniform quality may be about the same in different taxing units, yet the wealth of one may be double that of the other with which it is cooperating.

The primary difficulty of the scheme of local taxation for the support of both schools and roads arises from the division of the State into more or less arbitrary districts wholly unfitted for purposes of finance. In the developed sections of the country at the present time the separate taxing districts are not separate communities at all, but merely parts of the larger community concentrated about our towns and cities. While a degree of separation of interests may exist as regards minor matters, economically and socially speaking there is but one unit. The attempt to maintain entirely separate financial relations is contrary to the organization of society, either economic or social.

Besides, the local taxing districts acting separately are far less able than the State to reach taxable wealth or to maintain an equitable system of taxation. A function of government state-wide in importance requires that revenues be drawn from the State as a whole and that public revenues be distributed so as to maintain equivalent services and benefits throughout the State in so far as the State's interest is concerned. After this is done the lesser political units may supplement the State's effort according to local demand.

We may examine this problem a little more closely in typical general property tax States. In Indiana 83.5 per cent of the tax on farm real estate for school purposes was levied by townships in 1922. The remainder was levied by the State. The State government of Indiana has laid down fairly elaborate requirements for public education, fixing the minimum school term, minimum salaries for teachers, prescribing courses of study, and setting standards of training for teachers. However, the cost of maintaining these state-made standards is left largely to the local school districts. Thus, while the importance of public education to the State is recognized in these laws the State as such assumes comparatively little of the financial responsibility.

In Nebraska 85.6 per cent of taxes on rural real estate for school purposes was levied in 1921 by townships and local districts. The State government, as in Indiana, levies practically all of the remainder, as shown in Table 4. Inasmuch as general property taxes in 1922 represented over 93 per cent of all tax revenues in both States, it is evident that schools in these States are predominantly supported by local property taxation.

In Texas, however, practically half of property taxes for schools was levied by the State and the other half by local districts. This higher percentage of the tax levied by the State makes possible a greater degree of equality of educational opportunity in that State.

Similar results have been achieved in other States where State funds derived from sources other than the property tax have been distributed among the local districts in sufficient amounts to bring about an approach to equality of opportunity. Some States, notably Massachusetts, Delaware, New York, New Jersey, and California, have gone even further and have taken the cost of education

into account in determining the apportionment of State funds among the various local school districts.

TABLE 4.—*Percentage of taxes for school purposes levied on rural real estate by the State, by counties, and by townships and other local subdivisions, Indiana (1922), Nebraska (1921), and Texas (1923).*

State	State tax	County tax	Township and other local subdivisions	Total
	Per cent	*Per cent*	*Per cent*	*Per cent*
Indiana	16.5	0	83.5	100.0
Nebraska [1]	14.1	.6	85.6	100.0
Texas [2]	49.5	[3] 0	50.5	100.0

[1] Statistics provided by the State College of Agriculture, University of Nebraska, in cooperation with the U. S. Department of Agriculture.
[2] Statistics provided by the Agricultural and Mechanical College of Texas in cooperation with the U. S. Department of Agriculture.
[3] Less than one-tenth of 1 per cent.

As in the case of schools, so with highways, the problems of division of financial responsibility between central and local State agencies has been viewed in many different lights and disposed of in many different ways. Figure 64 presents comparisons of the 1921 road mileage locally controlled with that controlled wholly

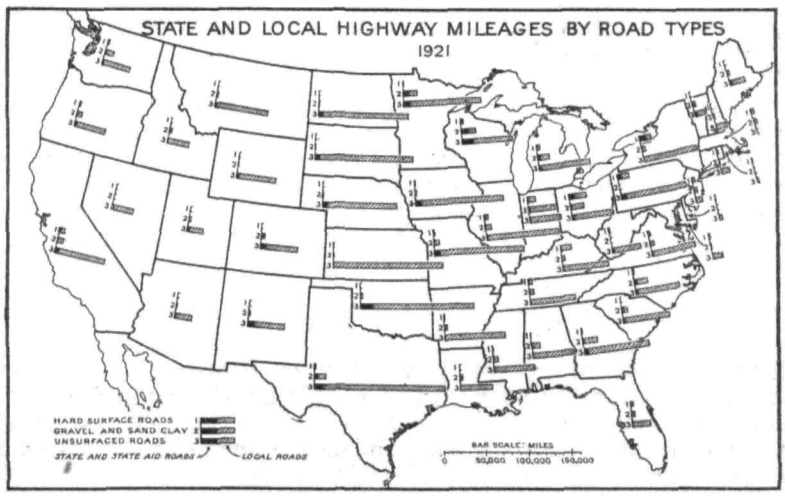


FIG. 64.—The greater part of the highway mileage in the United States is subject to local control
Rearranged from Bulletin No. 1279, Table 11, of the Bureau of Public Roads, United States Department of Agriculture

or in part by the States. With the exception of the State of Wisconsin, the state-controlled roads include State roads, State trunk lines, and State aid roads, as classified by the Bureau of Public Roads for 1921.[6] In Wisconsin county roads are included with state-controlled highways.

[6] Department of Agriculture Bulletin No. 1279.

It appears from this chart that roads of the better and more durable quality but classed as county and township roads far exceeded in mileage roads of similar quality classed as State roads in 1921. While it is evident that some of the mileage of both classes of roads served wholly or in part the purpose of local community traffic, it is equally evident that a large part of the mileage provided by counties and townships, particularly of the better quality roads, was used mainly for general rather than local traffic.

The effect of this arrangement on taxation may be seen from Figure 65, which shows the distribution of tax burdens for highway purposes as between the users of the roads, the States, and the local units. It is now generally agreed that the users of highways should make special contributions to their upkeep, and that the local

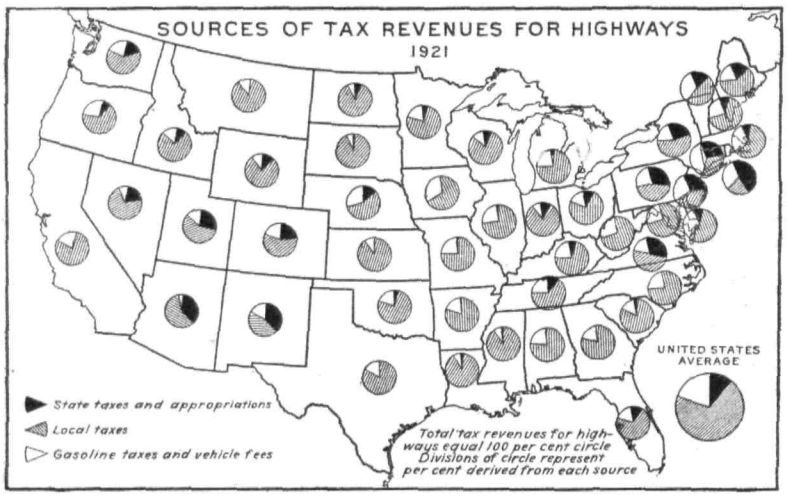


FIG. 65.—Of all highway taxes levied in 1921 in the United States, 19.7 per cent was levied on motor vehicles and gasoline. The great bulk of highway tax revenues was raised from general property taxes levied by counties or lesser civil divisions

Data supplied by the Bureau of Public Roads, United States Department of Agriculture

jurisdictions should provide some part of the cost of all roads, since all roads carry local traffic. In addition, the State as a whole should make some contributions from its general revenues toward the costs of such roads as are primarily intended to function as connecting links between the different localities, because the benefits from such roads are general and are enjoyed in a measure by the entire population.[7]

It is evident from Figure 65, however, that in 1921 many of the States were not providing general revenues in proportion to the extent to which their roads were serving the State as a whole. Increased efforts on the part of State central governments have done

[7] See "Problems of Highway Finance," Report of Committee of the National Tax Association, 1924; also, "Principles Governing the Equitable Distribution of Highway Taxes," by C. O. Brannen, Bulletin of the National Tax Association, December, 1924.

much toward remedying this defect since 1921, but the problem is still an important one, as the continued rise of local road taxes testifies. But while State highway systems, financed directly by the State and Federal Governments, have in part supplanted or absorbed some of the highways originally projected by local governments, the change in this direction has not gone far enough as yet in most States to give substantial relief from the heavy burden of local taxation.

It appears that a large part of the road and school taxes now levied by the local districts, and therefore in large measure levied on farm real estate, go to support services used or required by the whole State. In the case of schools the States have evinced their interest by the passage of mandatory laws which have automatically pried up the level of local taxes. In the case of roads the similarity in type of roads now being built by the State and by the counties makes it clear that the States have failed to assume the full measure of their responsibility in this regard. It must be concluded, therefore, that a large part of the "local" farm tax should be supplanted by State taxes and the revenues distributed in such a way as to benefit the whole State. Professor Hobson, in dealing with this question in England, says:

> It is equally clear that if the State is to require conformity to a national standard of efficiency on the part of local administrators it must be prepared to assist in the finance.[8]

Other Taxes for the Support of State Functions of Government

The defects in State tax systems so far discussed include two main features. The first of these is the failure to give direct consideration to earning power in arriving at the taxable value of property under the general property tax. The second is the failure to recognize the growing responsibility of the State in the matter of financing the special functions of government. Correction of the latter fault would require an enlargement of State revenues. At the present time the degree of dependence upon the property tax for funds to support the general governments varies widely, as is shown in Figure 66. Were a redistribution of taxes attempted along the lines outlined, the resulting increase in state-wide taxes would be much greater in States where centralization of control has progressed rapidly than in those where the highway and school problems are still of local interest in the main. It is probable, however, that even those States which have attempted a minimum of centralization would find it necessary to make important increases in state-wide levies if they assumed even the relatively small part of financial responsibility for such functions as they now control in other respects.

If these increases were to be met out of a state-wide property tax alone, two undesirable results would probably come about. First, the total State levy would be so materially increased that it might

[8] Hobson, John A., Taxation in the New State, p. 241.

overshadow all other levies in the public mind and lead to an unnecessary alarm over a fancied increase in expenditure. This, in turn, would have the tendency to bring about greater reductions in expenditures for such purposes than actual necessity would dictate. Second, the continuance of property tax support for these institutions would result in exchanging a local tax now levied chiefly on farm real estate in the country and a local tax largely on urban real estate in the city for a State tax chiefly on real estate of whatever type, wherever located. It is true that a certain amount of the tax falls on tangible personal property under either plan. However, as Professor Seligman has said, "Those who own no real estate are in most cases not taxed at all; those who possess realty bear the taxes

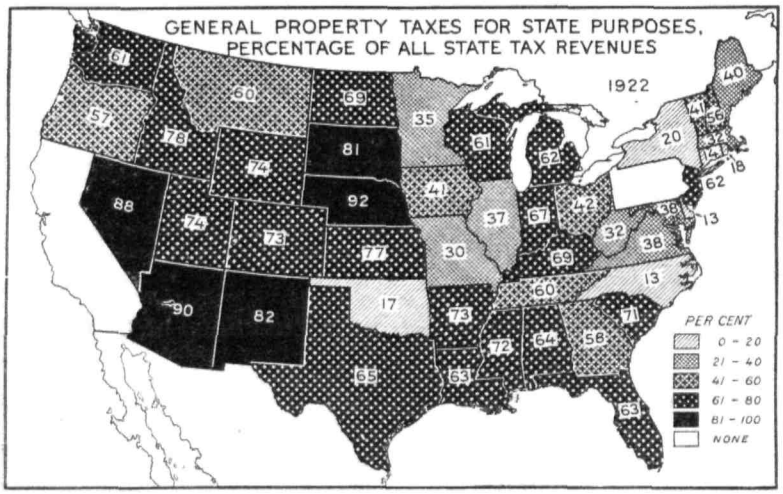


FIG. 66.—While two States have entirely abandoned the general property tax as a source of revenues for State purposes, 29 States still derive over 50 per cent of the revenues for their central governments from this source. The percentage shown for New York represents a so-called county school tax. This tax, however, is ordered by the State legislature and is levied at a uniform rate throughout the State. This and several other features render the tax so similar to State levies in other places that it has been necessary to show the New York tax as a State tax in this chart in order to permit proper comparisons between States

for both."[9] While the state-wide property tax would bring some relief to the farm, it would be accomplished by removing a portion of the excess tax burden from one class of real estate and shifting it to another class, which, while better situated than the farm, is also overtaxed at present.

The property tax is almost unanimously condemned in theory by economists as a measure of personal tax-paying ability, and its use for the support of the general functions of government is quite generally deplored. However, at least two points may be raised in its defense. The property tax is of such a nature as to make possible the most accurate forecasts of its annual yield. It is also a tax which can be made to yield more or less with comparative ease.

[9] Seligman, E. R. A., Essays in Taxation, 9th edition, p. 28.

This elasticity is a most essential feature in any workable tax system. It is not necessarily true, therefore, that other sources of revenue must be discovered for the support of the entire State government. While such a step would in most cases bring some relief to overtaxed real estate, practical consideration might not always make such a course advisable.

The adaptability of any plan which might be followed would, of course, vary with the degree of industrial development in any given State, as this development creates the large body of wealth and income now untouched by the property tax. For this reason it is not considered necessary or advisable to do more than enumerate the most outstanding available sources of State revenues which in some States might be tapped for the first time and which in others might be further expanded if they have not already been increased to the point of highest yield consistent with the progress of the State. Such sources include the income tax, consumption taxes on tobacco, gasoline, and the like, license and franchise taxes on individual and corporate enterprises, and inheritance taxes. Just which of the possible sources should be used in any given State must, of course, be decided according to the conditions which obtain there. Likewise the limits to which such taxes may be carried depends upon the locality. But to whatever extent these taxes are carried, additional relief will be given to real estate, the class now most seriously overtaxed, and more particularly to farm real estate.

It is true that a portion of the tax burden which might be placed upon other persons, services, and the like by the adoption of these newer tax bases might be shifted by the original payers and eventually rest upon the farmer. However, the proportion of the total State tax bill which the farmer would pay under a diversified system of taxation is certain to be less than if so large a part of it continues to be levied directly upon farm land, from which it can not be shifted.

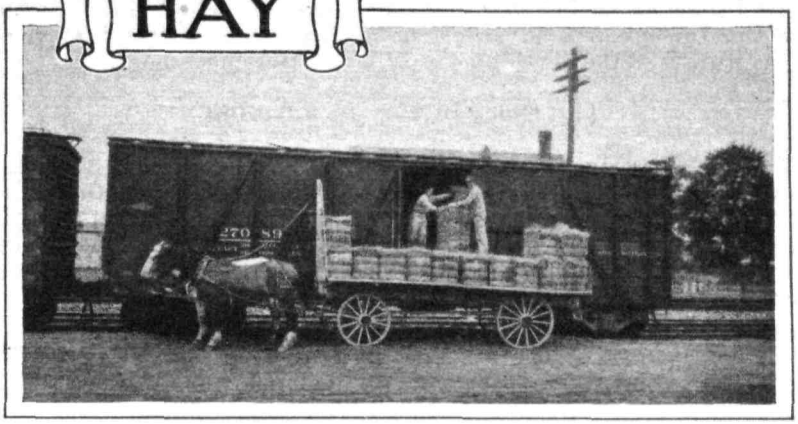
As was the case in regard to a redistribution of the functions of local and State governments, the benefits to be derived from the use of new revenue sources are sure to be greatest in States where agriculture is of relatively little importance in proportion to other industries and least where agriculture is strongest. This may be expected for two reasons: First, the predominance of agriculture in many States leaves no adequate base onto which taxes now borne by the farm could be transferred. The agricultural industry must continue to bear the greater part of the tax burden in these States, no matter what form of taxation is adopted. Second, the States where industries are yet in their infancy may find it advisable to tax them more lightly than would be necessary if they were more firmly established. However, our whole history points to the future development of the other classes of industry, and the embodiment of some such taxes in the fiscal system, even if in a modified form, seems advisable not only for the sake of immediate justice but also for the purpose of preparing the way for future adjustments at the proper time.

Remedies for the three major defects in the present farm tax methods here discussed might well form integral parts of a unified

scheme of tax legislation. It is quite true that the benefits from any one of such remedies can not be realized in full except in conjunction with the others. However, each of them is useful when considered alone. It is highly improbable that all three steps could be taken at one time, and it is doubtful whether such a move would be advisable in any case, as the system of taxation of a State making such an attempt would run the risk of becoming temporarily disorganized. In addition, the likelihood of well-considered action in regard to any one of the proposals would be diminished. However, the early inauguration of a series of changes along the lines indicated would most certainly bring welcome relief to a tax-ridden agricultural industry.

The present scheme of real estate taxation, though frequently unduly heavy and unjust, has continued unmodified partly because of its simplicity and partly because of expediency. It is always advisable, of course, to lean to the side of simplicity in taxation, and expediency will play its part whether we will or not. But while justice in taxation is never likely to be the only consideration, an unjust tax or an unjust proportion of the tax on one class of taxpayers need not be continued indefinitely merely because the demands of simplicity and expediency are satisfied.

HAY



By C. V. PIPER, R. A. OAKLEY, H. N. VINALL, A. J. PIETERS, and W. J. MORSE, *Bureau of Plant Industry;* W. J. SPILLMAN, O. C. STINE, J. S. COTTON, G. A. COLLIER, M. R. COOPER, and E. C. PARKER, *Bureau of Agricultural Economics;* E. W. SHEETS and A. T. SEMPLE, *Bureau of Animal Industry*

HAYMAKING is a very ancient agricultural practice. Its origin antedates history. Man doubtless developed it from very crude beginnings, but he can not claim to be the originator of it. The pika or cony (fig. 1) was a skilled haymaker before man had any need for hay. This little rodent cuts suitable fine-stemmed grasses, sedges, shrubs, and other plants and puts them in favorable places for curing. Usually his stacks are built among the rocks in protected and thoroughly drained situations. (Fig. 2.) He is so particular in the curing and storing of his forage that the color and fragrance of the material is well preserved. Man is usually less particular in his haymaking methods, since his product is for the sustenance of other animals.

The making of hay by man probably started with an attempt to provide forage for his herbivorous domestic animals when he took them on excursions into localities where grass or other forage was wanting. Probably he started with green material and by accident and observation learned that dried stems and leaves were eaten readily by the animals and that more forage could be transported when the plants were dry than when they were green.

As man became more engaged in the care of herbivorous animals he doubtless became more discriminating in his choice of wild hay plants, giving most consideration always to those easily available in the quantity needed. As in the case of food plants, primitive man soon discerned the ones best suited to his purpose so that, when he reached the point in his development where he realized the advantage of cultivating plants for hay, he lost no time in choosing the good ones. Although history does not go far enough back to throw any light upon the early development of haymaking, it is very reasonable to conjecture that alfalfa was one of the first plants grown especially for that purpose. So it is apparent that primitive man recognized the same important qualities in a hay plant that are recognized to-day. In the progress of civilization man has im-

proved some of his original hay plants and has added others to the list, but the greatest advancement he has made in this branch of agriculture is in the development of haymaking machinery.

The Place of Hay in Farming

To have an adequate appreciation of hay and its place in American agriculture it is helpful to know something of its history, the requisites of the different hay plants, why hay is an important crop in some regions or sections and not in others, the factors that determine its place on the individual farm, and other broad economic and agronomic factors that are largely responsible for the position hay holds among our staple field crops. Consideration of these subjects in their logical order presents a "broad brush" picture which should make possible an appreciation of hay in its widest aspects. Nature



FIG. 1.—Pika or cony. This is the busy little animal whose haymaking activities antedated that of the earliest man. Photographed near Irwin, Colo.

has provided hay meadows of which man avails himself. Hay from these is called "native or wild hay," sometimes "prairie hay," and some of it "salt hay." Although the acreage of wild hay in the United States is very large, cultivated plants contribute by far the largest part of our total hay supply. Of these the perennials and certain biennials are of much the greatest importance both in acreage and production.

The discussion immediately following is from the standpoint of perennial, cultivated hay plants. Hays from wild plants and from annual cultivated plants are included only as the discussion may incidentally relate to them, since the former in a sense is taken as it is found, and the latter may be regarded to a considerable degree as an emergency crop.

That hay forms a distinct class of cured and harvested roughage is very generally understood; but, in order that there may be no misunderstanding, it should be stated that hay is the entire dry-

cured-above-ground parts—that is, the stems and leaves, and in some cases the seed, of relatively fine-stemmed plants harvested especially for feed. Thus hay is distinguished from such roughage as corn fodder or stover largely because of its fineness of stem, and from the fine-stemmed crops cut and fed green or as silage, because it is prepared by dry-curing. Hay should not be confused with straw, as the latter is a by-product of a crop harvested for another purpose. Hay is the most nutritious harvested roughage in common use. It supplies the need for a dried roughage that can be stored in a minimum of space and transported with the least effort and cost.

Characteristics of a Good Hay Plant

The requisites of cultivated hay plants may be regarded from two aspects—consumption and production. Obviously, the former aspect is the more important, since large tonnage and other agronomic

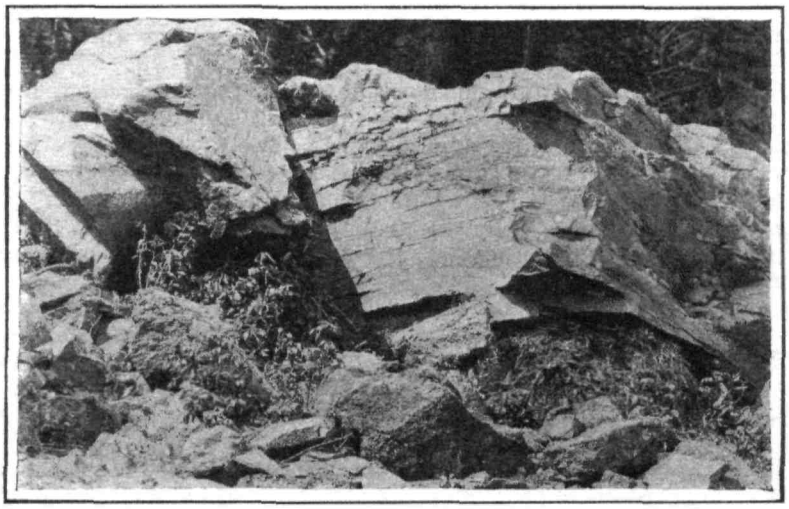


FIG. 2.—The pika builds his haystacks beneath projecting rocks to protect them from the weather. Photographed at Trappers Lake, Colo.

advantages are of little consequence if the cured herbage of the plant be refused by livestock. Therefore a plant from which it is possible to make good hay must be palatable to herbivorous domestic animals when it is properly cured. It must be nutritious; but, in the case of roughage such as hay and fodder, palatability is of even more importance than nutriment. Very frequently palatability and nutritive value are closely associated. It may be merely a fortunate coincidence, but most palatable hays are likewise nutritious, so that palatability is a fair measure of feeding value. A certain bulk is necessary in a ration for a domestic animal and, when feed is plentiful, palatability induces the animal to consume enough to permit the proper functioning of the digestive organs.

Few hays when fed to animals are entirely consumed by them. There are usually some of the coarser or more fibrous parts of the stems refused. A plant in which the proportion of waste is large is not a satisfactory hay plant. It is easy to understand why this is true

sons for this are sound. In some cases, however, where hay is but little grown it would appear that it could be produced advantageously on a much larger scale than at present.

The factors that determine the relative acreage of hay in the various regions or sections may be divided into two groups: (1) Natural, by which is meant climatic, biologic, edaphic, and physiographic; and (2) economic. These two groups of factors, of course, are interrelated. The second group particularly is dependent upon the first, but for the purpose of this discussion they may be considered more or less separately.

Of the natural factors, climate is the most important for the country as a whole. Rain favors grass production but handicaps hay curing. Perennial hay plants which make up a very large percentage of the hay of this country are of little importance where the precipitation falls below 25 inches annually, except where irrigation is practiced. In regions of dry farming, therefore, cultivated

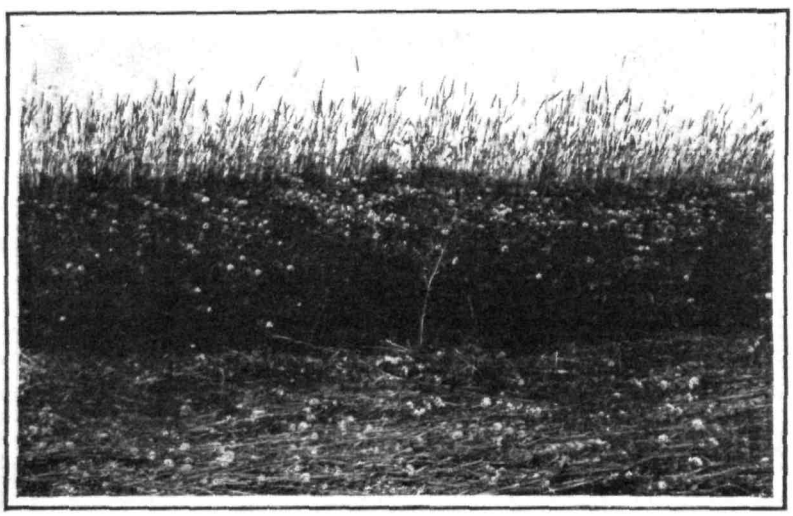


FIG. 4.—Alsike clover and timothy grown together make an excellent mixture for hay, especially for wet lands

hay plants contribute almost negligibly to the agricultural resources. Although perennial hay plants need an abundance of moisture to make good yields, frequent rains and high humidity make curing exceedingly difficult and result in discouraging hay production. Therefore, moisture for the needs of the growing plant and periods of sunshine with freedom from showers for curing make the ideal climatic conditions for hay production.

In the United States, temperature plays an important part in the hay industry, in being a factor that apparently limits the southern range of timothy. No part of the United States proper is too cold for timothy, but from the northern part of the Cotton Belt southward the summer temperatures seem to be too great for its well-being. It so happens that in the part of the Southern States where timothy does not thrive there is no equally satisfactory perennial hay plant. If a hay plant could be found that would be as suitable

and as valuable for this region as timothy is for the Corn Belt, the crop-production map of the United States would doubtless be very materially modified. The same might be said of the drier parts of the Great Plains, but the cases are hardly analogous, since in the dry region the growth of all vegetation is limited by insufficient moisture. The lack of suitable hay plants for regions favorable for plant growth is a biological factor that limits hay production.

The influence of edaphic or soil factors is shown chiefly in sections of sandy soils. Clay soils may be poor and exceedingly hard to work, but if they are sufficiently drained they are fairly suitable for hay plants; whereas sandy soils, if very light and inclined to be dry, as is frequently the case, are not satisfactory for the growing of good perennial hay plants or for the making of hay.

Rough topography in many sections is responsible for hay being relatively more important than are other cultivated crops. Steep

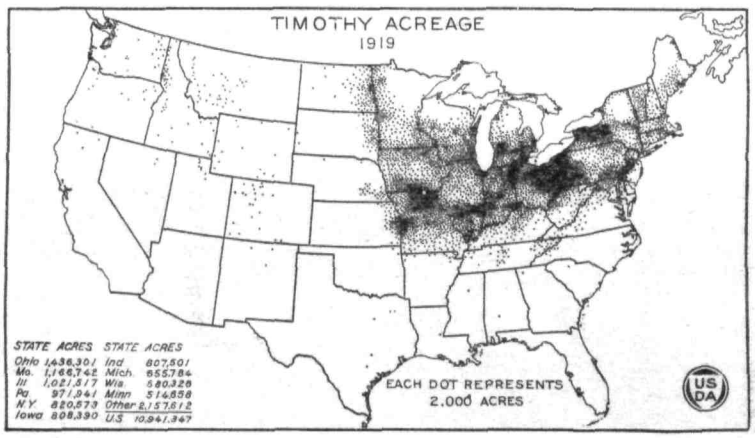


FIG. 5.—Timothy has long been the most important grass for hay production. Its culture is confined very largely to the northeastern quarter of the United States

hillsides wash badly when plowed annually and it is very unwise to raise tilled crops on them. The hay crop can be grown with a minimum of stirring of the soil and if necessary can be handled by very simple machinery. This is one reason for the relatively great importance of hay among the agricultural products in certain sections of New York, Pennsylvania, and the New England States.

Taken as a group, the natural factors play a very large part in the distribution of the hay crop of the United States. When the distribution of the cultivated hay acreage is studied from an economic standpoint, it becomes evident that competition with crops that come more nearly falling into the class of cash crops is the factor that determines its relative importance in most agricultural regions or sections. In the sections of the United States best suited to corn, the hay acreage declines. On the marginal areas of the Corn Belt, particularly northward and eastward, the competition is less severe and the hay acreage expands, except possibly where dairying is highly developed and silos are abundant. Winter and spring wheat culture even in the rain belt likewise tend to depress the hay acreage. In the sections of the Cotton Belt best suited to the growing of cot-

ton, that crop is supreme. The lack of suitable hay plants for much of the Cotton Belt, it is true, gives the cotton acreage an added advantage, as shown by the fact that in the black lands of Mississippi and Alabama, and elsewhere, alfalfa, when it could be grown successfully, provided a real competition with cotton in the matter of acreage. In recent years, for natural reasons not well known, its successful culture has declined. Tobacco and other less important cash crops have the same effect on the relative acreage as do corn, cotton, and wheat, but their effect, of course, is much more local.

In much of the irrigated West the relative hay acreage is very large. Irrigated lands are mainly in regions of dry climate where conditions are nearly ideal for the curing of hay. Alfalfa, one of the best hay plants grown by man, thrives abundantly on practically all of the irrigated soils of this region. It produces two to six crops annually with a correspondingly large tonnage. Corn is poorly adapted to most of the irrigated sections. Wheat and other small grains in general do well there; but these small grains for the most



FIG. 6.—In the wide expanse of western range lands farms like these in the valleys emphasize the advantage of irrigation in their abundant hay crops

part must be shipped to milling centers and, because of the distance of most irrigated lands from large markets, transportation charges are high. Alfalfa, in addition to producing a large tonnage of hay, can be fed to livestock where it is produced, and thus it finds a market at home. Where alfalfa seed can be raised successfully, it supplants the hay crop to some extent. Seed is a high-priced product and will bear heavy transportation charges. Alfalfa hay is shipped in quantity only when produced relatively close to large markets where transportation charges are not excessive. Cotton is competing with alfalfa on irrigated lands in parts of the Southwest. It is a cash crop that will bear transportation. Where a crop like sugar beets is introduced, alfalfa meets with competition. Beets produce a large tonnage and a near-by market is usually provided.

There are many other factors that determine the relative importance of the hay acreage in various parts of the United States. These are discussed elsewhere in this article. Hay is of value only as it is converted into animal labor or animal products. It is at a

disadvantage as compared with other crops, in that it has practically no market abroad and because of its bulk and other features it can not be stored economically either on the farm or in terminal markets for indefinite periods, as can cereals, cotton, or tobacco. The flexibility of its consumption is not great. Acreage bears a more definite relation to yield than in the case of most other field crops, and in all there is relatively little of the speculative feature in hay growing. When emergency situations arise, such as that caused by the World War, the hay acreage is reduced to provide increase for the acreage of food crops.

Factors Determining the Acreage on the Individual Farm

All the factors that influence the relative acreage of hay in regions or sections operate in determining its acreage on the individual



FIG. 7.—An alfalfa haying scene in central Kansas

farm; but, in addition, there are other factors which affect hay acreage but can scarcely be said to be regional factors. Viewed from the standpoint of the individual farmer one of the first, if not the very first consideration, is the availability of a suitable hay plant for his conditions. Every farmer would raise hay probably in excess of his bare needs if he could be sure of a fair yield for the benefit such a crop would be in maintaining the productivity of his soil. But, on the other hand, the great attraction of cash crops where such are practicable has a tendency to induce the farmer to seek other ways of maintaining a permanent system of agriculture than by the inclusion of "grass" in his cropping system. Granted that the farmer be located in a region where mixed grain and livestock farming is practiced, the distance of his farm from market and the general conditions of the road from his farm to town may influence him in either of two directions. He may conclude, because of a long hard haul to market, to raise mostly grain, which is more easily

transported than hay; or he may decide to lean to livestock and raise more hay and other forage, thus further simplifying his transportation problems.

Other factors being favorable, rough topography usually favors hay acreage on the individual farm, and smooth topography favors the acreage of crops that require more cultivation of the soil. Erosion is here the chief determining factor, but the difficulty of using machinery is also a consideration. Poorly drained lands can be devoted to such crops as timothy and redtop better than to corn or small grains. Alfalfa will not tolerate poor drainage. The farmer for reasons which he may regard as sufficient, may prefer to devote his poorly drained fields to grass rather than go to the trouble and expense of draining them for other crops. Unless the farmer's soil is very sandy it is not of great importance in determining his hay acreage, particularly where perennial grasses are the hay plants grown. Timothy especially is suited to a very wide range of soils. Different types of farming to some degree at least call for different cropping systems. For the average farmer diversified farming which includes a fair number of livestock is a conservative type, whereas cash-crop farming is more speculative in character. The almost innate belief that "grass" is essential to a good permanent agriculture and the need of hay for horse feed induces farmers to include hay in their farming systems regardless of the systems they follow, but naturally the former calls for the larger acreage. The grain farmer makes hay a side line. The livestock farmer usually includes it as one of his principal crops. Either may grow a larger acreage than he would otherwise in order to enable him better to grow some other crop he considers more important. In many cases the livestock farmer raises hay for his own needs in preference to coarse roughage, because he has no silo and hay is more easily and conveniently stored than is fodder or stover. In the last analysis, the farmer either consciously or unconsciously reviews all the factors and then decides upon the extent to which he shall engage in hay raising at any particular time. He looks at the problem in the main from the standpoint of net profit, but his own idiosyncrasies enter into the equation to some extent. In other words, he consults his likes and dislikes, sometimes possibly his imagination. He may regard himself as a good corn or wheat farmer and a poor hay farmer, or the reverse. He may dislike haymaking because of extra labor or for other reasons, or he may regard his farm as poor grassland, especially since if he applies fertilizer he does so to his other crops and rarely to his hayfields. But idiosyncrasies rarely govern in the largest measure. The farmer's decision is usually sound. So very largely the question is reduced after all to the consideration of profit consistent with dependability of income and the maintenance of his soil. He realizes in most cases that grains have greater possibilities of profit, but the hay crop helps him to divide his crop risk and tends to make his income more secure. Where hay competes strongly with grain as a cash crop, he is influenced of course portantly in favor; but he realizes that the value of his hay crop may be These are largely reduced by unfavorable weather during the few days as it is necessary to cure it. Grains are less subject to such precautions. After they have matured they will withstand other damaging agencies to a much greater degree

than will hay. Of course the farmer knows that much of the damage done to hay by unfavorable conditions for curing does not unfit it for feeding on the farm, and he must have hay at least for his horses. If he is able to cure a part of his crop in bright sweet condition, that part can be put on the market if he desires.

The farmer in the hay belt grows hay because he needs it for his horses, because he believes a "grass" crop is necessary to keep his soil in a good permanent state of productivity, and in other ways to improve his crop production. Besides, it gives him an additional chance against the weather and other growing and marketing factors in the gamble of farming; and in some, although a rather small percentage of cases, he grows it because for him it is a real cash crop.

History of the Development of Hay Production

Since the beginning of history hay has played a very important part in the development of civilization. This is especially true in central Europe, where the conversion of the natural marsh grasslands into well-drained meadows of cultivated hay plants was one of the main factors in social and economic progress. In the Roman Empire, before the beginning of the Christian era, the making and storing of hay was considered of such importance that it was regarded as lawful and proper to engage in this work on holidays and days of worship. There were few other activities so highly regarded.

Hay has played no small part in the development of the United States. To-day America's hay crop is among her most important staples. It is estimated that there are now upward of 98,000,000 tons of hay of all kinds produced annually. This is approximately 24 per cent of the total production of coarse forage, or enough for approximately 14,000,000 adult animals for one year. In other words, if our domestic herbivorous animals could subsist on hay alone, as in many cases they can, a year's production would feed 14,000,000, or 24 per cent of the total number. As an important constituent of animal rations, hay furnishes much of the energy for the work animals of the farm and contributes largely to the making of animal products for human food and the industrial arts.

One of the first problems of the northern settler was to provide hay or other coarse forage for his livestock through the winter season. Previous to the Revolutionary War a large part of the hay gathered was produced on natural meadows or marshes. These marsh meadows were important economic assets, but their limited extent necessitated the establishment of artificial meadows before livestock could be greatly increased. Meadows usually were started, however, by clearing and setting aside for common use the low-lying lands which would produce natural pastures and meadows. Seed of various English grasses was occasionally sown, but its use was not general throughout the seventeenth or eighteenth centuries. As villages and cities grew and the number of horses necessary for transportation increased, the demand for good-quality hay became greater, and in suitable areas near the cities there developed some specialization in the production of hay for market.

The Northern States were fortunate in having a climate favorable to good hay grasses. To the south, in the Tidewater and Piedmont country from New York to Virginia, contemporary accounts

as late as 1800 note the great scarcity of meadows. Farther south weeds and sedges afforded considerable pasturage, and mild winters largely relieved the need of hay.

Our first important hay plant was timothy. Originally it came to notice in New England, where it was known as Herd's grass, supposedly named for the man who found it and sowed the seed. Locally in New England and New York it still is called by this name, which now is more generally applied to redtop. Before 1750 timothy was taken to the vicinity of Baltimore, according to traditional evidence, by Timothy Hanson, for whom it was named. From Baltimore it spread both in this country and to England. Its adaptation to heavy, moist soils and a cool climate retarded its utilization about Baltimore, and in 1800 its use seems to have become more general in England than in America. Yet, throughout the Northern States it was well known before the Revolution. With the extension of settlement and grain farming in the North, timothy went hand in hand, because, in general, it was suitable for all of the moister of the wheat soils. In the South and on the unirrigated dry lands of the West, however, where the climatic conditions are not favorable, it is of comparatively little importance.

Red clover, as well as timothy, was widely dispersed in the Colonies before the Revolution, and its production was becoming general in some sections of the North. The war, by cutting off the English supply of seed, retarded the development of the crop in the Central States. Clover seed was brought to this country from England in the seventeenth century, but clover culture was purely local. After the Revolution and during the early years of the last century its production, particularly with the use of gypsum and marl attracted a great deal of attention in Delaware, Maryland, and southeastern Pennsylvania. Not only was it a source of hay but a means of increasing the productivity of land. (Fig. 8.) For the country as a whole north of the Cotton Belt, red clover probably can not claim general adoption before 1850.

In addition to timothy and clover, many other hay plants were introduced into the Colonies, though they attracted little notice. Probably alfalfa was cultivated locally during the last years of the Colonies, and certainly before 1800. On the west coast of South America it has been grown for a century and a half or two centuries, whence it was introduced into California about 1854.

The last years of the Colonies and the first years of the Union formed a period of establishment of meadows east of the Appalachians. Previously the wintering of livestock had been a somewhat trying task at best. After about 1820, however, hay became abundant in the North and trade developed between the North and South. Hay production became an important farm enterprise and in some areas held a definite place in the cropping system.

In 1839 New York was the great hay-producing State, with Pennsylvania and Ohio, respectively, second and third. New England at that time must be classed with New York, for hay production was about equally important in the two sections. In New England it was the most important crop grown. The quantity of hay available for winter use was the limiting factor in determining the number of livestock which could be kept through the year. The chief aim in cropping many farms was to produce as much hay as possible.

The best land—that is, the smoothest and richest—was given over to hay, and the hayfield generally was manured or otherwise fertilized. After from two to six crops of hay had been taken off, the field was broken up, cultivated one or two years, and reseeded to grass. A common rotation was corn, potatoes, oats, followed by grass from three to six years or in general as long as it continued to yield a ton of hay to the acre.

New York City furnished a market for a large quantity of hay, and Long Island Sound, the Connecticut River, and the Hudson River, with their connecting canals, permitted cheap transportation. Dairying was becoming a specialized industry, and winter dairying likewise required large quantities of good hay.

Long distances to market made it essential to compress the loose hay into less bulk if the trade was to reach its greatest development, and as early as 1813 a patent was issued on a hay press. Two hay

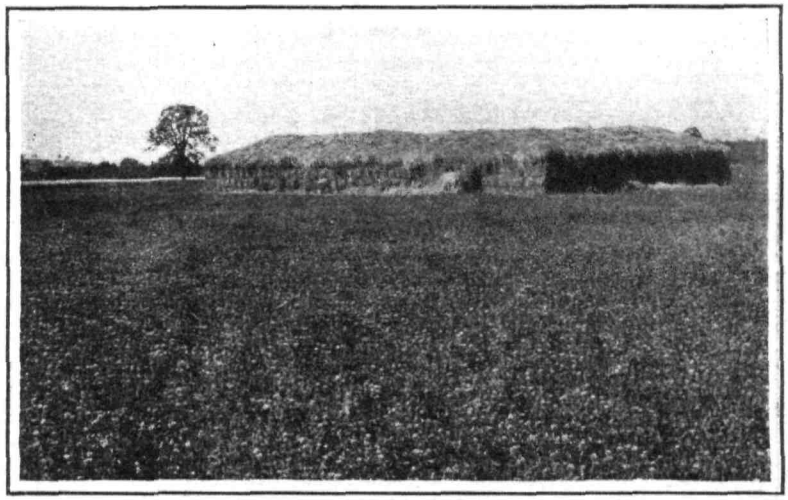


FIG. 8.—High in feeding value, useful in the rotation, and relished by livestock of all kinds, clover is the most important leguminous crop grown in the northeastern United States

presses or "hay and cotton presses" were patented in 1826, and one in each of the years 1828, 1835, and 1839. Most of these early patents were issued to persons in the Northeast, where hay was grown for market. Hay baling on a commercial basis may be said to have started by 1835. As early as 1840 the New Orleans market received hay both from the upper reaches of the Ohio and from eastern New York.

At the same time hay production was rapidly moving westward with corn and wheat to the edge of the prairies. West of Ohio the small quantity of hay harvested was chiefly from wild grass. The prairies of Michigan, Illinois, and Iowa, and the prairies interspersed with marshlands of Wisconsin and Indiana, produced an abundance of hay. Wild hay always has been more plentiful on the prairies than on the cut-over lands to the eastward. (See Fig. 20.)

The estimates of the Department of Agriculture show a rapid increase of total hay in the prairie and great plains States until

shortly before 1900. In the earlier years, however, comparatively little of it was cultivated hay. The increase of land in farms and the consequent increase of natural grasses fenced in and cut for hay largely explains the apparently rapid growth of hay culture on the prairies.

Following 1839 settlement proceeded swiftly in the Ohio and upper Missouri Valleys, and the open prairies were rapidly fenced up. By 1850 the cultivated hay crop was beginning to be important in Indiana, Illinois, Michigan, and Wisconsin, and the growth of cities in the South was further developing the southern market.

Until 1840 practically the entire hay crop was cut with the scythe, (Fig. 9.) Mowing machines had been invented, but their work had not yet proved to be generally satisfactory, and only a few were in use. They were continuously improved, however, and from 1850 to 1860 there was a swift development in their use, encouraged by the rapid



FIG. 9.—The scythe and the hand rake were the principal implements of haymaking before the advent of the mowing machine

settlement of the West. The prairies were smooth and hand labor was relatively scarce. The prairie farmer found it economical to use machinery in cutting over a large area rather than to hire laborers to mow with scythes a small area which had been prepared to produce a higher yield. By 1860 the use of the mowing machine had become general. An observer in 1858 makes the following comment contrasting the mower and the scythe:

> In the first place in this section of country for several years past no good mowers could be had for less than $1.50 per day and board. I never saw five mowers together that would average over 1 acre each daily and seldom that. * * * Now I could get any quantity I ever had, or ever will have to cut, done for 62½ cents per acre by horses, and they will cut 10 acres per day. The difference of board of 10 men in place of one man and one pair of horses is no small item.

Doubtless the development of the mower has been the greatest technical advance made in hay production. (Fig. 10.) With the expansion of hay acreage, however, attention likewise was given in

the fifties and sixties to other haying machinery. Before 1860 patents had been issued on 10 horse rakes, 5 "hay elevators," and 10 hay loaders. During the sixties they were issued on 27 horse rakes, 55 "hay elevators," 100 hay loaders, and 290 horse forks.

Probably it was during the early seventies that important quantities of hay first reached the seaboard from west of the mountains. During the Civil War the markets on the lower Mississippi had been cut off, while transportation to the east was improved and farm area had expanded. When the southern market later revived with new agricultural and economic development, a regular system of warehousing on a large scale was started about 1890, and the Lake and Prairie States marketed large quantities of hay in the South and the East. In the South hay was purchased both for city and for farm consumption, but Eastern farmers as a rule still supplied their own hay requirements.



FIG. 10.—The mowing machine has been an important factor in the development of modern haymaking methods

While electric cars were displacing horses during the eighties and nineties the hay trade was concerned lest the eastern market entirely disappear. Probably not over one-half million horses were thus displaced, however, and during the same time truck horses and eastern dairy communities were consuming increasing quantities of western hay. (See hay production maps, Figures 11 to 19.)

Other forage crops in the South and the semiarid West have come to supplement in an important way our hay production. From 1899 to 1919 wild hay increased from 15,000,000 to only 17,000,000 acres for the country as a whole. Increase in tame hay was principally accounted for by the increase in alfalfa from 2,000,000 to 8,500,000 acres. Grains and annual legumes cut for hay about doubled, reaching 7,500,000 acres in 1919. Coarse forage crops expanded tenfold, from 3,000,000 to 30,000,000 acres. By this growth coarse forage crops had come in 1919 to represent approximately one-third of our "hay and forage" acreage. Coarse forage had a rapid

growth in the North Central and West South Central States, where there were 2,500,000 acres in 1899, 3,000,000 in 1909, and 7,000,000 in 1919. Small grains and annual legumes cut for hay showed a rapid growth in all sections except the Pacific, where as early as 1899 nearly 2,000,000 acres were cut.

The distribution of total hay acreage in 1919 was for New England 3,400,000; Middle Atlantic, 8,200,000; East North Central, 14,200,000; West North Central, 26,600,000; South Atlantic, 6,500,000; East

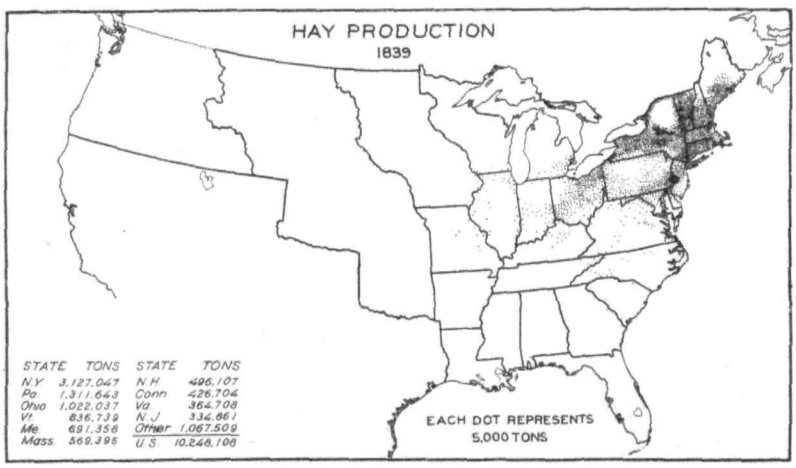


FIG. 11.—Hay production first became an important agricultural activity in New York and the New England States. Timothy and red clover, our principal market hays, are well adapted to the climate of this region, and these States have therefore continued to grow large quantities of hay

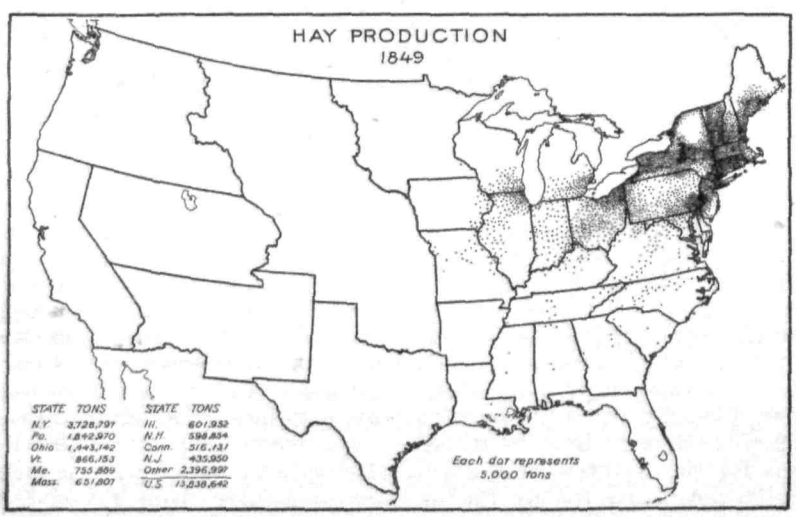


FIG. 12.—By 1849 hay was becoming important in Indiana, northern Illinois, and the southern parts of Michigan and Wisconsin; much of this, however, was wild hay. Then, as now, the Southeastern States showed but little tendency to grow hay either for home consumption or the markets

South Central, 5,000,000; West South Central, 5,600,000; Mountain, 7,400,000; and Pacific, 4,200,000. The distribution is important as indicating the supply of hay. Owing to the difference in area of the geographical divisions, however, the concentration of hay acreage is better shown by percentage of improved farm land in hay. These percentages in 1919 for the divisions in the order named above were 20, 20, 12, 10, 7, 6, 3, 7, and 8, showing hay acreage to vary from one-

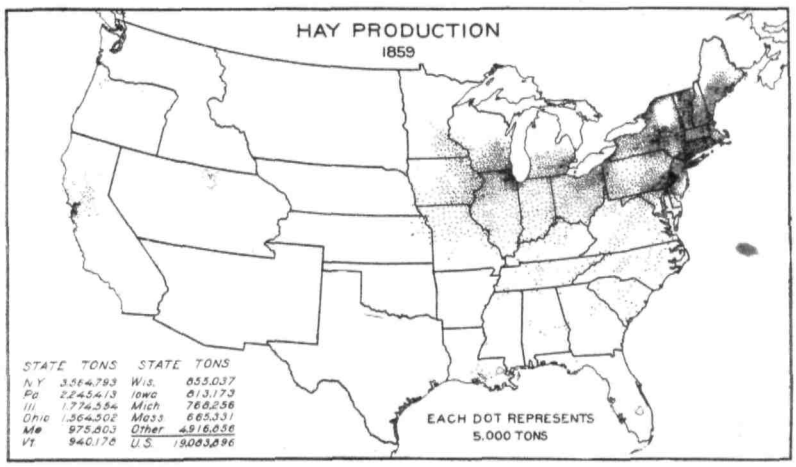


FIG. 13.—With the advance of population westward hay became an important crop in Iowa and northern Missouri. The discovery of gold in California had also started a new center of hay production on the west coast around San Francisco and Sacramento

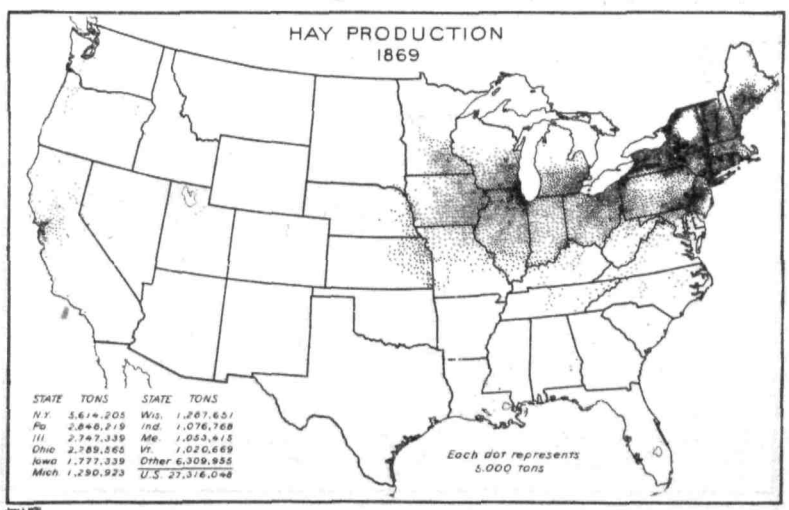


FIG. 14.—In the decade 1859 to 1869 there was little change in the hay area. Although the total production of hay increased 8,000,000 tons, the producing region was about the same except for a slight westward movement

fifth of all farm land in the Northeast, where markets are good and the land difficult to till, to one-thirtieth in the Southwest, where on the unirrigated lands much coarse forage is grown.

The volume of the hay trade can not be ascertained accurately, but receipts at the principal markets indicate that a larger part than formerly is being fed to livestock on farms. City work animals decreased from 1910 to 1920 by about two-fifths. Feeding of hay to

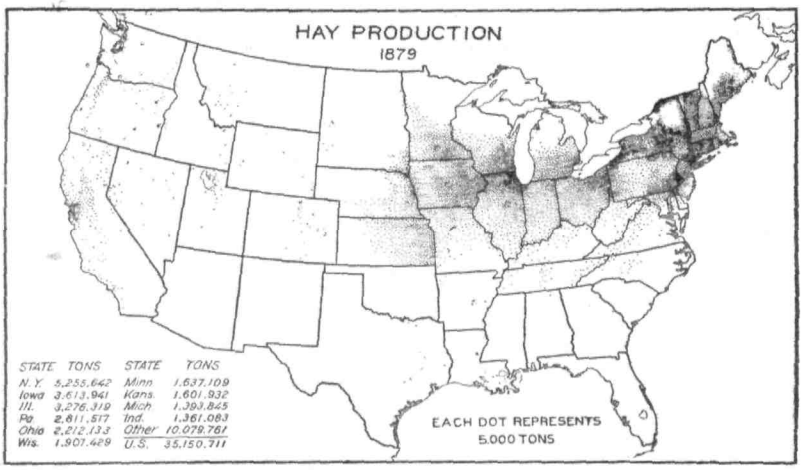


FIG. 15.—By 1879 Kansas, a State which had settled up rapidly after the Civil War, was producing over 1,500,000 tons of hay. The States south of the Ohio River continued to grow cotton, tobacco, and corn almost to the exclusion of feed crops

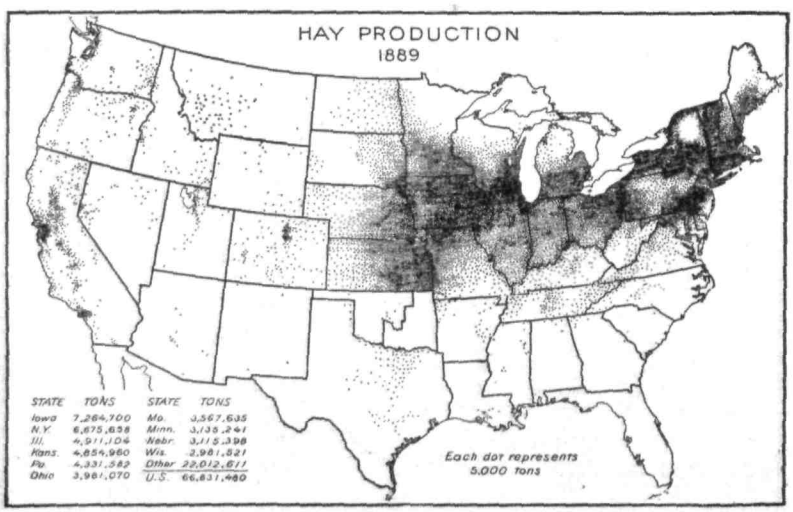


FIG. 16.—In the decade 1879 to 1889 an enormous agricultural development took place in the prairie States, and Iowa superseded New York as the leading hay State. Kansas ranked fourth on the list, and the total production of hay nearly doubled. This was due in large measure to the wider use of haying machinery on the level lands of the Central West and the more extended utilization of the native grasses in Minnesota, Nebraska, and the Dakotas

work stock on farms probably has ceased to increase, or perhaps has decreased, owing to greater use of mechanical power, leaving a greater part of farm-fed hay for meat and dairy animals.

The lessened demand in cities is a disadvantage to those farmers who raise hay for market but is, of course, distinctly advantageous to the dairyman or the southern farmer who regularly buys a part of his supply. The demand on the industry by the city market probably will continue to decrease for some time, and the increase

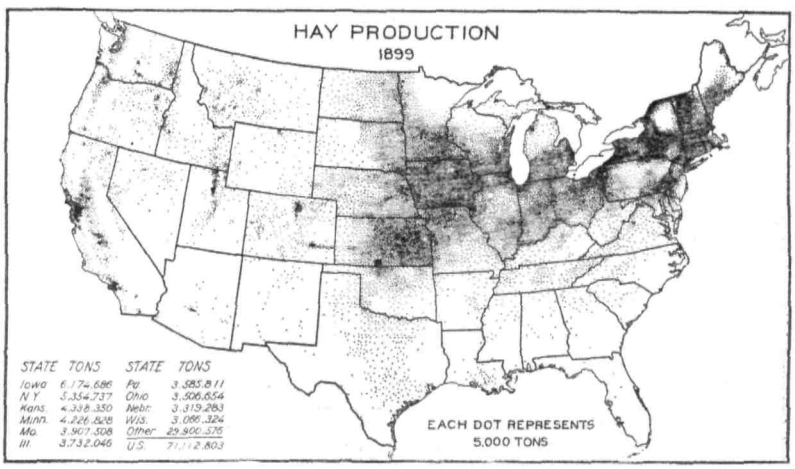


FIG. 17.—From 1889 to 1899 the advance in total production was not so rapid as in the preceding decade, but more hay was being produced in the Rocky Mountain States and on the Pacific coast. Realization of the value of alfalfa in this region accounted for much of this

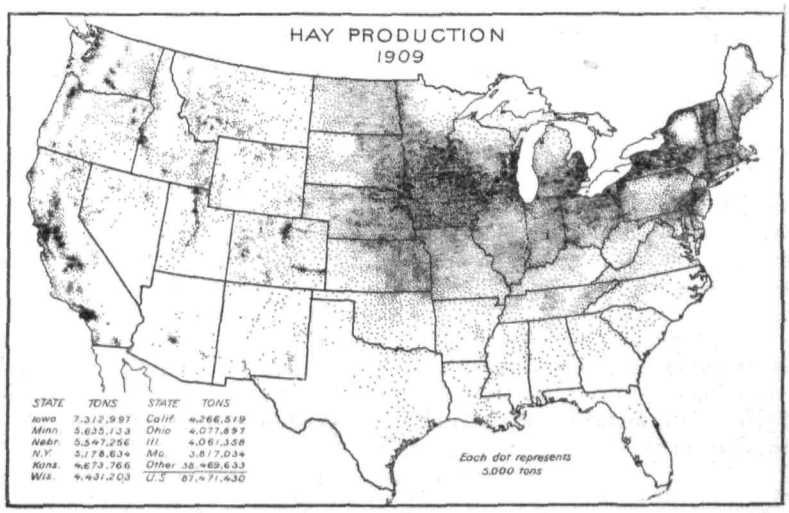


FIG. 18.—By 1909 the Dakotas were important as hay producing States and more hay was being grown in the Cotton Belt

in legumes and other forage crops is holding hay prices lower than they would be otherwise. Furthermore, without reduction in freight rates on hay as compared with other commodities, hay production for market will continue to concentrate about the markets of New England and the Middle Atlantic States.

Hay Production and Feeding Values

The percentage of cropped land devoted to hay production in the different agricultural regions varies greatly. The region of greatest hay production is located in the northeastern quarter of the United States (Fig. 19), one of the reasons being the adaptation of timothy to the climatic conditions of that region. Red and alsike clovers are also better adapted to this region than to the southeastern or western parts of the country. In the western half of the United States there

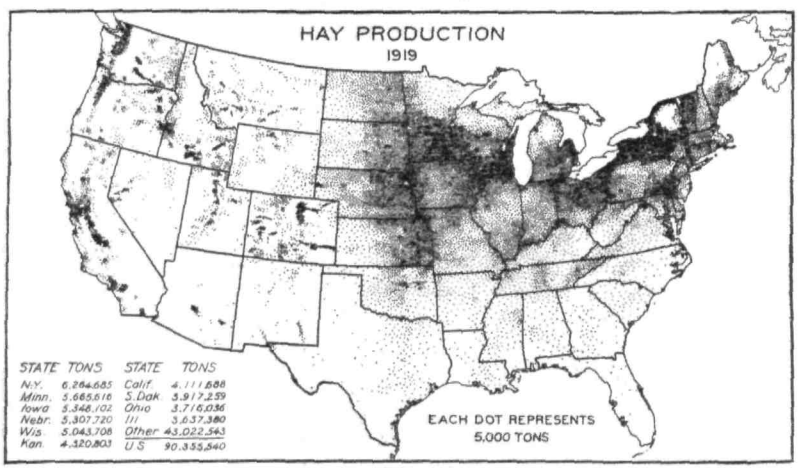


FIG. 19.—It is important to note that hay production in 1919 was more general over the United States than in earlier periods. The northeastern quarter of the United States and the irrigated sections of the West continued, however, to produce the larger part of our hay crop. New York again became the leading State in quantity of hay produced

are districts of very intensive hay production, mostly alfalfa, but a great proportion of the land is either too dry or too mountainous for success with tame hay. The alfalfa-producing sections are largely confined to irrigated valleys, the scattered dots on the map indicating mostly wild hay. The areas of heavy production in eastern Kansas, Nebraska, South Dakota, North Dakota, and Minnesota are also made up to an appreciable extent of wild hay, especially in the Dakotas and western Minnesota. In Nebraska and Kansas alfalfa is important and perhaps the predominating element in the total hay crop.

Yield per Acre

Among the roughage-producing crops hay is not so productive in tons per acre as are fodder and silage. The average yield per acre of hay in the United States in 1919 was 1.23 tons; fodder, 1.73 tons; and silage, 7.42 tons. If however, these yields are reduced to a dry-matter basis, they are respectively, 0.96, 1.01, and 1.95 for hay,

fodder, and silage. Approximately 79 per cent of the hay, 58 per cent of the fodder, and only 26 per cent of the silage is dry matter. Feeding value is dependent on the dry matter in the forage and the quantity wasted must be considered.

In determining the final value of hay in comparison with other forages, pasturage must also be taken into account. It has been estimated that 2½ acres of tame pastures in the northeastern United States will provide sustenance for one mature animal for six months. This would be equivalent to 5 acres per animal unit [1] for 12 months. The quantity of grass hay necessary to support one animal unit for 12 months is estimated at 8 tons and of legume hay 5 tons. It is apparent, therefore, that timothy meadows would have to yield approximately 1.6 tons of hay per acre in order to be equivalent to the carrying capacity of good tame pastures of the humid Northeastern States. For alfalfa and other legumes a yield of only 1 ton per acre would equal the supportage of such pastures.

If we compare the hay yields of timothy, native grasses, alfalfa, and clover with the carrying capacity estimates of humid grasslands given in the article, "Our Forage Resources" in the 1923 Yearbook (see pp. 337 and 369) we find that it requires an average of 7.35 acres of timothy or native hay grass and only 3.01 acres of alfalfa or clover to support an animal unit one year, whereas the pastures in humid areas require 8.67 acres to support an animal unit for the same length of time. So far as the grasses are concerned, pasturing is no doubt the more economical method of utilization, because of the greater amount of labor required to harvest and feed the product as hay. With legumes there would appear to be an advantage in favor of the hay crop, since little more than one-third as much land is needed.

Factors affecting yield.—One of the chief factors governing the yield of hay is the adaptation of each grass or legume to the climatic and soil conditions of the locality where it is grown. Timothy in the semiarid Great Plains or in the warm, humid southeastern States makes very low yields. Red clover also is poorly adapted to the dry regions and to the low altitudes of the southeastern States. To obtain maximum yields it is necessary, therefore, to choose a hay plant which is suited to the climate and soil where it is being grown.

Seasonal climatic conditions also affect very markedly hay yields. A cool wet spring is conducive to high yields of most northern hay plants. The exceptions are confined largely to hay crops southward, such as Bermuda grass and Japan clover, which thrive best during periods of high temperature.

Fertilizers, although not applied very generally to meadows, are effective in increasing yields. It has been found that the yields of timothy may be increased from 90 to 150 per cent by applications of 6 to 10 tons per acre of barnyard manure; from 15 to 45 per cent by applications of 150 to 160 pounds of nitrate of soda; and to a considerably less extent by applications of acid phosphate and muriate of potash. A combination of the three essentials of a complete fertilizer—nitrogen, phosphorus, and potassium—is usually more effective than any one element alone; and, where the quantity

[1] For the purpose of estimating feed requirements, an animal unit is considered equal to 1 adult cow, steer, horse, or mule, 5 hogs, 7 sheep or goats, or 100 poultry.

of each is sufficiently large, the effect on the yield is about the same as that of barnyard manure. These conclusions are based on experiments carried out at the New York, Massachusetts, and Delaware State Experiment Stations. New York investigations have seemed to demonstrate, however, that the application of fertilizer to a hay meadow is not profitable unless the hay sells at a high price. Application of fertilizers when prices for hay were low resulted in a loss even where the increase in yield was as large as that reported for barnyard manure. Fertilizing meadows, however, increases the yields of succeeding crops by the residual effect, especially of barnyard manure, and because the increased growth of the grasses adds to the soil larger quantities of vegetable matter both in the roots and tops.

Alfalfa and clover respond promptly and effectively to applications of fertilizer. This is particularly true on poor soils. Legumes in general, however, do not respond so much to additions of nitrogen as do the grasses, such as timothy and redtop.

A tabulation of the results of 1,263 tests of fertilizers on hay meadows is given in Bureau of Soils Bulletin 67. This bulletin[2] published in 1910, covers the period from 1868 to 1907. With hay valued at $9 a ton and the fertilizer ingredients at their average market value, most of the applications resulted in a loss, or at best in a very slight profit. The price attributed to the hay is rather low, but perhaps is fairly representative of the average farm price of hay during the period mentioned.

In 469 tests of mineral fertilizers applied singly there was an average loss of $1.90 per acre. These tests included many minerals not commonly used. In 67 experiments with nitrate of soda the average profit was $1.70; nitrate of potash, 8 experiments, average profit $1.57; acid phosphate, 82 experiments, average profit $0.24; rock phosphate, 27 experiments, average profit $0.51; muriate of potash, 38 experiments, average loss $3.82; basic slag, 12 experiments, average loss $0.52; lime, 102 experiments, average loss $6.80 per acre.

Mixtures of two minerals gave about the same results as using them singly. The average loss as indicated by 136 experiments was $1.40 per acre. Nitrate of soda and acid phosphate combined in 11 experiments showed an average profit of only 3 cents; nitrate of soda and muriate of potash, 9 experiments, average profit, $1.14; acid phosphate and muriate of potash, 82 experiments, average loss $0.61; nitrate of soda and lime, 2 experiments, average loss $3.53; acid phosphate and lime, 2 experiments, average loss $7.53; and muriate of potash and lime, 2 experiments, average loss $7.26 per acre.

Where mixtures of three or more minerals were applied there was an average loss of $7.83 per acre in 192 experiments. Nitrate of soda, acid phosphate, and muriate of potash applied in mixture in 96 experiments resulted in an average loss of $6.53; and sulfate of ammonia, acid phosphate, and muriate of potash, in 75 experiments, an average loss of $9.88 per acre. The nearest approach to a profit resulted from the application of nitrate of soda, basic slag,

[2] Whitney, Milton. Fertilizers on soils used for oats, hay, and miscellaneous crops. U. S. Dept. Agr. Bur. of Soils Bul. 67, pp. 18–27. 1910.

and muriate of potash, when the average loss in two experiments was only $0.28 per acre.

In 95 experiments barnyard manure applied at the rate of 12 tons per acre showed an average profit of $0.37, but in 23 experiments an application of 25 tons of manure with 1½ tons of lime resulted in an average loss of $16.55 per acre.

In all these experiments nitrate of soda and barnyard manure gave the largest increase in yield of hay. Phosphate fertilizers ranked third, lime fourth, and potash fertilizers fifth in effectiveness. This compilation of results, although not conclusive, shows that even with large increases in yields the application of fertilizers to hay meadows is not usually profitable except in periods of high prices.

Advantages of Hay over Other Types of Roughage

Among the advantages which are at once apparent is the greater ease of making hay as compared with fodder or silage. Practically all of the operations of harvesting a hay crop may be accomplished with machinery, whereas fodder and silage both require considerable hand labor.

In feeding, also, hay is much easier to handle than fodder and is less objectionable to the farm laborer than is silage. After hay is baled it can be shipped very readily; fodder and silage must be fed on the farm where they are produced.

In storage, hay has a great advantage over fodder and to some extent over silage. For the storing of silage an expensive container must be provided; hay may be stacked in the field or baled and placed under a cheap shed or other protection, such as a covering of slough grass or canvas.

There is much less waste in feeding hay than there is in feeding fodder. The advantage in respect to waste, however, is in favor of silage. Very little of the silage is refused by livestock, and the amount of waste in feeding good silage is perhaps the minimum for all classes of rough forage.

Kinds of Hay

Among the very numerous plants which might be used to produce hay only a relatively few are cultivated for that purpose. It may be of interest to consider the factors which have determined their desirability for cultivation.

To become much used as a hay crop a plant must be (1) well adapted to the conditions where grown; (2) of a texture fine enough so that it will cure readily; (3) relatively high in yield; (4) capable of being harvested readily; (5) palatable and of high nutritive value; (6) moderate in cost of establishing, especially as regards the cost of seed; (7) not difficult to eradicate or troublesome as a weed.

If grown for sale, the most important consideration is that the hay must meet the desires or prejudices of the market in which it is to be sold.

According to the census of 1919, the production of the more important kinds of hay stood in the following order: Timothy, alfalfa, clover, wild hay.

Timothy is the leading hay grass in the United States. It is very satisfactory to mix with clover, which mixture makes up the larger part of the hay crop in the Northeastern States. In 1919 there were 25,470,000 tons of timothy and 16,818,000 tons of clover hay produced in the United States. Alfalfa gave a production of 18,853,000 tons; native or prairie hay 15,631,000 tons. The hay from miscellaneous tame grasses, such as Johnson grass, millet, redtop, orchard grass, Bermuda grass, Kentucky bluegrass, crab grass, and Sudan grass amounted to 6,404,000 tons. After these principal hay crops the grain hays were most important. The small grains, however, usually contribute a very minor portion of the total hay crop of the United States.

Timothy.—Timothy is the leading market hay of the United States. It lends itself to baling and shipping better than almost any other. It is the standard hay for horses, resulting in a demand for

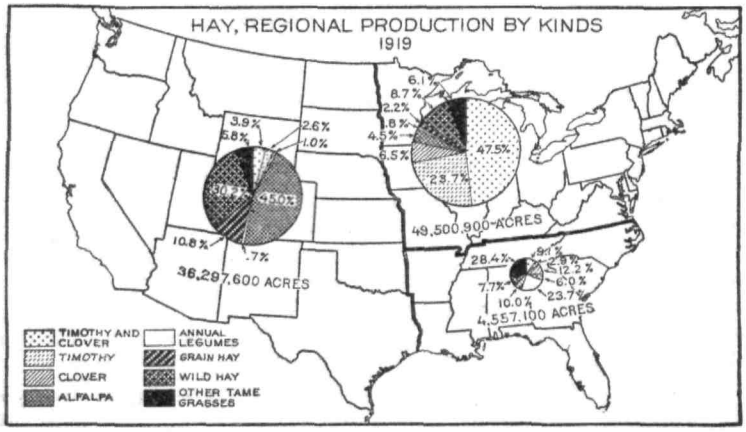


FIG. 20.—In the States north of the Cotton Belt and east of the Great Plains timothy alone contributes nearly half the hay and, mixed with clover, nearly a quarter more. In the Southeastern States, Johnson grass, Bermuda grass, and the annual legumes are the most important hay crops. In the Western States, alfalfa ranks first, the wild or native grasses second, and the small grains third as hay producers

it in cities and towns. Timothy is a leafy, fine-stemmed grass which cures easily, keeps well in storage, is palatable, causes no digestive derangements, and can be fed with little waste. The leaves do not break up like the leaves of legumes, such as alfalfa and sweetclover, and are therefore retained on the stem. Timothy hay is not ordinarily dusty unless it was cut at the time when the plants were in full bloom and laden with pollen. Feeding dusty hay to horses aggravates cases of heaves and other disorders of the digestive and respiratory systems. Another advantage of timothy lies in its ability to remain in condition for cutting through a considerable period. It is desirable and necessary in order to produce a high market grade of hay that timothy be cut at the proper time, but its feeding value is not greatly impaired if it has passed the most desirable stage of development before cutting.

Timothy is well suited to the climatic conditions of northeastern United States, and is the leading hay grass in the hay and dairying region, the Corn Belt, and the corn and winter wheat belts which

occupy the northeastern quarter of the United States. (Figs. 5 and 20.) Timothy is not especially exacting in respect to soil types, as it grows on a wide variety of soils, but the highest yields are obtained on the rich loam soils of the Corn Belt and on the limited areas in the valleys of the Northwestern States, where it is grown under irrigation. On the Pacific slope, where rainfall is abundant, and in the irrigated valleys of Washington and Oregon timothy produces well and is rapidly becoming the leading hay grass.

If we consider that one-half of the hay in the timothy and clover mixed hay consists of timothy, the production of timothy hay in the United States in 1923 amounted to 22,934,000 tons and the average yield per acre was 1.21 tons. This amount is about 2,500,000 tons less than was produced in 1919, indicating a decline in timothy culture.

It is generally very poor practice to feed timothy hay to sheep or cattle, especially to dairy cows and fattening calves, since legume hays give much better results, and timothy is usually worth much more to feed to horses and other work animals. As timothy lacks laxative properties, it is better to feed alfalfa or some other legume hay with it.

Timothy hay has a feeding value about equal to the average of grass hays, all of which are rather low in protein but high in carbohydrate units. The chemical composition of timothy is shown in Table 1, together with those of other important hays.

Prairie hay.—Wild or native hay is produced very largely in the northern half of the Great Plains and the territory immediately adjacent on the east in Oklahoma, Kansas, Nebraska, Minnesota, North Dakota, and South Dakota. The feeding value of prairie hay is much more variable than that of timothy, owing to the different kinds of grasses which go to make up the crop. In the eastern part of the prairie-hay region the grasses are mostly bluejoint and big blue stem, with lesser amounts of the little blue stem, Indian grass, and switch grass. In the western part these grasses give way to western wheat grass, slender wheat grass, and side-oats grama, with other species of grama entering into the production in favorable seasons. In the high valleys and parks of the Rocky Mountains bunch wheat grass and Nevada bluegrass are the most important, while in California the introduced wild oat perhaps makes up the principal part of the wild hay. Although there is a certain similarity in the feeding value of all these grasses, the palatability and resultant waste in feeding differ markedly. In some of the finer-stemmed native hays, such as western wheat grass and grama grass, there is very little waste; in others, such as switch grass and little blue stem, which are rather stemmy, the waste in feeding is considerable.

The native hays are obtained under a great variety of climatic conditions and embrace numerous different grasses according to the region where harvested. Some of them are well adapted to humid conditions, and others, such as the western wheat grass and grama grasses, to semiarid climates. In soil requirement also the variation is just as extreme. Certain grasses, like the bluejoint, are abundant in wet mucky soils, and others, like Indian grass and switch grass, are found on loose sandy soils. The native hay grasses produced in 1923, 17,528,000 tons, or 1.11 tons per acre of hay; in 1919 the production was 15,631,000 tons.

The feeding values of the native hays are for the most part very similar to timothy hay. The chemical composition of a number of these native hays is shown in Table 1. The native hays can as a rule be baled readily and in moderate quantities find steady markets in Kansas City, Minneapolis, St. Paul, Chicago, and points on the Pacific coast at prices somewhat less than those paid for timothy. Native hay is usually free from dust, and some kinds of it are especially good for horses. There is, moreover, a greater percentage of native hay fed to cattle, sheep, and goats than is the case with timothy hay, owing largely to the fact that the former is produced in a livestock area where other forage is sometimes scarce. It is not a good practice, however, to use prairie hay for dairy cattle or young growing animals, as it is low in protein and probably also low in lime.

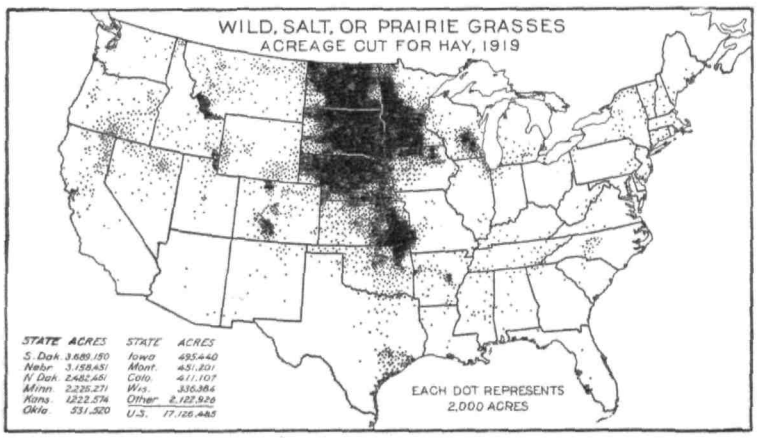


FIG. 21.—Wild or native hay is most important in the Dakotas, Minnesota, Nebraska, Kansas, and northeastern Oklahoma, with scattered areas in Wisconsin and the Rocky Mountain States. In 1919 the acreage was almost twice that of alfalfa, but the production was less by over 3,000,000 tons

Cattle and horses find prairie hay palatable, and if cut at the proper stage of development the color and aroma are usually good. The native hay grasses form an important part of the forage available for the support of the livestock industry in the northern Great Plains. Comparatively little prairie hay finds its way to the markets. Much of it is stacked in the field where it is cut, and fed by the owner or neighbors in his immediate locality. Cattle which are fed a liberal ration of prairie hay during the winter usually make some gains.

Miscellaneous tame grasses.—The hay from redtop, orchard grass, millet, Kentucky bluegrass, Sudan grass, crab grass, Bermuda grass, Johnson grass, and other less well-known grasses makes in the aggregate an important item in the support of livestock on the farms. (See 1923 Yearbook, Table 18, p. 357.) Such hays do not enter the markets to any great extent as do timothy hay and prairie hay. In 1923 the total contribution of this group of grasses was 9,475,000 tons of hay, an average yield of approximately 1.32 tons per acre. In 1919 the total production was 6,404,000, having been heaviest in the New England States, Tennessee, Alabama, Missis-

sippi, western Kentucky, and southern Illinois and Indiana. Very little was produced in the Corn Belt, where timothy and clover are abundant, or in the Western States, where alfalfa and prairie hay occupy most of the hay lands. In the New England and Middle Atlantic States the hay is mostly redtop, orchard grass, and the bent grasses; in southern Indiana and Illinois it is largely redtop; in the South Atlantic and Gulf States, including Texas, it is Johnson grass, crab grass, and Bermuda grass, while in the Great Plains and Prairie States the acreage is largely millet and Sudan grass. Bluegrass and orchard grass are most important in Kentucky, Tennessee, Virginia, and West Virginia.

The quality of the hay from these grasses of course varies widely with the nature of the grass and must be discussed individually.

Johnson grass is widely distributed over the Cotton Belt and is almost the only one of the miscellaneous grass hays produced there

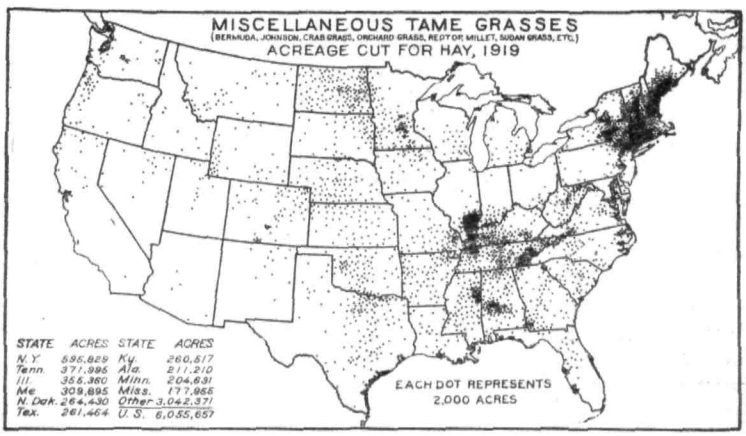


FIG. 22.—The acreage of miscellaneous tame grasses is widely scattered over the United States on account of the numerous kinds of grasses included in this group. The area of heaviest production is in the New England States and eastern New York

which has attained any importance as a market hay. In the principal cities of the Cotton Belt it is sold in considerable quantity at prices below those paid for timothy. Johnson-grass hay, although somewhat coarse as a rule, is palatable and fully equal to timothy hay in feeding value. It is accepted readily by liverymen in the South for feeding horses, and cattle do well on it. In order to prevent dissemination of the seeds, Johnson grass should be cut for hay before the seeds have become sufficiently mature to be viable, otherwise through the use of the manure as fertilizer the grass may be introduced into fields formerly free from it.

Johnson grass thrives on the better soils in the southern two-fifths of the United States, where it is never cold enough to kill the roots during the winter. The principal disadvantage in the production of Johnson-grass hay is due to the underground stems or rootstocks, which make it difficult to eradicate from fields after it has once become established. Very few farmers in the South care to introduce Johnson grass on their farms, because it usually results in much additional labor in the cultivation of other crops. Several

States have laws prohibiting the seeding of Johnson grass or the sale of seed in the State. It is looked upon as a weed by most cotton growers, and more attention and study have been given to its eradication than to its utilization.

It has been estimated that there were at least 500,000 tons of Johnson-grass hay produced in 1919, and the acreage is probably increasing each year as the possibilities of the grass are better realized.

Bermuda grass is another introduced grass which has become established in our Southern States, where it is often called wire grass because of its tough trailing stems. It is well suited to climatic conditions in the Cotton Belt and contributes much to the forage resources of that region, being more important, however, as a pasture than as a hay grass. Unlike Johnson grass, Bermuda grass thrives on nearly all kinds of soil and is found growing on clay hillsides and poor sandy soils as well as on good river-bottom loams.

Bermuda grass is strictly a summer grass and turns brown with the first frost in the fall. No other grass introduced into our southern agriculture grows so well during the hot, dry, summer months, but other forage plants must be depended upon for pasture and hay during the cooler parts of the year. It is a turf-forming grass, spreading by prostrate or trailing stems which root at the nodes or joints. It produces seed in commercial quantities only in southwestern United States and certain foreign countries, especially Australia. Bermuda seed is usually of low germination, and this grass is therefore very often propagated vegetatively. New fields of it are established by scattering pieces of the sod or chopped runners over the prepared seed bed and covering them lightly with a disk or harrow. When once established Bermuda grass is difficult to eradicate from cultivated fields, though not so bad in this respect as Johnson grass. This persistence as a weed in cultivated fields, together with its failure to produce good, viable, cheap seed, tends to restrict the acreage of Bermuda grass cut for hay. There was an estimated production of 400,000 tons of Bermuda-grass hay in 1919.

Bermuda-grass hay has about the same feeding value for horses and mules as timothy. In Oklahoma it was found to be more palatable and nutritious than the native prairie hay, and in Mississippi it has given better results than timothy when fed to dairy cows. Overripe Bermuda grass makes an inferior hay, as the stems are tough and wiry. Very little Bermuda-grass hay is found on the city markets, most of it being consumed in the locality where it is produced.

Crab grass is an annual which appears spontaneously in fields and lawns far northward but is utilized as a hay grass only in the Cotton Belt. It seeds abundantly and volunteers in cultivated fields from year to year, so that artificial propagation or seeding is unnecessary. This method of hay production appeals to careless, improvident farmers because it requires very little effort or foresight. The estimated production of crab-grass hay in 1919 was 500,000 tons, much of which was mixed with weeds and other grasses. Much of the estimated half million tons of crab-grass hay is obtained on fields from which another crop, such as cowpeas, oats, corn, or sweet potatoes, had been harvested, or a field that has been cropped in previous years but which was uncropped that season.

Crab grass is rather hard to cure but makes a palatable hay of good quality where it exists in pure stands. It should be cut before the seeds mature in order to avoid scattering them. Crab-grass hay appears to be better suited to cattle and horses than it is to sheep and goats.

Like Bermuda grass, crab grass makes its growth entirely in the hot summer months and thrives on a wide variety of soils. It is so omnipresent that people usually think of it as a weed.

Sudan grass is one of the newer grasses, not introduced in the United States until 1909. The hay from Sudan grass is rather coarse, but it is very palatable, free from dust, and is valuable for feeding horses as well as other kinds of livestock. Work animals do well on it, and recent experiments carried out by the Kansas Experiment Station rank it very close to alfalfa hay as a roughage for dairy cows. The Kansas station also found Sudan-grass hay alone was much better than kafir stover and almost as good as alfalfa for wintering horses and cattle.

It has been found that the best time to cut Sudan grass for hay is just as the plants begin to head, if yield and palatability as well as composition are considered. Sudan-grass hay produced on the semi-arid lands of the West has an appreciably higher protein content than hay of the same grass produced in the more humid Eastern States.

When it was first grown in the United States, Sudan grass was thought to be suited only to the drier sections, but it is now being grown as an emergency hay crop and to supply summer pasturage in nearly every part of the country. Because of its higher yields and the better quality of the hay, especially for feeding horses, it is replacing the millets to a great extent as a catch crop.

Sudan-grass seed is of high germination and easy to obtain. The crop is ready to cut for hay in 60 to 75 days from date of seeding, and in localities which have a long frost-free period two and sometimes three cuttings may be obtained. There was an estimated production of 1,050,000 tons of Sudan-grass hay from 600,000 acres in 1919, a larger yield per acre than that of any other hay grass. The grass is rather hard to cure, however, on account of the large and somewhat juicy stems. Care must be observed in curing, therefore, or the hay will spoil in the stack, bale, or mow. Not much Sudan-grass hay reaches the city market as yet, most of it being consumed on the farms where it is grown.

Millets are a group of plants which were relatively more important in the nineties than now. The Italian or foxtail millets have always been the leading hay varieties. This group includes the common, German, Hungarian, and Siberian millets. Proso or broomcorn millet is grown more for grain than for hay, and the barnyard or Japanese millet and Penicillaria or pearl millet are relatively unimportant.

Millet hay is rarely seen on the city markets, being used almost entirely as an emergency hay crop to supply actual deficiencies of roughage on the farms where it is grown. Good millet hay is relished by nearly all farm animals and can be fed without limit to cattle and sheep. It is not safe to use as the sole roughage for horses, especially if it is cut after seed has formed. Millet cut after it has begun to ripen, if fed to horses, causes excessive kidney stimulation,

lameness, swollen joints, and deterioration of the bones. If cut at the proper time, it is safe to use as half the roughage ration of horses. Many dairymen prize it highly as a hay for milk cows, and, unlike most grass hays, millet hay is slightly laxative.

Millet requires a short growing season and can be grown in any part of the United States, so far as the temperature factor is concerned. It will grow on almost any type of soil except extremely sandy ones, but large yields are obtained only on rich loams. The seed is abundant and cheap and usually germinates well. The production of millet hay in 1919 was estimated at 1,000,000 tons, the yield being next to that of Sudan grass.

Kentucky bluegrass and Canada bluegrass are much more important as pasture than as hay grasses. They are turf-forming grasses, and except under very favorable soil and climatic conditions the growth is not sufficiently large to justify cutting it for hay. Bluegrass often encroaches on other grasses in meadows which are allowed to remain in grass too long, and in such cases enters into the composition of the mixed hay produced therefrom. When this condition exists, it usually reduces the yield, but does not affect the quality of the hay unfavorably.

It was estimated that there were 400,000 tons of Kentucky bluegrass hay produced in 1919. This hay is of high feeding value and very palatable unless it has been cut too late or imperfectly cured. Very little of it appears on the city markets except in mixture with timothy, redtop, orchard grass, or the clovers.

Kentucky bluegrass is notably partial to rich soils and temperate climates. It is most abundant in Kentucky, northern Missouri, southern Iowa, and in Tennessee and the mountainous portions of Virginia and West Virginia. It is found growing, however, on lawns and in pastures in nearly every part of the United States where rainfall conditions are favorable to it, except in the Gulf States.

Orchard grass is a perennial that has a very wide distribution in the United States and enters into the composition of many mixed hays. It is grown by itself, however, only in a very few localities, such as central Virginia, where it is valued very highly and used in preference to timothy as a part of the regular crop rotations. Orchard grass grows in bunches or tussocks, and the hay is rather coarse.

The production of orchard-grass hay has been estimated at 800,000 tons and the yield at approximately 1 ton per acre. Orchard grass will grow on almost any type of soil and is not exacting as to climate. It is found in pastures and meadows from central Arkansas to northern Minnesota, and from the Atlantic to the Pacific coasts wherever there is sufficient rainfall. It is much more abundant, however, in the eastern half than in the western half of the United States. The strongest features of orchard grass are its ability to make fair crops of hay or pasture on poor rocky hillsides and its permanence. It will continue to grow vigorously for a long period of years after it is once established.

Redtop is the largest of the bent grasses, which include such well-known turf grasses as the Rhode Island bent and creeping bent, none of which, except redtop, are important as hay producers. Redtop is most important in the New England States, but it is peculiarly

suited to wet soils and for such is generally used. It makes a fine leafy hay, but it should be cut in early bloom. When mixed with timothy it is usually cut too late, thus depreciating the value of the hay. Redtop hay is readily eaten by sheep and goats.

It is estimated that there were 800,000 tons of redtop hay produced in 1919, the yield being only 0.8 tons per acre. The exact quantity is difficult to determine, because it appears mostly in mixtures with other grasses and clovers, particularly alsike.

Among the hay grasses which contribute to the total hay crop of the United States are many of less importance than those just named. Bromegrass hay is produced principally in North Dakota and South Dakota. It is practically equal to timothy in feeding value. Meadow fescue is grown commercially only in northeastern Kansas and northwestern Missouri. It has a feeding value about like that of timothy, with, however, slight laxative properties. Natal grass is grown more largely in Florida than elsewhere. The leaves and stems are palatable, tender, and eaten with little waste. It is easily cured and makes an excellent hay, containing more protein than timothy. It sells for as much or even more than timothy in parts of Florida, and cattle and horses prefer it to most other hays. Rhodes grass is another hay plant important chiefly along the Gulf coast and especially from Texas to southern California. It has slender stems and many leaves, producing an excellent hay, except when grown on alkaline soils, which seem to render it unpalatable. Para grass, probably a native of South America, has been introduced into the United States and is now common in Florida and to a considerable extent west along the Gulf coast, especially in southern Texas. It is a rank-growing perennial, but will not withstand heavy frosts. Para grass makes heavy yields of sweet, tender, nutritious but rather coarse hay. Florida and Texas growers make three or four cuttings annually, and the hay finds a ready market at a good price. Besides the above there are tall oat grass, quack grass, Colorado grass or Texas millet, Dallis grass, Vasey grass, and maiden cane, or "pifine," of Louisiana, none of which makes a large contribution to our hay crop, but all of which help to make up a total of something like 954,000 tons of hay produced by these grasses of minor importance.

Small grains cut for hay.—Wheat, oats, rye, and barley are to some extent cut for hay in grain-producing sections of the United States. In the Pacific States the total production of grain hay is considerable; but in the Corn Belt, where good hay plants like timothy and red clover thrive, very little of the small grains is cut for hay. The grain-hay acreage for the United States in 1923 was less than that in 1919; but the yield—1.36 tons per acre—was better, and the aggregate production—5,953,000 tons—was nearly equal to the 1919 total. It is estimated that about 42 per cent of the grain hay is oat, 31 per cent wheat, 24 per cent barley, and 3 per cent rye.

Grain hays are usually produced on the better soils of the farm, and this, in part at least, accounts for the high yields. Much of this hay is obtained by trimming up a grain field or cutting part of such a field for hay before it has ripened. The grain hays are fed mostly to horses and other work animals. These hays when cured properly are clean, free from dust, and palatable. There are no objectionable features to the grain hays, except in the case of

in the alimentary tract which may cause the death of horses and mules. This danger may be reduced by feeding it with other hays and by dampening it 12 hours before feeding.

Sweetclover hay is palatable and very nutritious for all classes of livestock when cut at the right time and properly cured. Fine-stemmed and leafy sweetclover hay resembles and is about equal in nutritive value to alfalfa hay. Sweetclover is a biennial, however, and if cut the second year the hay is often stemmy and unpalatable. A coarse, heavy growth of sweetclover is very hard to cure in a manner to prevent the loss by shattering of a large proportion of the leaves. Such hay is much inferior to the hay made from red clover or alfalfa. The best hay from sweetclover is obtained by cutting the first year's growth late in the fall. In some sections considerable trouble has been experienced in feeding moldy sweetclover hay. Deaths of animals fed on such hay have been reported and care must therefore be observed to cure the hay so

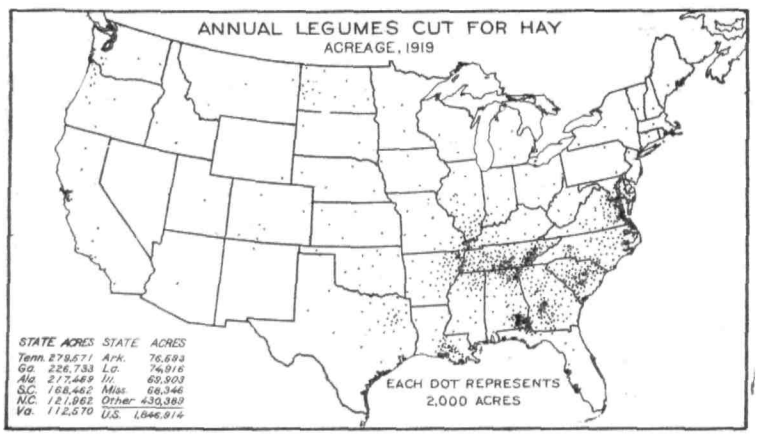


FIG. 27.—The annual legumes, including cowpeas, soybeans, field peas, peanuts, and vetches, are most important in the Southeastern States. That portion of the crop cut for hay represents only a small part of the total acreage of these legumes

that it will be bright and free from molds. Good results have been obtained in feeding sweetclover hay to lambs and steers in the West, and it produces about the same quantity and quality of milk as do other legume hays.

Bur clover is a winter annual usually found growing in mixture with grasses. It reseeds itself each year and is more important for pasturage than as a hay crop. The best hay is made by cutting when the pods are green.

Japan clover, more properly known as lespedeza, grows luxuriantly on rich soils in certain sections of the Southern States and makes good yields of palatable, nutritious hay. Much of the bulk of lespedeza hay is leaves, and the stems are very fine. It is practically equal to alfalfa or red-clover hay in feeding value and there is little danger in overfeeding properly cured lespedeza hay. Cattle, horses, sheep, and goats all do well on it. On poorer soils lespedeza is valuable primarily for pasturing.

Cowpeas.—This crop is important only in the eastern half of the United States south of latitude 40° (the latitude of Philadelphia and the northern boundary of Kansas) and east of the one hundredth meridian (central Texas). The cowpea acreage has remained stationary for a long time and in recent years has apparently decreased, owing to the increased use of soybeans on the northern and of velvet beans on the southern margins of the cowpea territory. The total estimated acreage of cowpeas in 1923 was 4,359,000. About half of this, 2,065,000 acres, was used primarily for hay, producing 2,114,000 tons.

Cowpeas require rather high temperatures during the growing season and do best on sandy loam soils. There are many varieties of cowpeas, some of which are much better for hay than others. The semiprostrate or trailing habit of growth characteristic of many of the best cowpea varieties makes it somewhat difficult to mow the crop



FIG. 28.—The southern farmer has in the cowpea a most nutritious hay plant, and farm animals eat it eagerly. The crop is difficult to cure, however, and it is rarely used as a market hay

unless the mower is equipped with special guards on the sickle bar to raise the vines. It is also rather difficult to cure cowpea hay without the loss of a good many of the leaves and the hay is much coarser than that of most other legumes.

Well-cured cowpea hay with the leaves still on the stems is practically equal to red-clover or alfalfa hay in feeding value, except for dairy cows. Cowpeas should be cut for hay as soon as the first pods become yellow. It is a common practice to mix the cowpeas with millet, Sudan grass, or sorgo when they are sown for hay production.

Cowpea hay alone provides a maintenance ration for all kinds of livestock including hogs. In the Southern States it is prized as a roughage for work animals, some claiming that horses stand the heat better when fed cowpea hay than when fed grass hay. For horses and cattle cowpea hay may be used as a source of protein in place of bran or cottonseed meal; 1½ pounds of the hay for 1 pound

of bran or one-half pound of cottonseed meal. It ranks fourth among the principal legume hays for dairy cattle. In wintering steers in Missouri cowpea hay and corn produced twice as much gain as timothy hay and corn ,and it has given very good results when fed to lambs in Oklahoma and West Virginia. Cowpea hay is distinctly a home feed, very little of it reaching the city markets.

Soybeans.—Like cowpeas, the production of soybeans is confined principally to the Eastern States. (See fig. 27.) The acreage, however, extends northward farther and is not so extensive along the Gulf coast. Unlike the cowpea, the soybean acreage has increased rapidly in recent years principally in the Corn Belt and adjoining States. The estimated acreage of soybeans in 1923 was 2,037,000. There were 794,000 acres of this total cut for hay, producing 1,155,000 tons. A large acreage of soybeans is interplanted with corn and pastured off when the crops have matured.



FIG. 29.—The popularity of soybeans in the United States, especially in the Corn Belt, has increased rapidly in the past few years, and the hay is valuable, especially as a feed for dairy cattle

Soybeans are not so sensitive to cool weather as are cowpeas and they succeed better on heavy clay soils. There are a great many varieties and those should be chosen which have been found best adapted to the region where they are to be grown. The plants are upright and easier to harvest for hay than are cowpeas. (Fig. 29.) The hay, although coarse, is relished by all kinds of livestock.

Soybeans should be cut for hay as soon as the pods are formed. Not more than half the roughage given to horses should be soybean hay, and in fattening steers the quantity should be limited on account of its laxativeness. The extent of this laxative effect depends largely upon the quantity of beans which the hay contains. It is a valuable hay for all growing stock and for dairy cattle it ranks just below alfalfa and red clover. It is considered second only to alfalfa as a roughage for sheep and goats. For hogs the value depends largely upon the content of beans. Soybean hay cut early and cured properly may be fed to poultry with good results.

Peanut.—It is estimated that about 307,000 acres of peanuts were cut for hay in 1919 in addition to a large acreage which was pulled and both the vines and nuts fed to livestock. The hay production that year was estimated at 230,000 tons, practically all of it in the Southeastern States. (See fig. 27.) Peanut vines, if cut at the proper time and well cured, make a hay almost equal to clover in feeding value. The whole plant with the nuts attached is used in some localities as the sole feed of work animals and it makes a good balanced ration for dairy cows.

Field pea.—The so-called Canada field pea is a cool-weather crop and can be grown successfully only in our Northern States, in the high altitudes of the western Mountain States, and as a winter crop in the Southern States. In the latter region, however, but little hay is produced, the peas being grown mostly as a green-manure crop. It is estimated that about 60,000 acres of field peas were cut for hay in 1919, producing about 70,000 tons. Most of the acreage cut



FIG. 30.—The production of peanut hay in the South is increasing. Like cowpea and soybean hay, peanut hay is mostly consumed on or near the farm where it is produced

for hay was seeded in mixture with some small grain, usually oats, in order to hold the pea vines erect and make them easier to mow. Field peas are usually cut for hay when the first pods are beginning to mature, and the hay has a very high feeding value. It is usually considered about equal to alfalfa, but not more than half the roughage of horses should consist of field-pea hay.

Vetch.—There are several kinds of vetch, all of which are more important as green-manure and cover crops than they are for hay. The most important are the common or spring vetch and the hairy vetch. Like field peas, vetch is nearly always seeded in mixture with some small grain. It is estimated that 30,000 acres were cut for hay in 1919, producing 45,000 tons. Vetch hay has a high protein content; and, if the grain has not become too ripe before the mixture is cut, the hay is very palatable and can be used to advantage in feeding either horses or cattle.

Substitute hay crops.—In scattered localities over the United States different plants are used for hay in the absence of the better grasses and legumes.

Beggarweed is a legume utilized as hay in Florida and southern Georgia. It is an annual, making a volunteer growth each year, usually in mixtures with crab grass and Mexican clover. The hay is palatable and nutritious when cut before the stems become woody, and it makes a worth-while addition to the supply of roughage in this section.

Alfilaria is of importance only in the semidesert sections of our Southwestern States. It is of more importance for pasturage than for hay, but under the more favorable conditions it is often cut for hay. It makes a good hay for stock cattle when cut in the rosette stage, but is better for fattening if allowed to become more nearly mature.

Horsetail or scouring-rush is a species of *Equisetum* used for hay in some of the western valleys of Idaho and Washington. It grows in nearly pure stands on the overflowed lands of the Kootenai River. The hay yields average about 1 ton per acre, and the cuttings are made as the water recedes. It is claimed that the hay is laxative and not good for horses, but increases the milk flow when fed to dairy cows.

Baltic rush is a native plant occurring in nearly pure stands in many places in the mountains of the West, especially in Colorado. Much of it is cut for hay, which bears a high reputation in the local markets.

Black grass is a rush which occurs on large areas of the coastal marshes of New England. In colonial times it was an important source of hay, and much of it is still thus utilized.

Nutritive Value of Hays

When hay is stored in the barn it generally contains 15 to 25 per cent of moisture. This is reduced in a few months to about 12 per cent or less. The development of bacteria and molds and the action of enzymes gradually reduce the protein, crude fiber, and other constituents of the hay. Nearly all immature hay tends to be laxative and may pass through the digestive tract before its nutrients are thoroughly assimilated. Care should be exercised, especially in feeding any hay which has not gone through the sweat.

Palatability is a very important consideration in the feeding value of hay. Timothy is one of the most palatable hays. The time of cutting and method of curing have much to do with its palatability. Some hays which are not relished by animals when first given to them are eaten readily after the animals become used to the flavor.

Digestibility is also affected by the time of cutting and method of curing and handling. Both the loss of leaves and the leaching of the hay lower the digestibility. Although the advantages of grinding, chopping, or otherwise changing the physical character of hay have been given wide publicity, such practices do not increase its digestibility, and hence there is little justification for the expense of grinding. Sometimes animals will consume more of a ground roughage, especially when mixed with other feed. Hence, grinding is sometimes resorted to in order to dispose of inferior grades of hay by making easy their mixture with more palatable feeds. Aroma is important because it favorably affects digestibility.

One should hold all moldy hays under suspicion, as a few of the many molds produce poisonous substances which may be fatal to livestock. It is possible to detect dangerous molds only by careful scientific examination. The best policy is to avoid having moldy hay, since such hay, unless destroyed, is often fed to the producer's own animals.

The different kinds of hay vary much less significantly in nutritive value than do other classes of feed. In the case of mature animals, therefore, which are working or being fattened or maintained through the winter, the quality of the hay is perhaps as important as its kind. But in the case of growing and milking animals on winter feed the inclusion of the right quantity and kind of hay in the ration is a matter of the very first importance. As far as is known, it is difficult to get the best results from dairy cows on winter feed unless large quantities of legume are included in their rations. Legume hays have two great points of superiority over grass hays for growing and milking animals; they contain more protein and more lime. The high protein is very important if the hay is being



FIG. 31.—Haymaking I. Cutting the crop. The use of a gang of mowers permits large areas of meadow to be cut quickly

fed alone or with a low-protein concentrate such as corn or oats. But the high lime is even more important, because there are no concentrates which contain large amounts of lime, and, therefore, if a heavy-producing dairy cow on winter feed does not get considerable quantities of legume hay in her ration, she does not get enough lime to meet her requirements. As far as is known there is no way to satisfy the lime requirements of very productive cows on winter feed except to give them large quantities of well-cured legume hay.

Table 1 shows the variations of the different hays in composition and digestible nutrients, and especially the difference between legumes and grasses. Legume hay contains over twice as much digestible protein as grass hay. The digestible carbohydrate equivalent includes the digestible crude fiber and nitrogen-free extract plus two and one-fourth times the digestible fat. Although composition and digestible nutrients are not satisfactory standards of comparison, they are widely used and valuable to correlate with practical experience in feeding. Relatively little work has been done to compare directly the feeding values of the various hays.

TABLE 1.—*Grass and legume hays, their composition and digestible nutrients*

Hay	Water	Ash	Crude protein	Carbohydrates		Fat	Digestible nutrients	
				Crude fiber	Nitrogen-free extract		Protein	Carbohydrate equivalent
GRASSES	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Barley	10.6	5.3	9.3	23.6	48.7	2.5	6.0	47.6
Italian rye	8.5	6.9	7.5	30.5	44.9	1.7	3.3	47.5
Johnson	9.0	7.0	8.2	29.7	43.4	2.7	3.6	47.1
Millet	10.3	7.9	8.8	27.0	43.3	2.7	5.1	48.3
Tall oat	11.0	6.8	7.9	29.6	41.9	2.8	4.2	41.7
Orchard	9.9	6.0	8.1	32.4	41.0	2.6	4.9	45.5
Black grama	5.5	7.0	4.3	31.4	50.5	1.3	1.2	38.2
Mixed prairie	9.5	7.7	6.1	30.5	44.0	2.2	2.3	42.6
Western wheat	6.4	7.3	7.4	33.7	42.8	2.4	4.0	52.2
Redtop	8.9	5.2	7.9	28.6	47.5	1.9	4.8	49.1
Rye	6.4	4.7	5.9	37.4	43.6	2.0	3.1	45.4
Sorgo	5.8	9.5	9.5	26.8	46.5	1.9	3.5	48.0
Sudan	5.3	8.1	9.7	27.9	47.3	1.7	4.8	44.2
Swamp	11.6	6.7	7.2	26.6	45.9	2.0	3.0	43.4
Timothy	12.5	5.4	6.8	28.3	44.3	2.7	3.3	44.7
Average	8.8	6.8	7.6	29.6	45.0	2.2	3.8	45.7
LEGUMES								
Alfalfa	8.3	8.9	16.0	27.1	37.1	2.6	11.5	42.0
Alsike clover	10.5	8.8	14.4	24.7	39.1	2.5	9.5	40.3
Cowpea	9.7	12.9	17.5	20.5	36.6	2.8	11.9	37.0
Crimson clover	9.6	8.6	15.2	27.2	36.6	2.8	10.5	37.7
Field pea	10.6	8.3	16.1	24.8	37.5	2.7	12.6	45.3
Lespedeza	7.9	6.2	11.9	28.5	42.7	2.8	7.9	44.8
Mammoth red clover	12.2	7.5	12.8	27.1	37.1	3.3	7.8	43.2
Peanut	7.6	6.9	11.4	23.4	43.3	7.4	7.9	57.8
Red clover	12.9	6.9	13.6	24.1	39.1	3.4	8.3	43.2
Sweetclover	8.1	7.5	16.2	25.9	39.5	2.8	12.1	39.2
Soybean	8.4	8.9	15.8	24.3	38.8	3.8	11.2	44.0
Vetch	11.3	7.9	17.0	25.4	36.1	2.3	11.6	43.4
Average	9.7	8.3	14.8	25.2	38.6	3.4	10.2	43.2

Haymaking

Haymaking is more than merely the drying of green grass. Such material dried rapidly in an oven lacks the aroma characteristic of good hay. In the gradual drying which takes place in the air and sunshine a slow fermentation due to substances called enzymes takes place, the result of which is evidenced by the aroma of the cured product. A bright-green color is also desirable in hay curing, and therefore means are taken to reduce exposure to bright sunshine as much as practicable.

The processes of making hay in the days when the work was all done by hand were (1) mowing with the scythe, (2) raking with a hand rake, (3) turning over or stirring with a pitchfork, (4) cocking with the same implement (Fig. 9), and (5) putting the cured or nearly cured product in large ricks or stacks or hauling to the barn and putting in the mow. Later the horse mower replaced the scythe, the horse rake, the hand rake, and the tedder and the loader were used instead of the pitchfork. The processes of haying by the use of machines then became (1) mowing, (2) raking, (3) tedding, (4) loading, and (5) stacking. In very favorable hay regions the methods are even more simplified by baling the hay directly from the windrows, thus eliminating loading and stacking.

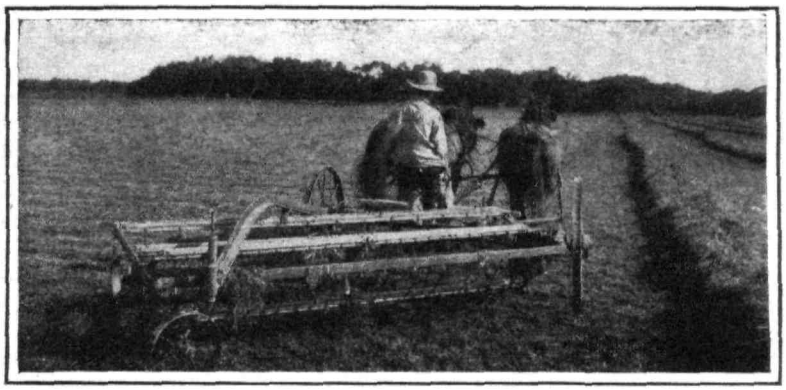


FIG. 32.—Haymaking II. Gathering the hay into windrows with a side-delivery rake

However, the principles of haymaking remain the same. The secrets of good haymaking lie in controlling these natural processes so that the dry-cured product shall be bright in color, retain all the nutritive properties of the fresh plants, and possess the characteristic sweet aroma.

Curing hay in good weather is a rather simple matter; in bad weather the difficulties may be insuperable. Persistent wet weather is the greatest handicap to the haymaker. When the grass is first cut and in the swath, dew or even a shower will do little injury; but where showers fall frequently, so that the cut plants are partially dried between showers, it is next to impossible to make good hay.

During such weather there is considerable loss in weight aside from any loss of quality that may result. It has been shown that

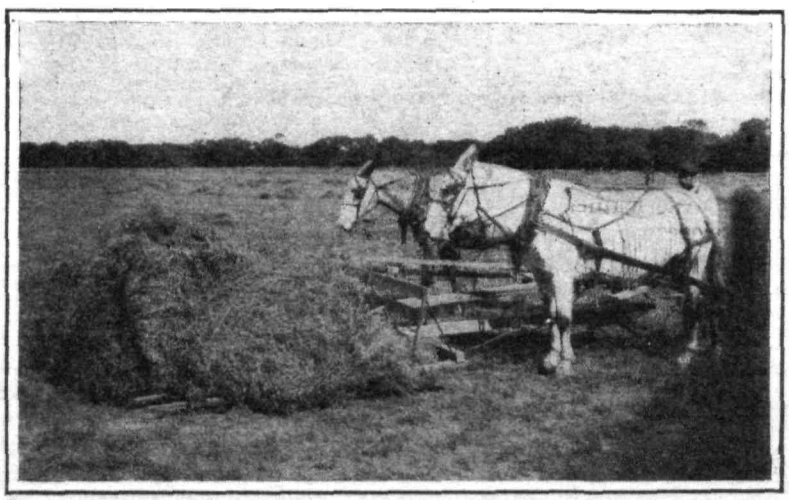


FIG. 33.—Haymaking III. Transporting the hay to the stacker with a sweep rake

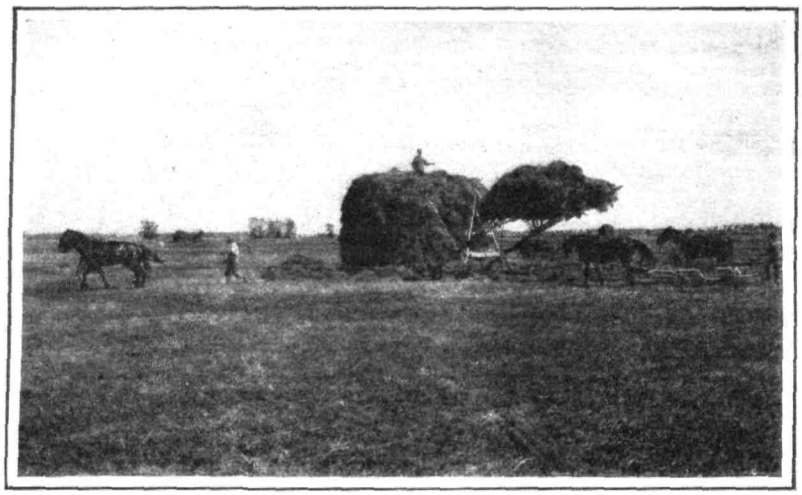


FIG. 34.—Haymaking IV. The stacker lifting a load from the sweep rake to the top of the stack

salts and proteins are leached out of cut plants. Molds develop and the plants become darkened, leaves are lost, and the resultant product has a lessened palatability and often a disagreeable odor.

Time to Cut

The best time to cut a field of grasses or clovers for hay, provided the weather conditions are favorable, is when the greatest amount of digestible nutrients will be obtained. Other factors, however, besides weather probabilities have an influence. When other

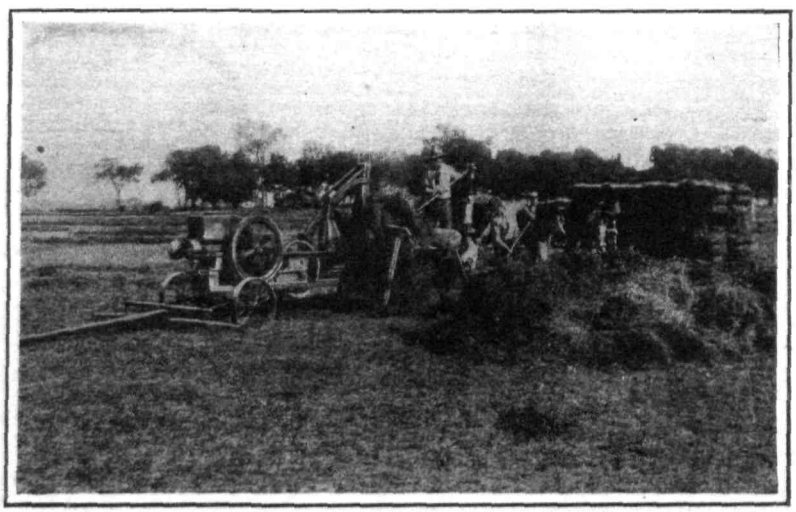


FIG. 35.—Haymaking V. Baling the hay. The press is mounted on a truck, so that it can be moved about the field and the hay brought to it by sweep rakes

farm work is pressing, mowing is likely to be postponed. If several cuttings are to be secured, as in the case of alfalfa, the effect of the first cutting on the subsequent ones needs to be considered.

Grasses and legumes are most palatable when young, and the protein content is generally greater when the plant is in bloom or just before bloom than at a later stage of development. The yields, however, are commonly greater where the plants approach maturity, and in practice cutting is often done at a time when the largest quantity of good hay can be made per acre, even though such hay is not equal in quality to that made from younger plants.

Studies at various experiment stations have shown that the total yield of timothy increases up to the time when the seed is nearly ripe. Table 2, compiled from Illinois Bulletin 5, shows that for timothy, Kentucky bluegrass, and red clover the protein content decreases and the crude fiber content increases with the age of the plants, and that this change is more pronounced in red clover than it is in grasses.

TABLE 2.—*Composition of grasses and clover at different stages of growth*

[Illinois Experiment Station]

	Water	Water-free substance					Nitrogen	
		Crude ash	Crude fat	Crude protein	Crude fiber	Nitrogen-free extract	Total	Albuminoid
TIMOTHY	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Full bloom	26.53	6.81	5.00	7.33	32.11	48.75	1.17	0.96
Half the anthers shed	20.75	6.65	4.46	6.56	33.74	48.59	1.05	1.02
Seed in dough	23.41	6.73	3.81	6.12	34.45	48.89	0.98	0.95
Seeds in half to two-thirds of heads ripe	21.64	5.90	3.38	6.23	33.82	50.67	1.00	0.91
KENTUCKY BLUEGRASS								
Panicle just visible	6.65	8.07	4.88	19.88	18.43	48.74	3.18	2.70
Panicle shredding	7.15	5.57	4.07	16.21	22.83	51.32	2.68	2.38
Full bloom	6.98	8.30	3.90	12.61	23.76	51.43	2.01	1.99
In seed	7.55	6.38	4.25	12.49	24.34	52.54	2.00	1.63
MEDIUM RED CLOVER								
Heads forming	11.00	8.42	4.52	23.31	17.53	46.22	3.73	.....
Heads formed	9.73	7.73	3.58	18.36	23.37	46.96	2.94	.....
Full bloom	9.82	7.07	3.16	14.66	28.06	47.05	2.35	.....
Some heads dead	9.05	6.60	3.08	13.69	36.40	40.23	2.19	.....
Heads all dead	10.13	6.19	2.78	12.52	37.50	41.01	2.00	.....
MAMMOTH RED CLOVER								
First cutting, June 30	26.31	7.89	6.65	13.84	30.32	41.30	2.21	1.87
Second cutting, July 11	25.79	6.57	5.82	12.83	34.75	40.03	2.05	1.82
Third cutting, July 23	19.53	6.44	5.11	11.37	32.92	44.16	1.82	1.75

The Kansas Experiment Station found that alfalfa cut when one-tenth in bloom contained 18.5 per cent protein; when half in bloom, 17.2 per cent; when in full bloom, 14.4 per cent. However, other characteristics may be equal in importance to the chemical composition. The Wisconsin and Kansas Experiment Stations have recently shown that frequent cutting of alfalfa, when the plants are cut in early bloom, results in lessening the life period of the plants.

pumps. Nevertheless the secret of making good, bright-green hay is to reduce the water in the plants from an average of about 70 per cent to about 15 per cent and to do this fairly rapidly and without allowing any of the leaves to become brittle-dry. The methods adopted should meet this requirement. Hay cures better in the cock than in swath or windrow, because in the cock a smaller proportion of the plants is exposed to sunlight, and danger of too rapid drying is avoided.

Grasses have hollow stems and firmly attached leaves which dry more easily than those of legumes. The broad leaves of legumes are likely to dry more quickly than the stems and to become brittle, especially if the cut plants lie too long in the swath under a hot sun. In cloudy weather the plants may safely remain in the swath longer than in sunny weather.

Tedding

Tedding is a process mostly used in humid regions. When the cut crop or math is heavy it may be necessary to turn the cut plants over



FIG. 37.—A tedder "doing its bit" in the haymaking scheme, stirring up the cut grass in order to facilitate drying

before windrowing. This process hastens drying, as it allows the air to reach the plants that were next the ground. When the meadow is small, turning or stirring may still be done with a hand fork, but this is a laborious operation. For larger fields a tedder is essential. This machine turns over the cut plants by a kicking motion. If tedding is to be done in the swath, as is sometimes necessary when the crop is heavy, this should be done soon after the plants have wilted, and especially with legumes, before the upper part of the swath has become so dry that the leaves are brittle. If clover and alfalfa are tedded when the surface is very dry, many leaves will be lost, with consequent deterioration of the hay. Tedding the win-

drows is a common practice, but when the crop is heavy it is better to turn over the swaths.

Cocking

Clover or alfalfa should be put into cocks only when free from external moisture. Such moisture encourages the development of molds and bacteria, with subsequent heating and spoilage. Cocks should be small and carefully made so as to shed rain as much as possible. Except in wet weather, three to four days in the cock will complete the curing of clover and alfalfa. Less time is required for timothy and most other grasses. In regions where rain may be expected, the cocks are sometimes covered with caps made of heavy cloth, a stone or other weight tied to each corner. The expense attached to this method, however, prevents its being used much.

Where the weather is likely to be bad for haymaking, as in most of the Southern States, various devices have been used to help in



FIG. 38.—The protection of cocked hay by the use of canvas covers is expensive and usually is not economical

the curing process. The simplest of these is the "perch," a single pole driven into the ground and having a cross arm 2 or 3 feet long nailed to it. The partly cured material is arranged about this pole so that a tall cock is built up with the pole in the center. Another device is the "pyramid," in which three poles are united at the top. Sometimes the third pole of the pyramid is very long so as to make a long, low, oval-stack, thus reducing labor. Grooved poles have been used to place in the center of the cock, and holes have been made in the caps to allow the poles to pass through. This leaves an air space and assures circulation, thus assisting in the drying. An efficient but much more expensive method is by use of the curing truck. The green material, after allowing it to wilt and lose a considerable proportion of its moisture, is placed on trucks large enough to hold a ton of cured hay. The truck is then covered with tarpaulins, and is allowed to stand in the field until the hay is sufficiently dry to stack. This method is too expensive to be practicable except perhaps in regions where hay is high priced and



FIG. 39.—In a humid climate such as that along the Atlantic coast special frames are sometimes used to aid in curing the hay; the pyramidal form is, perhaps, the most efficient one. These frames are used most in curing cowpea and soybean hays

where it is difficult to cure hay because of excessive moisture. Clover hay is said to have cured perfectly on these trucks in Louisiana even though the weather was adverse.

Sweating

During the later stages of curing, which take place somewhat in the cock but more in the stack or barn, fermentation becomes more active accompanied by further loss of moisture. When well-cured hay is stacked or mowed, this fermentation, which is thought to impart an aroma to the hay soon ceases. Imperfectly cured hay, especially that which is wet outside from dew or rain, may ferment excessively, with considerable rise of temperature, resulting in some

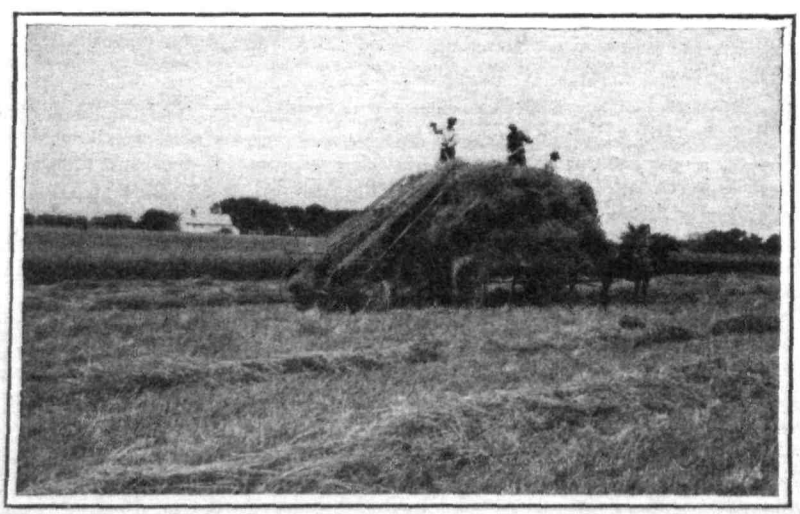


FIG. 40.—Mechanical hay loaders save hand labor and may be found economical where it is customary to store the hay in barns or to haul it out of the fields to a stack yard

cases in spontaneous combustion. The fermentation is started by bacteria and raises the temperature. Later, a process of chemical oxidation is thought to take place, resulting finally in temperature high enough to char, and, when air is present, to ignite the hay.

Loading and Hauling

On small farms loading is still done by hand, as was formerly the universal custom. This is laborious and, with the increasing cost of labor, very expensive. Modern loading machinery saves much work and time and is now commonly used on all large farms, except where the hay is brought to the stack or hay press by sweeps. The sweep

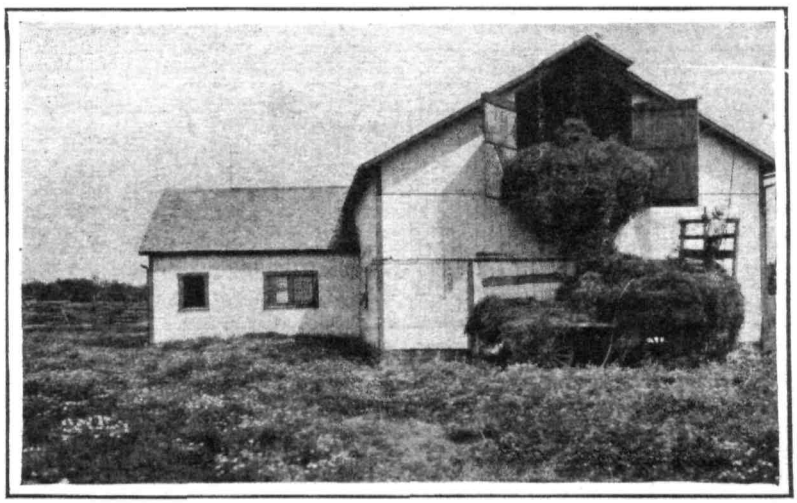


FIG. 41.—In the East the hay is often stored in barns rather than in stacks, and in this case a large hay fork is used to lift the load of hay into the mow

is used mostly in the West, where open-air stacking is the rule. In the timothy-clover region hay is usually put in the barn and hay loaders are much used.

Stacking

Hay may be stacked from the windrow or from the cock, the important point being to have the hay at the proper stage of curing before stacking, due consideration being given to the weather conditions of the locality. Ordinarily hay is in the best condition for stacking when it is still tough and not dry and brittle. Such hay will not break readily if tightly twisted and it will feel cool if held to the cheek.

The two most important points in stacking are: (1) The stack should be relatively large, holding from at least 10 to 15 tons of hay, because small stacks holding only 2 to 4 tons will suffer relatively large losses from weathering on the outside; (2) in the stack the hay towards the center should be well compacted. Sometimes trampling

is necessary, but, if the hay is dropped from the loader on to the stack in large masses, as is commonly the practice in the West, good compaction is secured. The important principles involved are (1) that in a well-compacted stack there is much less penetration of moisture and (2) that in a large stack there is a much smaller proportion of weather damage to hay on the outside than is the case with small stacks.

The form of stack varies greatly in different localities, in some regions being mostly small and conical or pyramidal in shape. In the West the large stacks are more commonly quadrangular in shape. Often they are so built that the sides of the stack bulge outward. This is desirable, because it lessens the amount of weather injury on the sides.

In regions where rain damage is to be expected it is well to protect the top of the stack by covering with a layer of green grass of almost any kind. This green grass compacts much more closely than will cured hay. Rarely tarpulins are used for this purpose, but the expense is almost prohibitive. In Great Britain the stack is sometimes protected by covering with a carefully woven mat of straw or hay.

Artificial Drying of Hay

Numerous attempts have been made by hay growers in sections of heavy rainfall to devise means of drying hay artificially. The problem has not yet been solved and the difficulties under present economic conditions seem insuperable. A number of installations built for this purpose have produced hay of very high quality, at moderate expense, so far as fuel and labor are concerned. A portable hay-drying plant with sufficient capacity to dry 10 to 15 tons per day might solve the problem. Hay having approximately the color of the grass growing in the field can be produced artificially.

In chemical composition the artificially cured hay approaches very closely that of green grass, as is seen in Table 3.

TABLE 3.—*Chemical composition of green alfalfa, of alfalfa hay cured in the field, and of that cured artificially*

	Moisture	Chemical composition, water-free basis				
		Ether extract	Ash	Crude fiber	Albuminoids (N X 6.25)	Nitrogen-free extract
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Green alfalfa	73.620	2.890	9.095	27.655	19.165	40.92
Artificially dried	4.930	2.465	9.125	27.390	18.690	41.46
Field cured	16.955	2.120	6.870	28.145	13.715	49.26

The figures in the table are averages of duplicate analyses. They indicate that, so far as chemical composition is concerned, the quality of the artificially dried product is superior to that of field-cured hay.

In a few experiments conducted by the department farm animals distinctly preferred the artificially dried hay to the field cured, even when the hay was cured by hot gases carrying considerable smoke.

In making hay from plants like alfalfa, from which the leaves drop readily when they are dry, another important advantage in drying the product artificially is the saving of the leaves. Definite data are not available as to the usual losses from this cause in ordinary field curing, but it is known that they are considerable. Taking into account the quality of the artificially dried product, and the saving of the leaves of leguminous hays, it is probably not extravagant to claim that in humid sections the value of the product would be on the average 30 per cent greater when the curing is done by artificial drying as compared with ordinary field curing.

United States Department of Agriculture Bulletin 353 gives the results of extended studies of the percentage of moisture in grass freshly cut for haymaking purposes. The average moisture content of 44 samples of green alfalfa, as reported in this bulletin, was 76.1 per cent; for 25 samples of tall oat grass and orchard grass, the

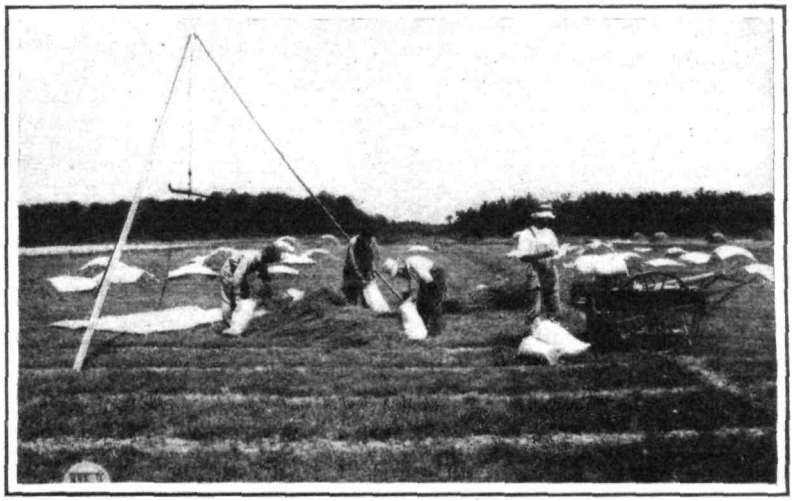


FIG. 42.—Extensive studies have been made upon the moisture content of hay; samples are collected in the field and dried in an oven or inside of a shelter of some kind

average was 71.8 per cent. The average for 24 samples of timothy was 58 per cent and for 19 samples of Red Amber sorghum 71.2 per cent.

The average water content of the air-dried materials from the samples just enumerated was as follows: Alfalfa, 10 per cent; tall oat grass and orchard grass, 17.6 per cent; timothy, 15.2; sorghum, 37 per cent.

It is estimated by competent engineers that under ideal conditions a ton of ordinary bituminous coal will evaporate about 8 tons of water. Under the experimental conditions in the investigations conducted by the department it was possible to evaporate from hay a little more than 4 tons of water to each ton of bituminous coal, and on this basis the data in Table 4 have been calculated. In the experimental work it was possible to accomplish the drying with slightly less fuel than is shown in the last column of the table.

The moisture content of ordinary field-cured hay usually averages about 16 per cent when the hay is ready to stack. In the rapid drying which takes place when hay is artificially cured, however, it has seemed impossible to accomplish uniform reduction of the moisture content without first chopping or cutting the green plants into small pieces. If unchopped green or partially cured material is used bunches of hay emerge from the drier still quite moist, and spoilage results unless the surrounding hay is so dry that it will take up this excess moisture. For this reason the problem becomes one of reducing the average moisture content of green grass from 60 or 75 per cent to about 5 per cent.

TABLE 4.—*Coal required to make a ton of hay from green grasses of different moisture percentages*

Moisture in the green grass	Green material required for a ton of hay [1]	Water to be evaporated	Coal required [2]	Moisture in the green grass	Green material required for a ton of hay [1]	Water to be evaporated	Coal required [2]
Per cent	*Tons*	*Tons*	*Tons*	*Per cent*	*Tons*	*Tons*	*Tons*
90	9.5000	9.4500	2.3625	60	2.3750	2.3250	0.5812
85	6.3333	6.2835	1.5708	55	2.1111	2.0611	.5153
80	4.7500	4.7000	1.1750	50	1.9000	1.8500	.4625
75	3.8000	3.7500	.9375	45	1.7273	1.6773	.4193
70	3.1667	3.1167	.7792	40	1.5833	1.5333	.3833
65	2.7143	2.6643	.6661				

[1] Containing 5 per cent moisture.
[2] Assuming 1 ton of coal for each 4 tons of water evaporated.

So far as the quantity of fuel required is concerned, therefore, the artificial drying of hay appears to be entirely feasible.

The labor cost of drying hay artificially, as indicated in preliminary experimental work, should be no greater than the cost of making hay by ordinary methods. The main difficulty, as already stated, is in the construction of a plant having sufficient daily capacity to be practical. The construction of such a plant appears to be the outstanding problem yet to be solved.

Neilson method.—An account of a method of artificial drying of hay devised by an English farmer named Neilson is given in the Braunschweigische Landwirtschaftliche Journal of August 10, 1894, pages 137–8. The method consists of placing the green material in moderate-sized round stacks having a cylindrical open space at the center, extending from the bottom of the stack nearly to the top. A pipe extends under the stack, or under a row of stacks, with a perforated extension upward into the cavity in the stack, there being an arrangement by which the latter may be closed at its base. Other perforated pipes are laid in the stack as it is built. These extend from the outer surface of the stack to within about a foot of the central cavity. Their purpose is to permit the measurement of the temperature of the material in the stack from time to time as the drying proceeds.

The pipe under the stack connects with a powerful fan, which sucks the air out of the central cavity, thus causing the outside air

to penetrate the stack. In this manner the moisture in the material is gradually withdrawn. The fan operates on each stack from 15 minutes to an hour each day for one to three weeks after the stacks are built.

This method attracted considerable attention in England and on the Continent of Europe during the latter part of the last century, but the details of operation do not appear to have been fully worked out. It may be worth further study. The cost (fuel, machinery, and labor for operating the system) of curing hay by the Nielson method is reported to be less than 50 cents per ton of cured hay under European conditions late in the last century.

Measuring Hay in the Stack

In localities where much hay is produced for the market it is customary to estimate the tonnage of hay in a stack or rick and to buy it on this basis. In doing this, two problems are involved: (1) A method of determining the volume of the stack accurately; (2) determination of the number of cubic feet of hay required to weight a ton. The first of these problems has been investigated and an approximate solution for it has been found; the second has had very little investigation, and data concerning the volume of a ton of hay under different conditions are very meager.

Number of Cubic Feet in a Ton of Stacked Hay

Conditions which affect the density of hay, and hence the number of cubic feet required to weigh a ton, are (1) length of time the hay has remained in the stack or mow, (2) depth of the hay, (3) kind of plants from which the hay is made, (4) stage of development of the plants when cut, and (5) percentage of moisture in the hay when it was placed in storage.

The decrease in volume of hay after it is stacked is discussed in United States Department of Agriculture, Office of the Secretary, Circular 67.[3] The height of the rick was measured after it had been standing 3 days; 35 days later it was only 89 per cent; 69 days, 86 per cent; and 146 days, 83 per cent of the original height.

The volume of hay in 92 stacks was measured and the hay subsequently weighed to determine the average number of cubic feet per ton. The results are given in Table 5.

TABLE 5.—*Cubic feet of hay in a ton in stacks allowed different periods of time to settle*

Age of stack in days	Number of stacks	Average cubic feet per ton
Under 30	55	589.6
30 to 60	30	581.5
74 to 155	7	514.9

[3] McClure, H. B., and W. J. Spillman, Measuring hay in ricks or stacks. U. S. Dept. Agr., Off. of the Sec. Cir. No. 67, 10 pp. Dec. 9, 1916.

The results presented in Table 5 were obtained in Virginia and New York with timothy hay or hay made from a timothy and clover mixture in which timothy predominated.

Rules for Calculating the Volume of Hay in Mows, in Rounded Stacks, and in Ricks

The problem of calculating the volume of hay in a mow is very simple. The volume in cubic feet is the product of the length, width, and depth of hay each expressed in feet.

In rounded stacks it is necessary to divide the stack into two portions and to calculate the volume of each portion separately. The division should be made at the shoulder of the stack; that is, the level where the stack slopes definitely. In some stacks the lower portion may be cylindrical toward the top or it may be less in circumference at the ground than it is at the shoulder. For a cylindrical stack bottom the formula is $V = 0.08\ H\ C^2$, in which H is the height of the stack to the shoulder and C is the circumference at the shoulder.

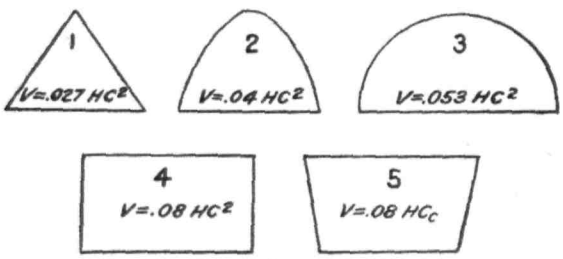


FIG. 43.—Diagram showing various shapes of round hay-stacks: 1, 2, and 3, upper part of stacks; 4 and 5, lower part of stacks. The different values of the factor V are indicated in each case

If the stack is smaller at the ground than at the shoulder its volume may be calculated from the formula $V = 0.08\ H\ Cc$, in which H is the height of the stack to the shoulder, C the circumference at the shoulder, and c is the circumference at the ground.

The volume of the upper portion of the stack is given approximately by the formula $V = 0.04\ H\ C^2$, in which H is the height of the stack above the shoulder and C is the circumference at the shoulder.

In determining the volume of a rick of hay, the principal problem is to find the area of a vertical cross section of the rick, or, if the end of the rick be vertical, to find the area of the end of the rick. This area multiplied by the length gives the volume. A number of formulas are in use for determining the volume of a rick, but the most reliable are those known as the Quartermaster's rule and the Fowl rule.

Quartermaster's rule.—Add together the width of the stack and its "over," that is, the distance from the ground on one side of the rick over the top to the ground on the other side; divide the sum by 4; and multiply this result by itself. The final result multiplied by the length of the stack gives its volume in cubic feet. This is one of the most satisfactory rules in common use.

Fowl rule.—This rule was devised by representatives of the United States Department of Agriculture and is usually expressed as V=FOWL. Multiply "over" (O) by width (W) and by length (L), and this product by a factor (F) which varies with differently

shaped stacks from 0.25 to 0.37, according to the height and fullness of the cross section of the rick.

The various values of F for ricks of different shapes are as follows:

For ricks three-fourths as tall as they are wide:
1. Narrow (cross section nearly triangular), F=0.25.
2. Moderately full, F=0.28.
3. Very full-sided, F=0.31.

For ricks as tall as wide:
4. Very narrow (cross section nearly triangular), F=0.28.
5. Moderately full, F=0.31.
6. Very full-sided, F=0.34.

For ricks one and one-fourth times as tall as wide:
7. Very narrow, F=0.31.
8. Moderately full, F=0.34.
9. Very full, F=0.37.

Frye-Bruhn rule.—This rule is used chiefly in the Pacific Northwest. Substract the width of the stack from the "over" and multiply the remainder by one-half the width and this product by the length of the rick. This rule approximates accuracy for ricks in which the height is about equal to the width, but for lower stacks it is very faulty, the result being far too small.

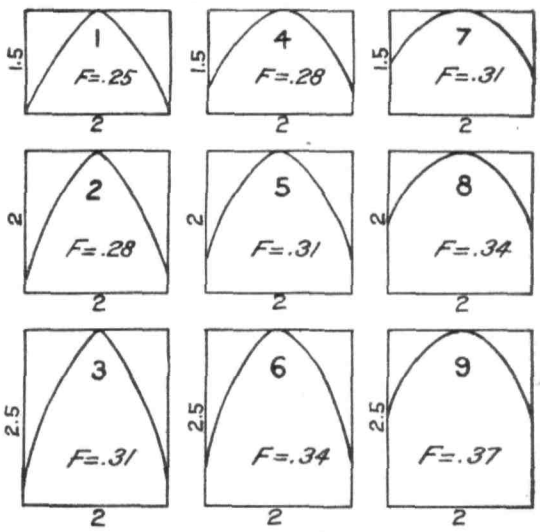


FIG. 44.—Cross sections of haystacks of different shapes. The different values of the factor F are indicated in each case

Outlaw rule.—This rule is used to a considerable extent in the Middle West. It is very simple but grossly inaccurate. Multiply "over" by the width, take one-fourth of the product, and multiply this by the length of the rick. For a rick three-fourths as tall as wide and approximately triangular in cross section, this formula is reliable, but for any other form of rick it is very inaccurate, the error in the case of tall full stacks amounting to nearly one-third of the total volume.

A comparison of the four formulas or rules when they are applied to stacks of different shapes is given in Table 6. In Figure 44 are shown diagrams of the vertical cross sections of 9 types of hay ricks, and the corresponding value of the factor (F) for each of these shapes is indicated in the outlines. The height of ricks 1, 4, and 7 (upper row) is three-fourths the width; in ricks 2, 5, and 8 (middle row) it is equal to the width; and in ricks 3, 6, and 9 (lower row) the height is one and one-fourth times the width. Ricks 1, 2, and 3 (left column) are narrow or nearly triangular in outline; 4, 5,

and 6 (middle column) are medium full; 7, 8, and 9 (right column) are full and rounded.

TABLE 6.—*Area, in square feet, of cross section of nine different ricks as calculated by different rules. O is the "over," and W the width of the rick. In all cases W=9.6875 feet.*

Rick number	Over (O)	Frye-Bruhn rule $\frac{(O-W)W}{2}$	Quartermaster's rule $\left(\frac{O+W}{4}\right)^2$	Outlaw rule $\frac{OW}{4}$	Fowl rule FOW	Actual area of cross section of rick
	Feet	*Sq. feet*	*Sq. feet*	*Sq. feet*	*Sq. feet*	*Sq. feet*
1	17.1	35.9	44.8	41.4	41.4	41.1
2	23.0	64.5	66.8	55.7	62.4	61.0
3	26.5	81.4	81.8	64.2	79.6	78.1
4	18.1	40.7	48.3	43.8	50.8	50.9
5	23.75	68.1	69.9	57.5	71.3	71.1
6	27.0	83.9	84.1	65.4	88.9	87.8
7	19.6	48.0	53.6	47.5	58.9	57.8
8	25.0	74.2	75.2	60.5	82.3	80.0
9	28.0	88.7	88.8	67.8	100.4	99.4
PERCENTAGE OF ERROR IN THE ABOVE RESULTS						
1		−12.4	9.0	0.7	0.7	
2		5.7	9.5	−8.7	2.3	
3		4.2	4.7	−17.8	1.9	
4		−20.0	−5.1	−13.9	−.2	
5		−4.2	−1.7	−19.1	.3	
6		−4.4	−4.2	−25.6	1.3	
7		−17.0	−7.2	−17.8	1.9	
8		−7.2	−6.0	−24.4	2.9	
9		−10.9	−10.8	−31.8	1.0	

This table shows that the Fowl rule is more nearly accurate than any of the others, but the necessity of estimating the value of the factor F in using this rule is a marked disadvantage. The Quartermaster's rule is fairly reliable for ricks of all shapes, and it is easily and directly applied.

Although some of the rules discussed above appear to be fairly satisfactory for commercial use, data are almost wholly wanting as to the volume of a ton of hay under different conditions. This greatly limits the value of the rules for determining the content in cubic feet of a rick of hay, since no matter how accurately the volume may be known the tonnage of hay in the rick can not be determined with accuracy until the number of cubic feet required to make a ton is known.

Economics of Hay Production

The term "hay" in the statistical treatment that immediately follows includes not only ordinary grass and legume hays, but also the coarser forage plants when cut and handled after the manner of a hay crop except, where otherwise stated. It does not include corn stover or corn cut for fodder. The coarser hays are only 10 per cent of the total hay crop.

Distribution of the Crop

Figure 19 shows the distribution and density of the hay crop in the United States for the census year 1919. It shows that the great

hay and forage producing region lies in the north central and northeastern sections of the country and in certain restricted areas in the mountain and Pacific coast States. This map, however, while it shows the actual acreage of the crop, or the group of crops, included under the designation "hay," does not show the relative importance of hay in the agriculture of the various sections of the United States. This is much better indicated in Figure 45, which shows the percentage of crop area devoted to hay in each of the States of the Union at the last two censuses. Two regions are prominent in which hay is the dominant crop so far as acreage is concerned; the one is New York and New England and the other the western mountain States, including all the Pacific States except Washington and California.

In the belt of States extending from New Jersey to Minnesota and lying along the northern edge, or just to the north of the central Corn Belt, hay is likewise prominent. In the central Corn Belt and the group of States here designated the south central Corn Belt hay occupies a moderate acreage, as it does also in most of the Plains region. In the last three groups of States mentioned the production of hay is largely a matter of supplying local needs.

One of the most striking features of the illustration is the extremely small percentage which hay acreage makes up of all crop land in the Cotton States. The reasons for this distribution of the crop will be given later. The map (fig. 45) shows in much greater detail the facts brought out in a general way in the graph at the right. In that portion of the United States lying east of the Rocky Mountains, four great areas differing as regards relative importance of the hay crop are easily discernible: (1) The great area extending from northern Pennsylvania northeast to Maine and recurring in Michigan, Wisconsin, and northeastern Minnesota, in which the hay crop occupies a very large proportion of the crop area, larger than in any other section of country east of the Rocky Mountains; (2) A vast area extending from central Ohio westward through Indiana, Illinois, central Missouri, then northwestward through North Dakota into northeastern Montana, where, in general, the hay crop occupies from 7 to 25 per cent of the crop area. In the eastern portion of this area the dominant crop is corn, and in the northwestern extension it is wheat. In a considerable area in central and eastern Illinois and northwestern Indiana, where corn is distinctly the dominant crop, hap occupies less than 7 per cent of the crop area; (3) There is an extensive area in the Cotton Belt in which hay occupies less than 7 per cent, and another area, nearly or quite as extensive, in which it occupies from 7 to 15 per cent of the crop area. This is the area in which cotton is the dominant cash crop and corn the principal supply crop; (4) A considerable area covering eastern Tennessee, with extensions northeastward along the Appalachian range and northward and westward through Kentucky into southern Indiana, southern Illinois, southeastern Missouri, and northern Arkansas, then reappearing in east central Kansas, where there is no dominant outstanding cash crop like cotton, corn, or wheat, and where the land for the most part is rough and much of it not in cultivation. The large proportion of land in this region best suited to grazing makes possible a considerable livestock industry. The

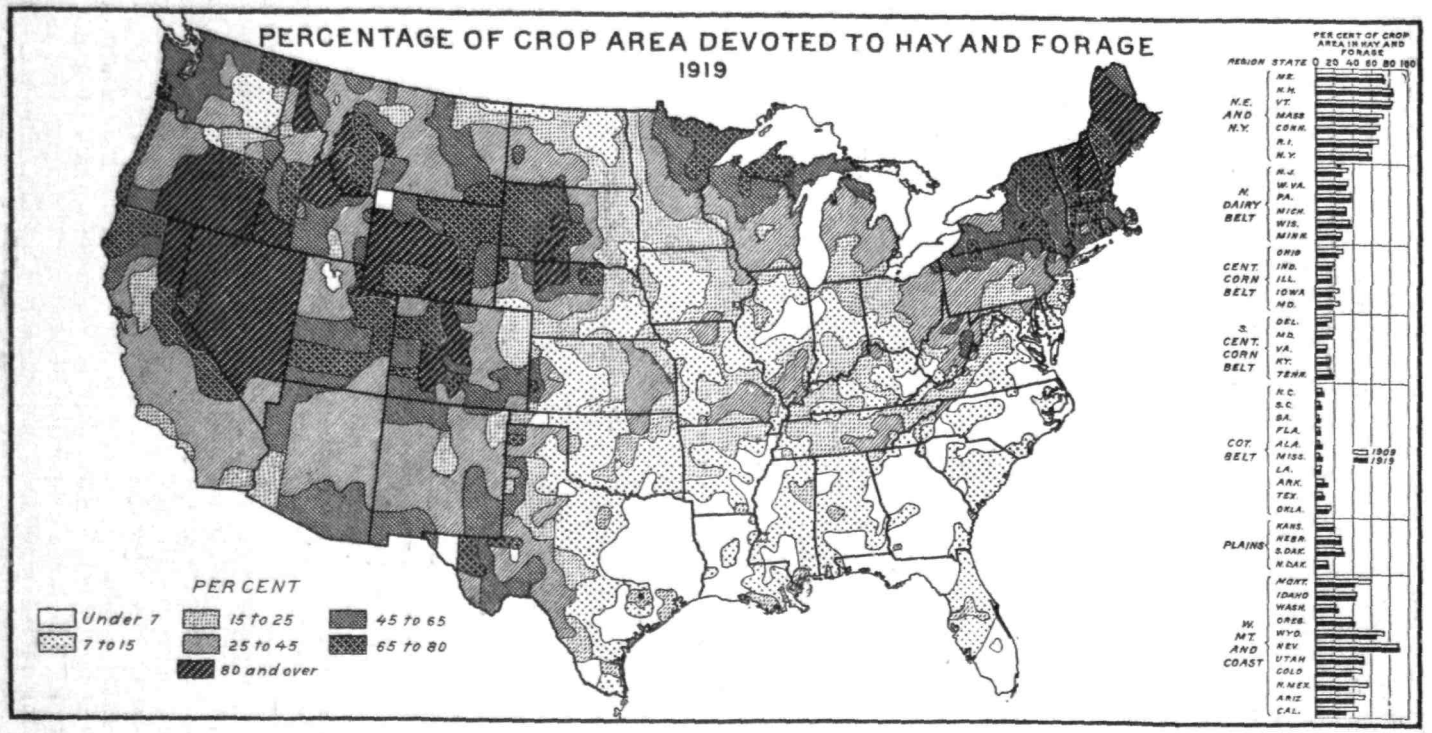


FIG. 45.—The extremely small importance of hay and other forage in the Cotton Belt as compared with that of other crops is illustrated on this map and the graph to the right of it. Relative importance, however, is emphasized by the scarcity of other crops as in Nevada. (Compare with map showing total production, fig. 20)

pasturage consists in part of native grasses and in part of more valuable introduced grasses. The presence of the animals leads to a considerable percentage of hay acreage.

Farming in the Western Mountain and Pacific Coast States is in large part devoted to hay growing. In only a few localities does the percentage of hay acreage to total crop land fall below 25 per cent. The most important area of the latter kind is the great wheat-growing region of southeastern Washington and adjacent parts of Idaho and Oregon.

Importance of the Hay Crop as a Farming Enterprise

The bulky character of hay and its relative cheapness make it largely a crop for local consumption. It can be shipped to distant markets only when those markets can pay high prices for it. Because of this fact, hay is produced in sufficient quantity to meet local requirements in nearly all sections of the country where such production is feasible. In a few localities, like the one already mentioned in central and eastern Illinois and western Indiana, the soil is so eminently suitable for profitable cash crops that hay production is neglected but not because of difficulty in producing hay. Besides, there are large quantities of corn stover and cereal straw available. In this particular locality the character of the farming is such as to include very little livestock except work animals, and the amount of land devoted to hay required to supply the needs of these animals is small.

A careful examination of Figure 45 will show that the percentage of hay acreage does not rise above 25 or 30 per cent except in regions which, because of climatic, economic, or other conditions, are not well suited to the production of cotton, corn, wheat, or other important cash crops. The hay crop rises to 40 per cent or more of the crop acreage only in regions where the other major crops of the county are strictly limited because of climatic or economic conditions.

In the great hay-producing region covering northern Pennsylvania, New York, and nearly all of New England and the central and northern portions of Michigan, Wisconsin, and Minnesota climatic conditions prohibit cotton culture and either prevent or greatly restrict corn culture. Wheat is also greatly limited here, either because of climatic conditions or on account of competition with other regions better suited to its production, and in restricted localities of New York and New England, because of competition with more profitable crops, particularly truck and fruit crops. Thus all the other major crops are eliminated or greatly restricted, leaving the major acreage to hay.

There are two other reasons why so large a percentage of crop land is devoted to hay in New York and New England. The most important is the fact that this region has a virtual monopoly on the production of market milk for the great cities within its boundary. The cows required to produce this milk can consume enormous quantities of hay. The second reason, less important now than

formerly, is the fact that these same cities require considerable quantities of hay,which in former times could not all be produced locally. A part of the supply had to be shipped from Ohio and Michigan. This made hay high priced, and its production for market in New York and New England was a profitable business. But there has recently been a change in this situation, the reason for which will be discussed later.

In the belt of States extending from northern New Jersey through Pennsylvania, northeastern Ohio, Michigan, Wisconsin, and Minnesota the dominant position of the hay crop is to be explained as follows: This region lies along the northern edge or to the north of the Corn Belt. The corn crop is therefore rather restricted. Considerable wheat is grown in this area, but competition is severe with regions which can produce wheat more cheaply, and this fact limits the crop appreciably. Part of the region also lies along the line of division between spring and winter wheat, not being eminently suitable for either. It is a good oat country, and large quantities of this crop are grown. The crop adaptability as well as climatic conditions in this region, are eminently suitable to the dairy industry, and it is here and in the region previously discussed that commercial dairying has had its greatest development in this country. The presence of large numbers of dairy cows has called for a relatively large hay acreage.

In the central Corn Belt, extending from Ohio to Iowa and Missouri and including portions of eastern Kansas, eastern Nebraska, and southeastern South Dakota, corn is the dominant crop, and hogs and beef cattle are the dominant livestock enterprises. These require relatively little hay. The enormous acreage of crop land in this region is not devoted largely to hay, because local needs are relatively small and the quantity of hay that could be produced is far greater than could find a market in distant regions. However, considerable hay from this region is shipped southward. The percentage of hay land in this group of States runs ordinarily from 15 to 20 per cent of the crop area, which suffices to feed the animals on the farm and to supply such local markets as exist.

In the group of States extending from Delaware to Tennessee, designated the south central Corn Belt in Figure 45, the situation is very similar to that in the central Corn Belt, except that in the south central Corn Belt the oat crop almost disappears, although it is an important crop in the central Corn Belt. The percentage of hay acreage in the south-central Corn Belt is about the same as it is in the central Corn Belt and for similar reasons.

The position of the hay crop in the Cotton Belt is to be accounted for not by the inability of cotton farmers to grow crops suitable for hay, nor by their disinclination to produce sufficient hay to supply local needs. It is partly due to the relatively small place occupied by livestock in the region, but the fact that less hay is grown than is needed locally in most cotton-growing localities is to be attributed primarily to the difficulty of curing hay where the rain fall is, in general, 50 to 60 inches per annum, much of it falling during the time of hay curing. In some years hay can be cured in excellent condition in this region, but frequently there are seasons

when the proper curing of hay is a task too difficult for the man of ordinary ability and initiative. In this region one finds numerous schemes for curing hay in wet weather. Some of the hay is cured on frames (fig. 39). Another practice which has been adopted to a small extent is the curing of hay on trucks under tarpaulins.

The States of the Plains region may be considered in two groups. One consists of Kansas and North Dakota, in which States wheat growing extends more or less generally to the western boundaries. Hay production in these two States is largely a matter of supplying farm needs. The other group consists of Nebraska and South Dakota, in the western part of which States there is much range land, and farming is largely limited to the production of forage to be used as winter feed for range livestock. This accounts for the greater percentage of hay acreage in these two States as compared with the other two States in this group.

The large percentage of hay acreage in the western Mountain and Pacific Coast States appears to be due to the following causes: (1) Except in a few very restricted localities in this entire area climatic conditions prohibit cotton entirely and limit the acreage of corn greatly; (2) although the region is eminently suitable for oats the product is too cheap to stand cost of transportation to distant markets, and the production of oats in this region is limited mostly to supplying local needs; (3) wheat is eminently adapted to much of the cultivated area, but is little grown on the irrigated lands. Not withstanding occasional periods of low prices for wheat, it is unlikely that the acreage of this crop will decrease very much except as the lands less favorable on account of insufficient rainfall are abandoned. If the acreage is decreased on good wheat lands it is probable that some of this will be used for hay.

This accounts for all the major crops except hay. The presence of millions of range animals requiring winter feed makes desirable a relatively large acreage of hay in this region and accounts for the dominance of the hay crop in the western Mountain and Pacific Coast States. Also, there are some regions, such as western Washington and the coast country of Oregon, Washington, and northwestern California, where the marked development of the dairy industry makes necessary large hay production. The same may be said of restricted localities, especially in the vicinity of the larger cities and towns of the region.

Trend of Hay Production

During the last census period there was a decrease of 46.4 per cent in the number of horses in cities in the United States owing to the general extension of the use of automobiles. This has had a marked effect upon the market for hay, particularly timothy hay, and has resulted in some reduction in hay acreage, especially of timothy, in many sections of the country. In 1910 about 13.8 per cent of the horses were in the cities; in 1920 only 8 per cent.

The enormous extension of wheat acreage which occurred during the war also affected very materially the percentage of land devoted to hay and pasture in many States. This is particularly true of the western Plains and Mountain States and also some of the

Pacific Coast States. The same influence was marked in some of the States of the Mississippi Valley, particularly Missouri, Iowa, Indiana, and Ohio. In Illinois there was a similar increase in oat acreage at the expense of the hay crop. This, however, was a temporary phenomenon. Since the war the acreage of wheat has been greatly reduced and the acreage of hay is regaining its former position, but still shows the effect of the reduction in the demand for hay in cities.

The crop data of the department supplemented by correspondence with the agricultural authorities at the various State experiment stations discloses important facts concerning trends in hay production, especially since the last census. In New England there has been in general a reduction in hay acreage largely owing to the decrease in the city demand for hay. This has affected particularly the poorer hay lands, and in many cases meadows formerly



FIG. 46.—Getting hay from the field to the barn or stack with an ox team, as did the early farmers in New Jersey, was a slow process

maintained for the production of market hay have been converted into pasture, and hill pastures have been allowed to grow up into brush. In this region, however, there has been a marked increase in interest in leguminous hay, particularly clover and alfalfa. Because of the prevailing high wages there has also been an increase in the use of labor-saving machinery in handling the hay crop, particularly the side-delivery rake and the hay loader. In Connecticut there has been a marked increase in alfalfa acreage and a corresponding decrease in the acreage of timothy and redtop. In the northern dairy belt, extending from New Jersey to Minnesota, there has been a marked increase of interest in alfalfa. In Michigan the acreage of this crop has risen from 74,000 at the last census to nearly a half million acres in 1924. In Michigan and Minnesota there has been a very marked increase in the area of sweetclover. In New Jersey, Pennsylvania, and West Virginia soybeans are growing in importance as a forage crop. In general, there has been a decrease in production of timothy hay and wild hay in this region. New Jersey and Michigan report that the high freight rates on western alfalfa have markedly stimulated the production of that crop locally.

In the central Corn Belt the most marked change is the great increase in the acreage of soybeans in Ohio, Indiana, and Illinois. Sudan grass is also gaining a foothold in this group of States. The alfalfa acreage in Illinois and Iowa is increasing.

Virginia and Tennessee, in the south central Corn Belt, report a very large increase in the acreage of soybeans. In Maryland and Delaware timothy hay is decreasing in importance, while leguminous hay is increasing in acreage. The growth of the dairy industry in these two States is at present tending to increase the production of hay. Maryland reports a very general increase in the use of timothy, clover, and alfalfa as a meadow mixture. In the Cotton Belt States there has been a slight but very general increase in hay acreage. South Carolina and Georgia report a heavy increase in soybeans. In the melon-growing section of Georgia special attention is being given to cowpea hay as a market crop, with encouraging results. Oklahoma, in this group of States, reports a noticeable increase in the acreage of sweetclover. In Alabama and Mississippi alfalfa culture seems to be decreasing and more Johnson-grass hay is being produced.

In the two Dakotas there has been a very marked increase in the area of sweetclover and a considerable increase in alfalfa acreage. North Dakota also reports a growing interest in the soybean crop for forage. Field peas are being largely grown. In both these States wild hay is gradually being displaced by tame hay, and legumes are receiving preference over the true grasses. No very great changes appear to be going on in the western Mountain and Pacific Coast States. In some localities the recent low price of cattle has led to a reduction in the demand for hay, and this has resulted in temporary local overproduction. Several of these States mention the fact that recent increase in transportation costs have lessened or destroyed the business of exporting hay to distant markets. On the other hand, the cost of rail transportation has worked to the advantage of hay growers in California, who ship considerable quantities of hay through the Panama Canal to southern and eastern seaboard States.

Summary of Factors Influencing the Hay Enterprise

The great number of different plants that may be utilized for the production of hay and forage makes it possible to produce hay wherever crop production is possible at all; hence hay production is limited little, or not at all, by lack of suitable haymaking crops.

On the other hand, rainfall has a very important effect on the distribution of the hay crop. Where the rainfall is 50 inches or more, the curing of hay becomes very difficult, and in such regions it often occurs that the supply of hay produced locally is inadequate to meet local needs. This situation prevails in much of the cotton country; also in the narrow strip of country on the northwestern Pacific coast. Thus the great cheese-making region of the western coast of Oregon, with its very high rainfall, imports a large proportion of its hay from the upper Columbia River basin. Much of the hay produced on the Oregon coast and in western Washington is of low quality, because of the prevailing rains and heavy dews, and sells on the same market for much less than similar hay produced east of the Cascade Mountains.

The economic factor of greatest importance in determining the distribution of the hay crop is cost of transportation. The bulky nature of hay and the low price at which it ordinarily sells largely prevent its transportation to distant markets and thus strongly tend to concentrate hay production near the localities where it is utilized. The effect of this factor is seen in the striking development of the hay crop in New York and New England and in the range country of the West, where the presence of large numbers of range animals make a market for enormous quantities of the product.

Labor Requirements of Hay Crops

The labor required in hay production, particularly in the case of perennial hay crops like timothy and clover, which ordinarily furnish a single cutting a year, is smaller than for a similar acreage of any other class of crops. It is usually estimated that the production of an acre of hay of this character, aside from the seeding, requires on the average about one day of man labor and two days of horse labor annually.

Alfalfa and other crops that furnish more than one cutting in a season require correspondingly more labor per acre.

Hay harvest for a single cutting is an operation strictly limited in season and in most localities may extend over a period ordinarily not exceeding 10 or 12 days for each cutting. The date of hay harvest varies relatively less with latitude than does that of wheat. Thus, timothy and clover hay in southern Missouri are harvested around the first of July, and in North Dakota the same crop is harvested only two or three weeks later. In southern Missouri hay harvest thus follows wheat harvest at a convenient interval. In northern Missouri and southern Iowa the harvesting of these two crops comes at about the same season, so that there is a severe labor conflict. Farther north, particularly in the spring wheat area, the hay crop is harvested and out of the way long before time for wheat harvest. Similar relations prevail in the eastern parts of the country and on the Pacific coast.

One of the reasons why alfalfa has had difficulty in invading the Corn Belt is the fact that the first cutting comes just at the time of the first cultivation of the corn acreage, making a very marked labor conflict between these two crops. The second cutting of alfalfa comes at the same time as wheat and oat harvest, and either wheat or oats, or both, are important in most of the Corn Belt. The third cutting of alfalfa in the Corn Belt comes at a slack period when there is no labor conflict.

Marketing Hay

On many farms the hay crop receives less thought and attention than such field crops as corn, wheat, oats, and potatoes. The other crops are attended to first and hay receives attention only during the slack periods of work. When farm labor is scarce, when corn or wheat is the chief farm enterprise and hay is a crop of secondary importance in the farm income, it is only natural that hay should be the crop to suffer most from inattention. But if hay is to be relied upon as a chief source of farm income or produced for market as a cash crop, it must be managed with the same degree of forethought and attention as other valuable farm crops.

No producer who plans to ship hay to the market should expect to have high grades and to receive top prices unless he plans to have clean meadows, to cut his hay in proper season, to cure and store the crop properly, and to bale and load the hay according to the demands of the markets. Many of the ultimate consumers of hay are dairymen, cattle feeders, cotton planters, and other farmers who represent the real buying demand in the markets, and they want palatable and nutritious hay that gives value in accord with the prices they pay. Hay that is unsound, overripe, full of weeds, badly stained, or otherwise of low quality is a drug on the market. Low-grade hay should not be baled and shipped to market, but should be consumed on the farm. The greatest part of the troubles and dissensions in hay marketing arises over low-grade hay. In these times of high freight rates it does not pay ordinarily to ship a low-grade product.

Good policy in the production of hay for market as well as good crop-rotation practice requires the occasional breaking up of old meadows. The yield per acre is low on old meadows, and the percentage of weeds and fine grass is usually high. Weeds lower the grade of hay, and there are prejudices against grass mixed hay in many markets. Hay inspectors and buyers in all markets usually discriminate against dirty hay. Under the United States grades inspectors are authorized to grade hay downward if it contains amounts of small-grain stubble, cornstalks, old rotten hay of the previous year's cutting, or weeds in excess of specified amounts.

Baling Practice

When considering the purchase of a hay press it is wise to select that type of press that will put out bales of the size and weight most desired in the terminal markets where the hay is to be sold. A particular hay market may favor one style and size of bale and be prejudiced against other types. The shipper and producer will always benefit by catering to the preference of his market. He can not afford to ignore the established market demands.

Neatness and tight tying of the bales is another important feature of hay marketing. Ragged looking bales loosely and unevenly tied are sometimes discriminated against in price because of their unattractive appearance in the car and because of the risk of breaking bales while handling them. It pays to give thought and care to the feeding of the press, to its tension, and to the tying. Press feeders should be instructed to throw out the occasional bunches of coarse weeds, and spoiled hay that are often found mixed with good hay.

When hay is baled from the stack the utmost care should be taken to remove the weathered top and sides of the stack prior to baling. Moldy or stack-burned slugs of hay occasionally found in the center of the stack and the bottom layer of hay that has been next to the ground should not be fed to the press. A relatively small percentage of such stack-damaged hay will spoil the general appearance of a baled lot of really good stack hay.

Snow and light rains cause many losses in baling hay from the stack or in hauling barn-baled hay. It takes but a relatively small

amount of snow or rain on baled hay to raise the moisture content to a point where it will heat in the cars during transit or in the warehouses. Every shipper of hay, therefore, should exercise care to bale and load during days of bright weather and to protect bales of hay in the field from snow or rain.

Baling hay in the field from the windrow or cock is a practice that causes much trouble and dissension in hay marketing unless the curing and drying conditions are very favorable at the time of baling. Every year when the early field-baled shipments of hay move to market, many cars of hot, sour, or moldy hay are discovered. It is difficult to bale hay direct from the windrow or cock and produce sound hay of good quality that will stand shipment and storage in warehouses, because the hay is likely to be baled when partially cured and prior to having gone through the sweat. Under such conditions of baling the sweating takes place in the bales during



FIG. 47.—One of the latest devices for saving man labor in handling hay. The baler takes the hay direct from the loader and delivers the baled hay onto a wagon as the whole outfit travels through the field

transit or in the warehouse, and the tightly packed bales are likely to heat, to ferment and turn sour, or possibly to mold. If the hay is overdried in the swath to prevent bale heating, there is a loss of color and leafiness that is detrimental to quality.

As a general rule the stacking or mow storage of hay, so as to have it go through the sweat prior to baling, is a safer and more profitable practice to follow than to bale it from the windrow. Occasionally field baling is justifiable and profitable, especially when a shortage of hay exists in the markets during the summer months and prices are abnormally high. Under such conditions rushing hay to market will make extra profits, provided a hay press and efficient labor are immediately available and care is exercised to cure the hay properly prior to baling. The saving of labor and occasional profits that may result from the practice of field baling under favorable circumstances are usually more than offset during a term of years by losses in quality that arise from failure to store promptly or by the losses from the deterioration due to the shipment of partially cured hay.

Loading Hay in Cars

Piles of baled hay in the field or in the barn provide an excellent opportunity to sort and grade the hay prior to shipment. At this time all widely differing classes and grades should be separated prior to loading. Any bales of distinctly low quality containing bunches of weeds or spoiled hay should not be shipped. Different classes of hay, such as timothy, medium clover, mixed or light grass mixed, should be separated as far as possible, because it is not good policy to load a number of classes of hay in the same car. Similarly if a portion of the hay is No. 1 grade, cured without rain damage, and another portion is No. 2 grade, because of excessive sun bleach or moderate rain damage, it is best to separate the two grades prior to loading.

If different grades are loaded in the same car, it is very difficult for an inspector to place a proper grade on the entire carload and the presence of several grades raises doubt in the buyer's mind as to what percentage of the entire lot is No. 1 and what percentage is No. 2 or lower. As a result the hay may not sell to the best advantage. The best policy is to load each car with hay of one grade.

In the loading of cars it sometimes happens that the shipper does not have enough hay of uniform grade to fill one car or to fill out the last car in the shipment. Under such circumstances it is best to separate the classes or grades by placing each in different parts of the car. The total number of bales in each car, together with the number of bales of each class or grade, should then be stated plainly on the shipper's invoice. This policy of describing fully the hay shipment on the invoice is appreciated by consignees and inspectors and aids in marketing the hay advantageously. Such a policy, consistently followed, builds up a reputation for the shipper that enlarges the demand for his product and adds to his profits.

The Distribution of Hay

Hay occupies a position of great importance in the agriculture of the United States and is a staple product of relatively high position in national commerce. Approximately 16,000,000 tons, having a farm value of about $200,000,000, are handled in the commerce of the United States each year. Railroad statistics from Class I railways show that in 1923 about 6,628,472 tons of hay originated on these transportation lines for shipment to the various markets. This portion of the 1923 hay crop had a destination value of between $125,000,000 to $150,000,000.

In earlier times the marketing of hay was rather a simple matter. The farmer sold his surplus hay to his neighbor or to the consumer in the near-by village. As production increased, however, and villages grew into cities, marketing of the hay crop became a large undertaking and a rather complex system has been developed.

The production of hay in the United States has increased steadily. In 1870 about 24,525,000 tons of tame hay were produced; in 1880, about 31,925,000 tons; in 1890, 49,057,000 tons; in 1900, 53,231,000 tons; in 1910, about 69,378,000 tons; in 1920, 87,855,000 tons; and in 1924, 97,970,000 tons.

Although large quantities of hay are still sold by farmers direct to consumers, the tonnage passing through commercial channels has grown to large proportions.

In addition to hay shipped to the terminal markets, large quantities of hay are sold by various commercial agencies direct from producing areas, and much of this hay does not pass through the terminal markets.

Various services, such as weighing and inspection, are rendered at the terminal or distributing markets, where the hay is sold to the consumer either by the wholesale buyer or by the commission merchant representing the shipper or to jobbers who resell or distribute it to consuming areas.

No exact data are available as to the percentages of the hay handled by the various marketing agencies, but the information available indicates that the markets are utilized largely as outlets for surpluses that can not be disposed of direct to consumers or interior dealers either because of an insufficient demand or because of inferior quality of the hay. By providing storage facilities and broader distributing agencies the markets are able to handle the surplus, but frequently only at prices that are not profitable to the shipper.

Direction of Movement Changing

When receipts of the principal markets are compared for a number of years, it is noted that there has been a material change in the direction of the movement. The introduction of the motor truck has increased the area from which hay can be drawn to large cities located in producing territories, but the increased use of motor transportation has greatly reduced the consumption of hay in the cities, so that it has become necessary to find other markets. In 1910 the number of licensed motor vehicles in the United States was approximately 500,000, and 10 years later the number had increased to almost 10,000,000.

The decrease in the use of hay in the cities is shown by the decreased receipts in the larger markets, particularly in the East. Table 7 illustrates this change.

TABLE 7.—*Hay receipts at five important hay markets in 1913–14 and in 1923–24*

City	1913–14	1923–24	Decrease
	Tons	*Tons*	*Tons*
Boston	117,740	42,910	74,830
New York	317,543	84,682	232,861
Chicago	369,032	149,623	219,409
St. Louis	261,155	136,414	124,741
Kansas City	285,288	257,774	27,514

The decrease in the number of horses in the cities and the increase in the number of cattle on farms during the last decade are important causes for the changes in the direction of hay movement. The falling off in the demand for hay in the large cities has affected particularly the demand and movement of timothy hay, but has not been reflected to any serious extent in the demand for alfalfa, prairie, and other hays which are used primarily for dairy and other farm-feeding purposes.

The growth of dairies around towns and cities has increased the demand for clover and alfalfa hay, and such hays have increased in demand at the markets during the past few years. Whereas these dairies formerly were located on farms where considerable forage could be produced, they are now in many instances located on areas so small that they provide only sufficient space to shelter and feed the herds.

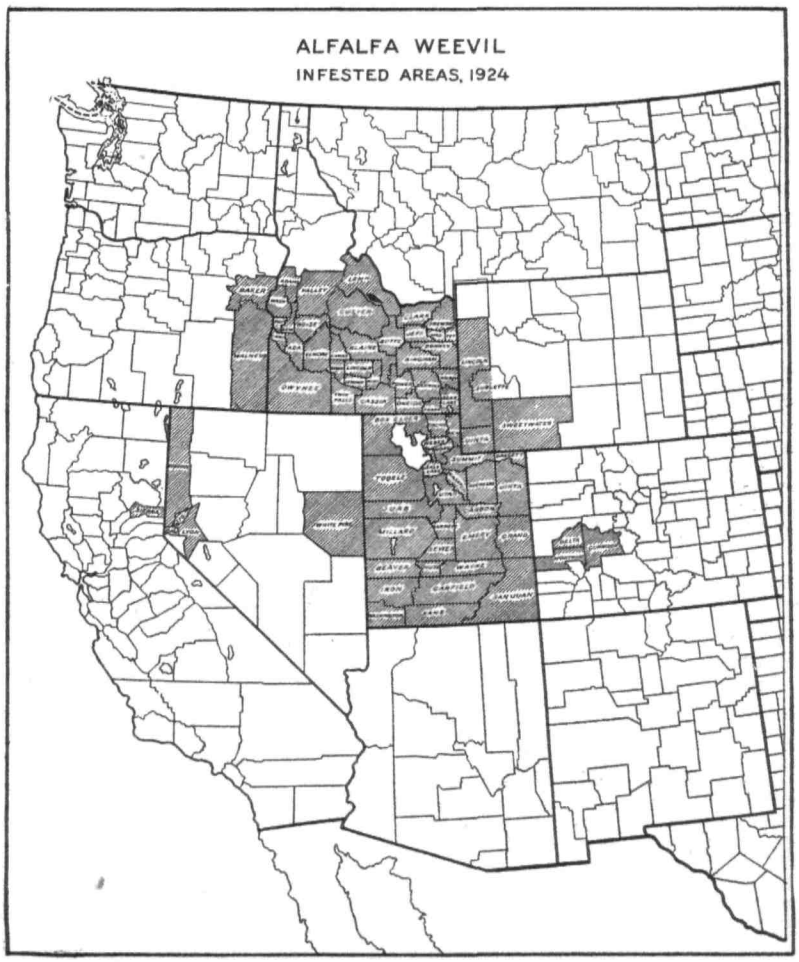


FIG. 48.—The alfalfa weevil was reported near Salt Lake City, Utah, some time previous to 1907, and has become a serious pest in that section. The fact that it is much more destructive in the United States than in the Old World is probably due to its escape from the natural and cultural influences which control it there

The production and use of alfalfa hay have continued to increase and it has become one of the important farm crops in large areas in the central West and in the irrigated portions of the Southwest and far Western States. Further development of the alfalfa area in Idaho, Utah, Nevada, and Colorado has, to some extent, been retarded by the spread of the alfalfa weevil. Other alfalfa-producing States have

established strict quarantine regulations against the shipment of alfalfa from the weevil-infested area and this has tended to restrict the production of alfalfa in the infested territory to the quantity that can be used locally for feeding purposes. Large quantities are raised, but it is mostly fed where raised, cattlemen and sheepmen bringing their animals into the territory from whence it was formerly shipped.

Another factor which has had an important bearing on the movement of hay during the past few years has been the increase in freight rates. This increase has had the effect not only of shortening the distance to which hay can be profitably shipped, but it has greatly increased the use of motor trucks for hay delivery. A large percentage of the hay received at several of the large markets situated within trucking distance of producing areas is now delivered to market by motor trucks.

The movement of alfalfa and other hay from sections west of the Mississippi River to eastern markets has been greatly reduced because freight rates are so high that the hay can not be marketed profitably after the charges are paid. The demand for alfalfa hay in the eastern markets has recently been supplied by Pacific coast shippers via the Panama Canal. The water rate from San Francisco to Atlantic coast markets is only $12 per ton, compared with $30 per ton by the railroad. In 1911 railroads hauled approximately 75 per cent of the hay sold from the farms; in 1920, little over 50 per cent; and in 1923, about 40 per cent of the quantity of the hay reported sold from farms. The increased use of motor transportation, together with the higher freight rates, is largely responsible for this decrease in the railroad haulings.

TABLE 8.—*Quantity and percentage of the total hay crop that was shipped on railroads each year from 1911 to 1923, inclusive*

	Production	Quantity sold from farms [1]	Shipments of hay originating on Class I railroads	Percentage of total hay marketed that is shipped on railroads
	Tons	*Tons*	*Tons*	*Per cent*
1911	67, 071, 000	8, 182, 662	6, 306, 745	77
1912	90, 734, 000	11, 341, 750	6, 828, 297	60
1913	79, 179, 000	10, 293, 270	7, 144, 455	69
1914	88, 686, 000	11, 529, 180	7, 318, 573	63
1915	107, 263, 000	14, 480, 500	7, 649, 093	52
1916	110, 992, 000	14, 983, 920	7, 563, 948	50
1917	98, 439, 000	13, 781, 460	[2] 8, 730, 229	63
1918	91, 139, 000	12, 759, 460	[2] 8, 653, 185	67
1919	104, 760, 000	15, 190, 200	[2] 7, 857, 168	51
1920	105, 315, 000	15, 270, 670	[2] 8, 355, 231	54
1921	96, 802, 000	14, 036, 290	[2] 5, 420, 791	38
1922	112, 791, 000	16, 354, 690	[2] 6, 008, 160	36
1923	106, 626, 000	15, 460, 770	[2] 6, 263, 906	40

[1] Estimated from census percentage figures.
[2] 5 per cent tonnage of Class I roads added as estimated amount hauled by Class II roads.

Advance in Hay Prices

Although hay prices are now considerably higher than 10 years ago, they have fluctuated with changing market conditions during that period. Some of the factors which have had important influ-

ence on hay prices have been variations in production, in demand, and in the marketing and transportation costs.

During the period between 1870 and 1900 farm prices appeared to decline in about the same ratio as production increased. During the following 10 years production increased about as rapidly as for the preceding decade, but prices held at about the same level with only small yearly fluctuations. From 1910 to 1913 production and prices were both practically stationary, but from 1915 to 1920 owing to war conditions production was increased rapidly and farm prices also advanced to the record price of $20.13 a ton in 1918.

Market prices during the war period advanced more rapidly than farm prices because of greater marketing costs and advances in freight rates. In 1923, farm prices declined to $11.17 per ton for tame hay and to $7.68 per ton for wild hay. Market prices also declined, but in 1924 were still relatively higher than prewar prices because marketing costs had been reduced but little and freight rates were still far above prewar rates.

TABLE. 9.—*Number of certain kinds of animals on farms and in cities, 1910 and 1920*

	Farms		Not on farms	
	1910	1920	1910	1920
Horses and mules	24,043,000	25,199,000	3,453,000	2,084,000
Dairy cows	20,625,000	19,675,000	1,170,000	1,221,000
Other cattle	41,178,000	46,977,000	709,000	891,000
Total	85,846,000	91,851,000	5,332,000	4,196,000

Hay Grades and Marketing Methods

Notwithstanding its ranking position, hay has received less attention with respect to standardization of the product and marketing methods than have other crops of major importance, such as corn, cotton, and wheat.

By comparison with the standardized trade and commerce in other major agricultural products, the national commerce in hay is almost chaotic. Uniform standards of quality or grades for timothy, clover, alfalfa, and other important hay crops have not been in common use throughout the hay markets of the United States. Under such conditions contracts have been difficult to enforce and the marketing of hay, often a risky business. In other instances grades which had some merit have been devised and in local use, but have had little recognition in other communities. Whenever such local grades have been formulated and applied by hay-receiving organizations, the final outcome frequently has been a complaint from producers and shippers that such grades favor the buyer and discriminate against the shipper.

The Problem of Determining Hay Quality

Problems in hay standardization are by no means simple or easy of solution. Hay as a commodity can not be tested and graded in a rapid manner by any mechanical method such as is available for

grading grain. Foreign material and damaged portions can not be separated readily, nor can moisture and accurate nutritive-value tests be applied quickly. Hay is bulky, its component parts are not capable of being quickly separated, and its quality and relative feed value can be measured only by characters and factors which are visible and correlated with intrinsic value.

Until recent years no serious attempt has been made to study hay for the purpose of determining and defining the visible physical characters which would measure approximately its real value as a merchantable commodity.

United States Grade Specifications

The need for hay standards has long been recognized, but only recently have such standards been devised, based on extensive studies of the hays which occur in the trade.

The revised United States grades provide simple yet definite terms for designating the numerical grades for timothy and clover hay,

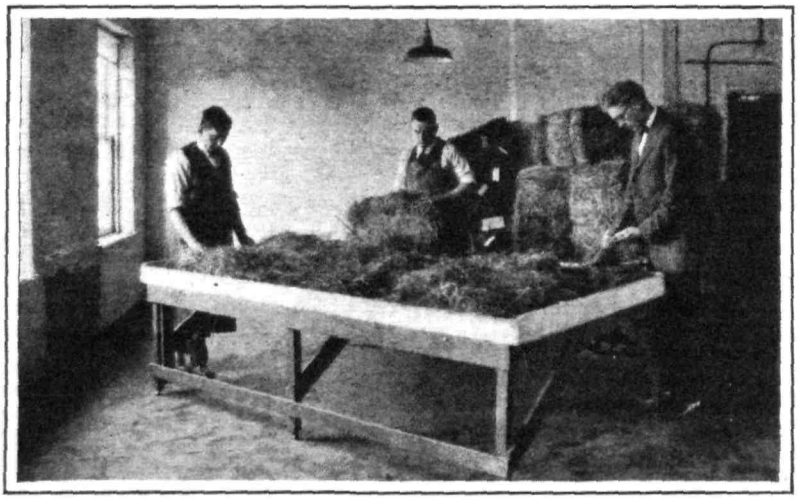


FIG. 49.—In the determination of hay standards by the United States Department of Agriculture, a detailed examination of many hay samples obtained from different markets was made

when these grades have been determined by a study of the appearance and physical condition of the product. The percentage of mixtures, which is the basis for the "class" of the hay, and the percentage of color and foreign material, which is the basis for "grades" within each class, have been determined from careful analyses and studies of hundreds of baled-hay samples from many markets. The grades give proper recognition to farm conditions and production, as well as to established requirements and practices which represent market demand.

The department has made a special effort in its work on timothy and clover-hay standardization to devise grades that are simple, practical, and workable, yet definite and precise. In recommending these revised grades for timothy and clover to the hay interests of

the United States it is the belief of the Department of Agriculture that the grade definitions are so simple in language and in method of application as to be readily understood by all producers, shippers, brokers, and consumers of timothy and clover who have had practical experience with hay. Those experienced in the production or marketing of hay can apply the United States grades almost as accurately as does the trained hay inspector.

Explanation of United States grades and terms.—In the United States grades for timothy, clover, clover-mixed, and grass-mixed hay, the term "class" is used to describe the kind or type of hay, as timothy, light clover mixed, heavy clover mixed, or light grass mixed. The kinds of hay, such as clover and each of the various grasses, are computed in percentage of mixture with timothy to determine the class. For example, the class of hay entitled "Light clover mixed" may contain from 11 to 30 per cent of clover and not over 10 per cent of other grasses, the remainder of the hay to be timothy. The term "class," therefore, refers to the kind or type of hay and has no reference to quality or condition.

The term "grade," on the other hand, is used to describe the quality of the hay. Quality varies in all classes of hay according to the conditions under which the hay was produced or harvested. Each class of hay is divided into three grades: No. 1, No. 2, and No. 3, each grade having different quality requirements. In all classes there is a "sample grade" for inferior hay not good enough for other grades.

The general term "United States grades" is used comprehensively to include all of the hay classes and the grades within each class.

Classes of hay and class requirements.—The classification of hay into a number of definite groups or classes is necessary, because production conditions are such in the United States that pure hays are uncommon except perhaps in the case of alfalfa hay. Some pure timothy hay is produced, but more commonly it is mixed with varying percentages of other grasses and clover.

The various classes of hay in the United States grades are based, therefore, on production conditions as they exist in the several producing areas and on the market demands for mixed hay as well as for pure hay. The classes are described in terms commonly used in hay markets.

Each class of hay is given certain minimum and maximum percentages for kinds of hay permitted in the mixture. (See Table 10.)

Quality in hay varies with the maturity or time of cutting, with the methods of curing and storage, and with the character and extent of the weather damage. Thus the description of a grade is in effect, a brief summarized statement regarding the maturity of the hay plants at the time of cutting and the damage, if any, suffered by the crop during the harvesting, stacking, baling, and shipping periods.

In the United States grades for timothy and clover hay two factors are employed, namely, color and the percentage of foreign material. The color requirements for the various grades of other grasses, such as Kentucky bluegrass, Canada bluegrass, and redtop, are identical with those for timothy.

TABLE 10.—*Class and grade requirements for timothy, clover, clover mixed, and grass mixed hays*

[Tabulated and abridged]

Class requirements		Grade requirements			
Class	Percentages in mixtures with timothy	U. S. grade	Color		Foreign material, maximum per cent
			Timothy and other grasses	Clovers	
Timothy	Not over 5 per cent clover, and not over 5 per cent other grasses.	U. S. choice	70 per cent green		5
	Not over 10 per cent clover, and not over 10 per cent other grasses.	U. S. No. 1	50 per cent green		10
		U. S. No. 2	30 per cent green		15
		U. S. No. 3	Less than 30 per cent green		20
Light clover mixed	Not over 30 per cent clover, and not over 10 per cent other grasses.	U. S. No. 1	50 per cent green	Green to greenish brown	10
		U. S. No. 2	30 per cent green	Greenish brown to brown	15
		U. S. No. 3	Less than 30 per cent green	Dark brown	20
Medium clover mixed	Not over 50 per cent clover, and not over 10 per cent other grasses.	U. S. No. 1	50 per cent green	Green to greenish brown	10
		U. S. No. 2	30 per cent green	Greenish brown to brown	15
		U. S. No. 3	Less than 30 per cent green	Dark brown	20
Heavy clover mixed	Not over 80 per cent clover (including foreign material), and not over 10 per cent other grasses.	U. S. No. 1	50 per cent green	Green to greenish brown	10
		U. S. No. 2	30 per cent green	Greenish brown to brown	15
		U. S. No. 3	Less than 30 per cent green	Dark brown	20
Clover	Over 80 per cent clover (including foreign material), and not over 10 per cent other grasses.	U. S. No. 1		Green to greenish brown	10
		U. S. No. 2		Greenish brown to brown	15
		U. S. No. 3		Dark brown	20
Light mixed grass	Not over 30 per cent other grasses, and not over 10 per cent clover.	U. S. No. 1	50 per cent green		10
		U. S. No. 2	30 per cent green		15
		U. S. No. 3	Less than 30 per cent green		20
Heavy grass mixed	Not over 60 per cent other grasses, and not over 10 per cent clover.	U. S. No. 1	50 per cent green		10
		U. S. No. 2	30 per cent green		15
		U. S. No. 3	Less than 30 per cent green		20
Mixed grass	Over 60 per cent other grasses, and not over 10 per cent clover.	U. S. No. 1	50 per cent green		10
		U. S. No. 2	30 per cent green		15
		U. S. No. 3	Less than 30 per cent green		20
Clover grass mixed	Over 10 per cent clover, and over 10 per cent other grasses.	U. S. No. 1	50 per cent green	Green to greenish brown	10
		U. S. No. 2	30 per cent green	Greenish brown to brown	15
		U. S. No. 3	Less than 30 per cent green	Dark brown	20
All classes		U. S. sample grade.	Hay which has been threshed, headed, or contains more than 20 per cent foreign material, or contains any injurious foreign material, or has any objectionable odor, or is heating, hot, wet, moldy, musty, caked, or is otherwise of distinctly low quality.		

Color Requirements for Timothy and Other Grass Hays

Timothy cut at full bloom not only has more feed value per ton than timothy cut later either in the dough stage or when fully ripe, but, if cured properly, it has a higher percentage of green color and therefore sells to greater advantage. When timothy is allowed to stand in the field after full bloom, the leaves and stems gradually turn brown and the feed value diminishes.

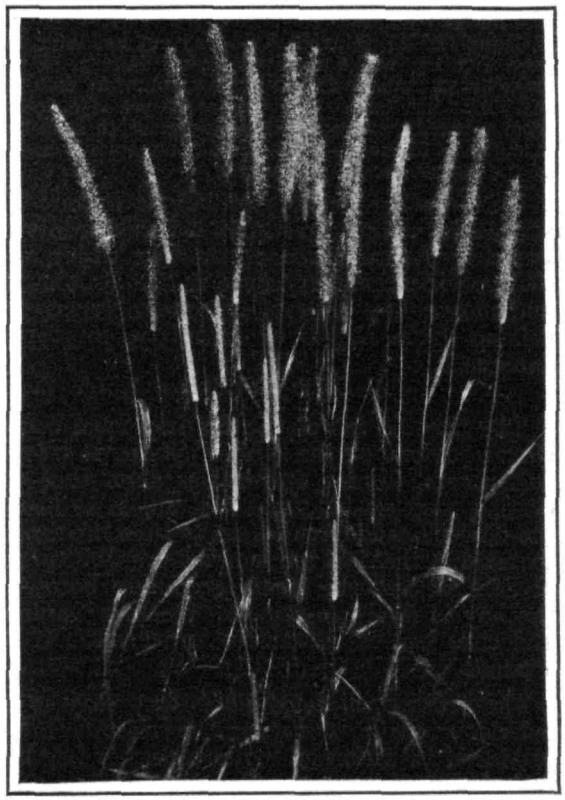


FIG. 50.—A timothy plant in bloom. Timothy should be cut not later than full bloom to meet the requirements of U. S. No. 1 grade. Late cutting of timothy produces a woody, brown, low-grade hay

Weather damage has a direct bearing on the grade or quality. Hay cut at the proper stage of maturity may deteriorate markedly if exposed to severe rains and sun bleaching. Weather damage affects the appearance of hay and raises doubts in the buyer's mind as to its soundness, especially if it has been severely stained, bleached, or browned. Exposure to rain leaches out certain important nutrients, such as protein, and lessens aroma and palatability. Weather damage may be slight, moderately severe, or very severe, and the extent of the damage will therefore cause various degrees of quality or grade. With weather damage as with maturity, the presence of natural green color in hay indicates good curing with resultant sweet odor, palatability, and maximum feed value.

Timothy hay divides naturally into three general quality groups according to the conditions and methods under which it was produced. Every bale or lot presents some evidence regarding the methods of curing and the maturity of the hay which is indicative of quality. A brief sketch of the three quality groups for timothy hay is given herewith:

Group I (U. S. grade 1, including the supergrade "Choice").—Hay cut not later than full bloom and cured with very little, if any, damage from rain or

sun bleaching. Slight damage from dews, fogs, light showers, or sun bleaching not sufficient usually to reduce the natural green color below 50 per cent of the total area of the leaves, stems, and heads.

Group II (U. S. grade 2).—Hay cut not later than full bloom which received more than slight damage but not severe damage from light showers, numerous heavy dews, or excessive sun bleaching. Also hay cut after full bloom with seeds formed or seeds partly ripe, which was cured with little, if any, damage from the elements. In either case the damage sufficient to reduce the natural green color below 50 per cent of the total area of the leaves, stems, and heads.

Group III (U. S. grade 3).—Hay cut not later than full bloom or at time of seed forming, which received severe damage in the swath, windrow, or cock from heavy rain or from numerous showers followed by excessive sun bleaching. Also hay cut so late that seeds are ripe, leaves brown, and stems woody from maturity and natural curing prior to cutting. In either case the injury is sufficient to reduce the natural green color below 30 per cent of the total area of the leaves, stems, and heads.

Formulating grades for hay is largely a problem of employing simple yet definite methods for determining and definitions for expressing the condition of the hay which will represent its quality. The specifications employed in the United States grades for timothy and clover hay express in concise terms the variations in quality arising from stages of maturity, improper curing, and weather damage.

Color Requirements for Clover Hay

The time to cut clover for hay most commonly advocated in the clover regions of the United States is when the clover has reached full bloom. Some authorities state that the desirable period for cutting may extend from full bloom to not later than when half of the clover heads have begun to turn brown. When clover is allowed to stand in the field too long after full bloom many leaves turn brown or fall off and the stems gradually become woody. In such cases the hay is likely to appear "stemmy" and dull colored in the bale and thus lose its attractive appearance, if it does not actually lose a grade.

The natural colors of clover hay vary so greatly between medium red clover, alsike clover, and mammoth clover, or as between clovers produced in different regions, that it has been found impracticable thus far to formulate rules for defining color requirements in percentage terms.

The color requirements for the three grades of clover have therefore been expressed as follows: U. S. No. 1 grade, green to greenish brown; U. S. No. 2 grade, greenish brown to brown; and U. S. No. 3 grade, dark brown. These are interpreted and applied as follows:

U. S. No. 1 grade.—Green to greenish brown is the natural color of various types of clover hay cut not later than full bloom, cured under favorable conditions, and free from weather damage. Brown colors in the heads and some of the leaves are natural to the clovers and are not evidence of damage. A distinct amount of natural green must be present in the stems and leaves, however, for the sample to grade No. 1.

U. S. No. 2 grade.—Greenish brown to brown color in clover hay is the blended or intermediate color between natural green and dark brown. Clover stems and leaves to come under this definition must have light tinges of green. They must not be completely brown or completely faded in appearance. This color in clover is commonly found when the hay has been slightly damaged by heavy dews or light showers followed by sun bleaching, or when the clover has matured too long in the field prior to cutting.

U. S. No. 3 grade.—Dark brown in clover is that color wherein no tinge of green is visible, but where all the stems and leaves are dark brown and completely faded. This color in clover hay results from severe damage from heavy rains or from numerous light rains and sun bleaching through a period of several days while the hay is in process of curing. This grade of hay may be caused also by the clover becoming excessively overripe prior to cutting.

Color Requirements for Mixed Timothy and Clover Hay

In lots of mixed timothy and clover hay the grade is established by a combination of the color requirements for timothy and clover. Conflicts of color specifications in mixtures of timothy and clover are not common, because clover ripens earlier than timothy, and thus, if the hay is cut when the clover is in full bloom, the timothy will be cut early, and will, if well cured, carry a high percentage of green color. Sometimes, however, late cutting of the clover or weather damage will cause a conflict of colors in mixed timothy and clover hays.

Mixtures of timothy to meet the requirements of United States No. 1 grades for clover-mixed hay should be cut at the time the clover is in full bloom. As a general rule, red clover reaches the blooming stage 10 days to 2 weeks earlier than timothy. The effect of cutting timothy 10 days or 2 weeks ahead of full bloom is to decrease its yield slightly but to raise its percentage of green color and its consequent attractiveness. The slight loss in timothy yield is immaterial when the clover predominates in the mixture.

Mixtures of timothy and alsike clover are best cut when the alsike is in full bloom. Alsike has a tendency to bloom a little later than does red clover, especially on moist soils, and it will hold its leaves and green color longer after bloom than does red clover. For these reasons the best cutting time for timothy and alsike are nearer together than are timothy and red clover.

Foreign Material a Secondary Grading Factor

Foreign material in hay refers to weeds and such sedges, rushes, and other plants as are coarse and not suitable for feeding purposes, and to cornstalks, stubble, chaff, and other objectionable matter which occur naturally in hay.

Foreign material is pure waste or dockage. It is usually rejected by livestock and remains uneaten in the mangers. When hay is purchased by the feeder of livestock the buyer does not get full value for his money if the hay contains much foreign material. Foreign material is detrimental in hay and if present in any considerable quantity it is just and proper that the grade, and thus indirectly the price, be lowered according to the percentage of weeds or other foreign material.

In the United States grades a maximum of 10 per cent foreign material is allowed in No. 1 grade before the grade can be lowered on account of foreign material. This applies to all classes of timothy and its mixtures, except in the supergrade choice timothy, where the amount of foreign material can not exceed 5 per cent. In all classes No. 2 grade permits a maximum of 15 per cent or less of foreign material, and No. 3 grade permits 20 per cent. When the percentage of foreign material exceeds the amount prescribed for any particular grade the hay which is otherwise of good quality is lowered in grade

on account of the foreign material. In all cases where the foreign material is over 20 per cent, the hay must be graded "sample grade," even though the hay is sound and has sufficient color for the higher grades.

Some foreign material, very injurious to livestock, is sometimes found in hay. This injurious material is defined in the United States grades as including sand burs, poisonous plants, wild barley or squirrel-tail grass (known as foxtail in some regions), and other similar matter which is injurious when fed to livestock. Wild barley or squirrel-tail grass is probably the most widespread weed of injurious character. It often causes severe irritation of the gums, tongues, and lips of animals, resulting in loss of weight and growth in many instances, and occasionally death.

The presence of an appreciable amount of injurious foreign material places the hay at once in sample grade irrespective of color or other desirable qualities.

The Use of Sample Grade

All hay to enter No. 1, No. 2, or No. 3 grades must be sound and free from mold or other unsoundness. In the United States grades a place is provided in sample grade for all hay that is unsound, that contains more than 20 per cent foreign material, or that is of otherwise distinctly low quality. The term "no grade" is not used in the United States grades. Hays made from grass headed in the field prior to cutting, threshed hay, and excessively overripe hay are included in sample grade.

The Federal Hay Inspection Service

To assist in making Federal grades thus far established effective, a Federal hay-inspection service has been established. As soon as Federal grades for timothy and clover hay had been announced,



FIG. 51.—The method of plug inspection which prevails in certain markets makes it possible for the inspector to examine a representative sample of the hay

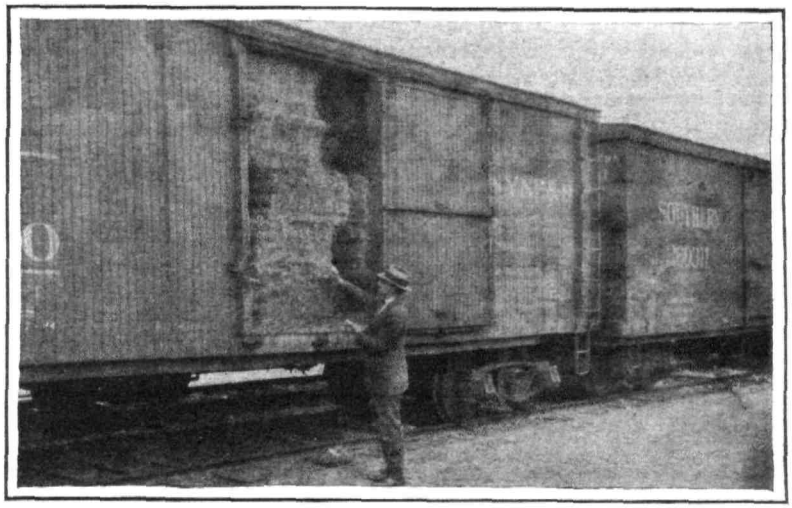


FIG. 52.—Car-door inspection of hay does not require unloading any hay. It is more rapid and less expensive, but not so reliable as plug inspection. Reinspection may be obtained if desired, however, when the car is unloaded

training schools for inspectors were held at Washington, and several States and associations of hay dealers sent men to take the training to become Federal hay inspectors.

At the close of the fiscal year 1924 a number of Federal hay inspectors had been trained and were at work in terminal markets and interior shipping territory.[4]

How to obtain Federal inspection.—Wherever Federal hay inspectors are available anyone interested in a shipment of hay may obtain Federal inspection upon request either in person, by telephone, telegraph, or in writing to the inspector at the market where the hay is located or to the nearest inspector, if no inspector is available at the market. Upon inspection the inspector will issue a certificate of grade for the hay. A copy of the certificate will be delivered or mailed at once to the applicant or the person designated by him, one copy to the chief of the Bureau of Agricultural Economics, and one to the shipper, if he is known and is not the applicant.

The Federal inspection service is of great value to shippers and buyers of hay, as it provides an impartial and efficient service in the marketing of hay.

The total number of inspections made during the fiscal year 1924 was 9,233 for the inspectors at work during the year. When the alfalfa, Johnson-grass, and wild-hay grades are completed, it is expected that the inspection service will be greatly extended and possibly 75 to 100 new inspectors will be trained and placed in the terminal markets and at shipping points in the Central and far Western States. With this distribution of inspectors the inspection service will be readily available to shippers and buyers of hay over a wide territory.

[4] A list of the names and locations of Federal inspectors can be obtained by writing to the Hay Inspection Service, Bureau of Agricultural Economics, U. S. Department of Agriculture.

Cost of Producing Hay

Hay crops are grown under many different conditions. Nearly all farmers keep some livestock, and the need for roughage and the general use of grasses and legumes in crop rotations cause some form of hay plant to be grown on most farms in all parts of the country. Therefore, any cost of production figure of significance must be for a specified kind of hay plant grown under local conditions.

Extensive studies have not yet been made on the cost of producing hay per acre and per ton, similar to those made for such crops as sugar beets, wheat, and cotton. Particularly is this true for recent years. Considerable information is available on the quantity cost factors used in the production of some of the more important hays and on the time required to harvest hay by various methods and with different-sized machines. These data are less changeable than costs expressed in money units and form the principal basis of this discussion of hay production costs.

Elements of Cost

Items of cost in the production of hay are: Man labor, horse labor, seed, manure and commercial fertilizer, machinery, land rent, and overhead.

Man and horse labor.—Most of the tame grasses used for hay are sown with small grain crops. Under this condition the labor for preparing the seed bed and in most instances the labor for sowing the seed is charged against the grain crop. Variations from this general practice will be found in some localities where the crop is sown independently of the grain crop, either with or without extra work for land preparation. In general, little or no work is done on the meadow after sowing until harvest time, although in some localities the practice of rolling the land in the spring is rather general. Sometimes the meadows are gone over with a disk harrow or similar implement, and in irrigated districts additional labor is required for watering the crop. Aside from irrigating, these practices are not general, and influence to a very slight extent the cost figures which are presented in this discussion.

The average hours of man and horse labor used in harvesting such crops as mixed grasses, clover, timothy, and alfalfa are given in Table 11 for farms located in a number of different States. Harvesting includes mowing, raking, hauling, and storing. In the areas shown, an average of 7.5 to 9.1 man hours were used to harvest an acre of mixed grasses or of timothy. The average number of horse hours per acre varied in the different areas from 7.7 to 10.2 for mixed grasses and from 8.8 to 11.4 for timothy. These figures are for one cutting with average yields in the different areas of about 1.5 tons per acre of mixed hay and from 1.3 tons to 1.8 tons per acre of timothy hay.

The periods of labor for harvesting an acre of clover were 8.9 man hours and 9.9 horse hours on the New York farms and 8.7 man hours and 10 horse hours on the Illinois farms for one cutting. The yield per acre was 0.7 of a ton greater on the New York farms, averaging 2 tons per acre, as against 1.3 tons on the Illinois farms. On the Wisconsin and Minnesota farms the clover was cut for hay

the second time on one-third and one-half of the respective acreage of meadow. On the Wisconsin farms the total labor of harvesting per acre of meadow averaged 14.2 man hours and 15.5 horse hours for a yield of 2.2 tons per acre; and, on the Minnesota farms, 8.6 man hours and 12.4 horse hours per acre of meadow, for an average yield of 1.5 tons per acre.

In the Central and Eastern States an average of 14 to 21.8 man hours and 16 to 24.1 horse hours per acre of alfalfa meadow were used in harvesting. The crop was usually cut twice, and about two-thirds of the acreage was cut the third time. The quantity of hay harvested varied from an average of 1.9 to 2.5 tons per acre of meadow in the various States.

On the irrigated farms in Colorado 17.1 man hours and 24.3 horse hours were used to harvest an acre of alfalfa, including the labor for all cuttings. The yield was 3.3 tons per acre, and the usual

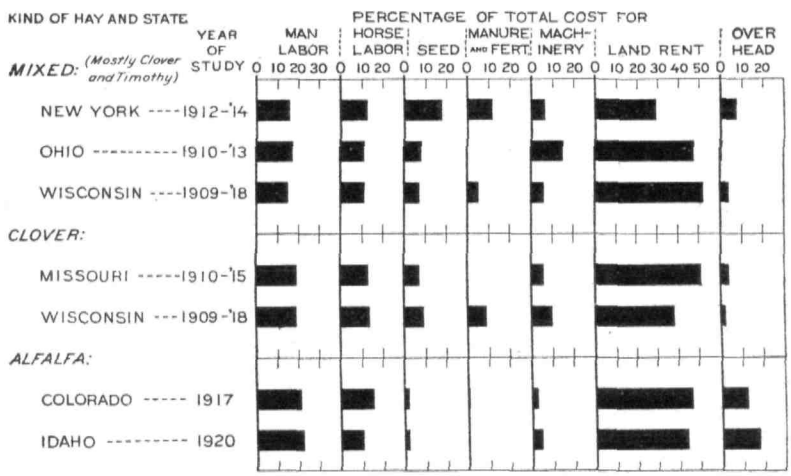


FIG. 53.—Variations in cost factors of producing hay. Per cent of total cost

practice was to cut the crop three times during the season, a very few men making only two cuttings.

In the various States an average of 5 to 6.5 man hours and 5.2 to 7.3 horse hours were required to harvest a ton of mixed grasses. The Iowa farmers used less labor in harvesting a ton of timothy than did the Wisconsin and Minnesota farmers, and the New York farmers less labor in harvesting a ton of clover than did the farmers in the other States shown.

The lowest labor requirements in harvesting a ton of alfalfa were reported by the Colorado farmers (5.2 man and 7.4 horse hours), and the highest by the Illinois farmers (10.1 man and 12.5 horse hours).

greater than any other single item of expense and amounted to from 29.2 to 52.2 per cent of the total production cost.

After land rent, man labor and horse labor were next in importance, the two together making up nearly one-third of the total production cost. In most of the areas the cost of seed was of relatively small importance and the cost of manure and commercial fertilizer amounted to very little, with the exception of the New York area, where this item amounted to about 12 per cent of the total. In general, the cost of using machinery was from 5 to 10 per cent of the total cost of production. The relatively high labor costs in Colorado and Idaho were partly due to the time spent in irrigating the alfalfa crop. Likewise, the relatively high overhead charges were due to the water rent which has been included under this heading.

Overhead.—The relative importance of "overhead" in the different areas depends partly on what is included under this heading. For the areas shown in Figure 53 this item amounted to from 0.3 per

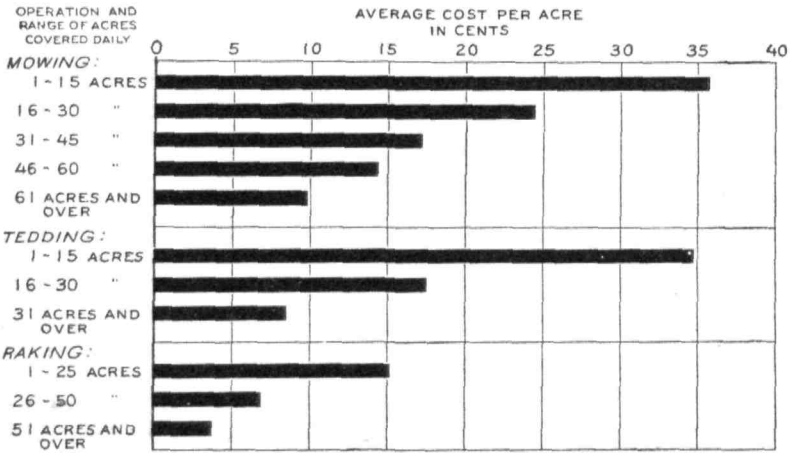


FIG. 54.—Relation of the size of the meadow to the cost per acre of using machinery in New York about 1914

cent of the total production cost in Ohio to 17.7 per cent in Idaho. Under this heading are usually included such expenses as maintenance of buildings and fences, taxes and insurance, miscellaneous labor, cleaning up fence rows and, in Colorado and Idaho, water used in irrigating alfalfa.

Saving in Man Labor Through the Development of Haying Machinery

The development of the mower, rake, tedder, hay loader, and the various unloading devices has caused a great change in the hours of labor required to harvest an acre of hay. According to the Thirteenth Annual Report of the Commissioner of Labor, Volume II, 1898, the period of time required to harvest an acre of timothy yielding 1 ton of hay in 1850 was about 21 hours when all of the work was done by hand, whereas in 1895 only about 4 hours was required when the work was done with up-to-date machinery and a minimum num-

ber of operations performed. The total of 4 hours given for harvesting hay with machinery is considerably lower than is found in actual practice on the majorities of farms to-day. Most farmers rake their hay; often some time is spent in bunching, and the most usual practice is to load by hand, whereas the machinery operations in the commissioner's report include only mowing, tedding, loading with a hay loader, hauling to the barn, and unloading with a hay fork, and storing in a mow. Probably a better comparison of the time required by hand, in 1850, with the time required with machinery in 1895, is shown by the amount of labor required to perform the different operations. Mowing by hand required about six and one-half times as much man labor as cutting with a mowing machine. Tedding by hand required six and two-thirds times as much labor as tedding with machinery. Both loading and hauling to the barn and unloading required nearly twice as much time when performed by hand as when loaded with the hay loader and unloaded with a hay fork. The time required to put the hay in the mow was twice as great when unloaded by hand as when the hay fork was used. (Fig. 55.)

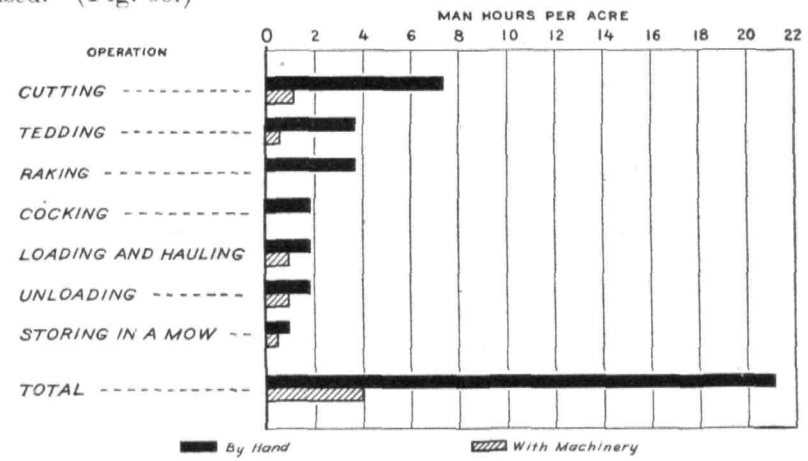


FIG. 55.—Man labor required for harvesting 1 acre of timothy for hay (1 ton by hand in 1850 and by machinery in 1895)

Where up-to-date machinery is used and only a minimum number of operations are performed, the amount of man labor required to harvest an acre has been reduced to one-fifth of that required when all of the work was done by hand.

Present Day Labor Standards in Harvesting One Cutting of Timothy and Clover, Alfalfa, and Wild Grass in Representative Districts

The hours of labor required in harvesting an acre of hay varies partly with the kind of plant, considerably with the yield, largely with the character of ground on which the crop is grown, and to some degree with the method of storing. Recent studies of the hours of labor involved in cutting and putting timothy and clover in the barn in New York and Pennsylvania with those for putting alfalfa in the stack in Kansas and Nebraska and stacking wild hay in

western Minnesota, the Dakotas, Montana, and Wyoming show that more labor is used under eastern conditions. The total hours of man and horse labor required to harvest an acre of timothy and clover in New York and Pennsylvania averaged 8.4 and 8.9 hours, respectively. In Kansas and Nebraska the total hours of labor for putting alfalfa in the stack, where the hay was hand pitched and hauled to the stack in racks, was 5.4 man hours and 7.3 horse hours as against 4.6 man hours and 7.2 horse hours where sweep rakes (buck rakes) and stackers were used.

The yields of prairie hay were generally lighter, averaging 1 ton to the acre as against 1¼ tons of alfalfa and 1½ tons for mixed timothy and clover, and the labor for harvesting was somewhat less, averaging 4.7 man hours and 7.4 horse hours per acre where racks were used and 3.8 man hours and 6.3 horse hours where sweep rakes and stackers were used.

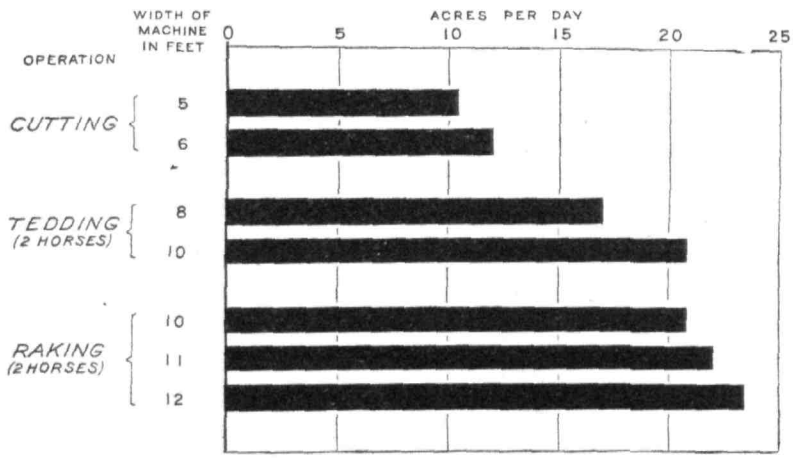


FIG. 56.—A standard day's work for machines of different sizes, central Illinois, 1918

The increased hours of labor required where racks were used may be attributed largely to longer hauls due to lower yields and more hand work in loading and unloading.

An analysis of the various operations in harvesting hay shows that the time required for mowing is greatest in the Eastern States, where much of the land is rough and where many of the fields are small. On a number of farms in this region some of the mowing was done by hand. The time required for cutting an acre of alfalfa in the Central West was practically the same as that for cutting wild grass.

It also took longer to rake the partly cured crop into windrows in the East than in the Central West. This is partly owing to rougher fields and also to the use of smaller rakes, there being a number of 1-horse rakes used in New York and Pennsylvania. In the eastern district a number of farmers used tedders, this operation averaging for all farms one-tenth of an hour man labor and two-tenths horse labor.

The time required to store hay in the barn is naturally much greater than when stacked in the open, the hours of labor used for bunching, hauling, and putting the hay in the mow amounting to 5.8 man hours and 4.5 horse hours per acre for mixed timothy and clover. The time required for bunching, hauling, and stacking hay where racks were used averaged 3.8 man hours and 3.9 horse hours for alfalfa as against 3 man hours and 3.9 horse hours for wild hay. On these farms where the hay was hauled by sweeps and stacked with mechanical stackers the time was cut down to 3 man and 3.8 horse hours for alfalfa and 2.1 man and 2.8 horse hours for wild hay.

Duty of Haying Machines

Mowing, raking and tedding.—The hay crop is usually harvested during a rush season, and the use of improved methods and improved

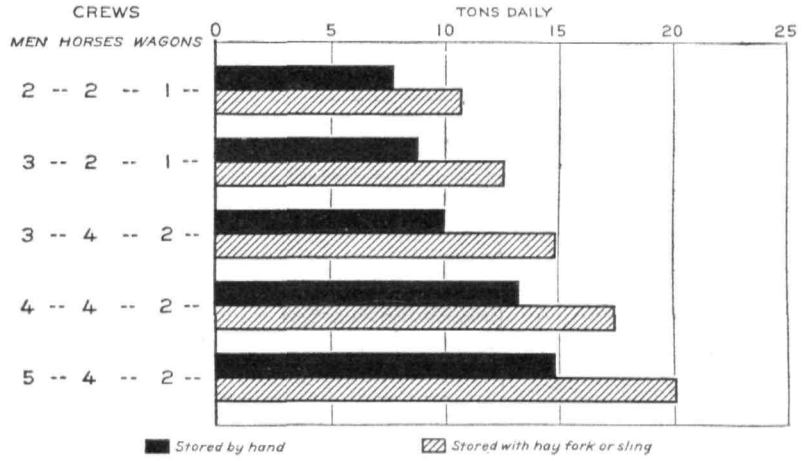


FIG. 57.—A fair day's work in hauling and storing hay in a barn by hand and with hay fork or sling, western New York about 1914

machinery is of considerable advantage in getting the harvesting completed, including storage, in a short time to avoid damage by rains.

According to figures obtained in central Illinois, the 6-foot mowing machine increased the efficiency of man and horse labor by about 15 per cent over their efficiency when using a 5-foot mower. The use of 7 and 8-foot mowers would result in correspondingly greater increases, but on many of the smaller farms the mowing machine is not used enough to warrant the greater investment in the larger machines. Likewise, on some of the rougher lands and on some of the heavier yielding meadows the use of the larger mowers is not practicable.

About one-third of the farmers reporting on the cost of producing hay in central Illinois used the tedder. The size of those reported ranged from 5 to 12 feet in width, and two horses were used on nearly all of them. The most common sizes were the 8 and 10-

foot machines. The 10-foot tedder covered about 4 acres more per day than did the 8-foot machine.

The use of the larger mowers, tedders, and rakes results in the performance of more work in a given time. (Fig. 56.) The 6-foot mower will cut 1½ acres more per day than the 5-foot mower, the 10-foot tedder will ted about 4 acres per day more than the 8-foot tedder, and the 12-foot rake will rake about 2½ acres more in a day than the 10-foot rake. This saving often is worth while on large level hay farms, but many of the men on smaller farms evidently consider the investment in the larger and more expensive machines inadvisable.

Hauling and storing in the barn.—In some sections of the country the greater part of the hay crop is put into the barn by hand. In western New York an investigation of haying methods showed that when the hay was unloaded with a hay sling or hay fork this comparatively inexpensive device increased the crew's efficiency per day by about 45 per cent over that when the hay was unloaded by

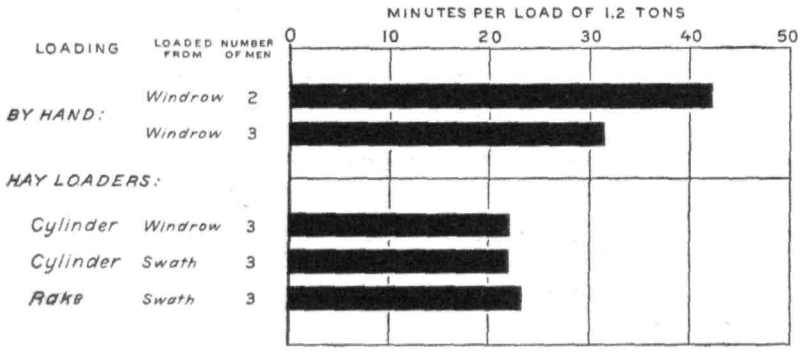


FIG. 58.—Standard day's work in loading by hand and with hay loader, central Illinois, 1918

hand. Such a saving is well worth while not only in the increase in quantity of hay that can be put up in a given time but in the doing away with much heavy labor. In this area a number of different-sized crews are used where unloading is done by hand as well as where the hay is unloaded with the sling or fork. In general, enlarging the crew did not result in increasing the amount of work done in the same proportion, although an increase in size of crew enabled the farmer to complete his haying in less time. It is believed that the principal reason why the amount of work performed did not increase proportionately with size of crew was that the larger crews were used by the farmer with the larger hay acreages at larger barns, necessitating longer hauls from the fields and sometimes a greater number of men for putting the hay in the mow. (Fig. 57.)

Loading hay.—Although it is not advisable to use hay loaders on all farms because of the lay of the land or the small quantity of hay to be made each season the use of a hay loader is often a great saver of time. A study of a day's work in central Illinois indicates that

three men with a loader—two besides the driver of the team—put on a load of hay in about 25 per cent less time than do three men by hand. Where loaded from the swath, bunching and raking are entirley done away with when the loader is used. There is the added advantage that someone who is not capable of doing a full man's work with the pitchfork can be utilized to drive the team on the loader. (See fig. 58.) With a crew of three men a load of hay is put on the wagon in about 25 per cent less time by using a loader than when loaded by hand.

Harvesting alfalfa hay by different methods.—A study of the haying operations on 235 Corn Belt farms showed that four fairly distinct methods are in common use in handling alfalfa throughout this region. From the standpoint of time consumed and the amount of labor used, these methods, which are based on the first cutting and a yield of 1½ tons per acre, vary greatly.

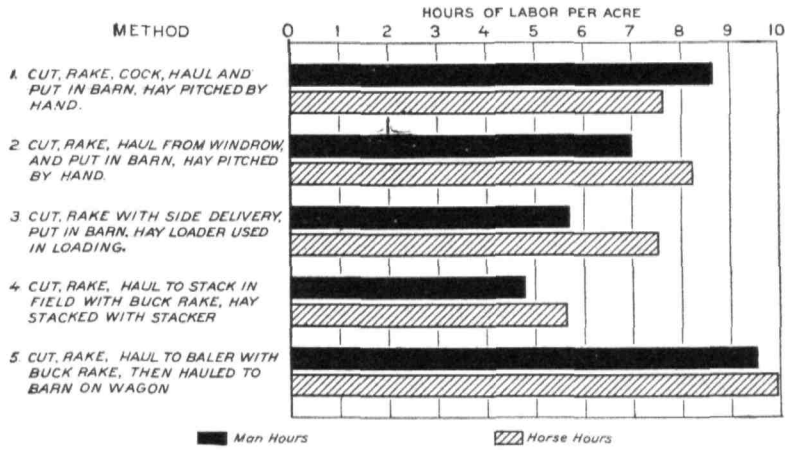


FIG. 59.—Time and labor required in harvesting alfalfa hay by different methods

From method 1 to method 4, as shown in Figure 59, there is a gradual decrease in the amount of labor used, the average amount per acre by method 4 being only a little more than half that required by method 1. In method 5 the hay was baled in the field. This practice is not comparable with the other methods, but is worth consideration, since the combined operations required only about one hour more of man labor per acre than method 1.

The first method was found to be most common and, because of the great amount of hand labor used in cocking and in pitching the hay onto the wagons, required more time and labor than did methods 2, 3, and 4. It is true, however, that many of the farms in this region did not have large enough hay acreages to justify them in buying the more expensive labor-saving equipment, while others with large acreages were of the opinion that handling hay by first cocking and then pitching onto the wagon was necessary.

Method 2 is practically the same as method 1, with cocking omitted, and the decrease in hours of labor over method 1 is prac-

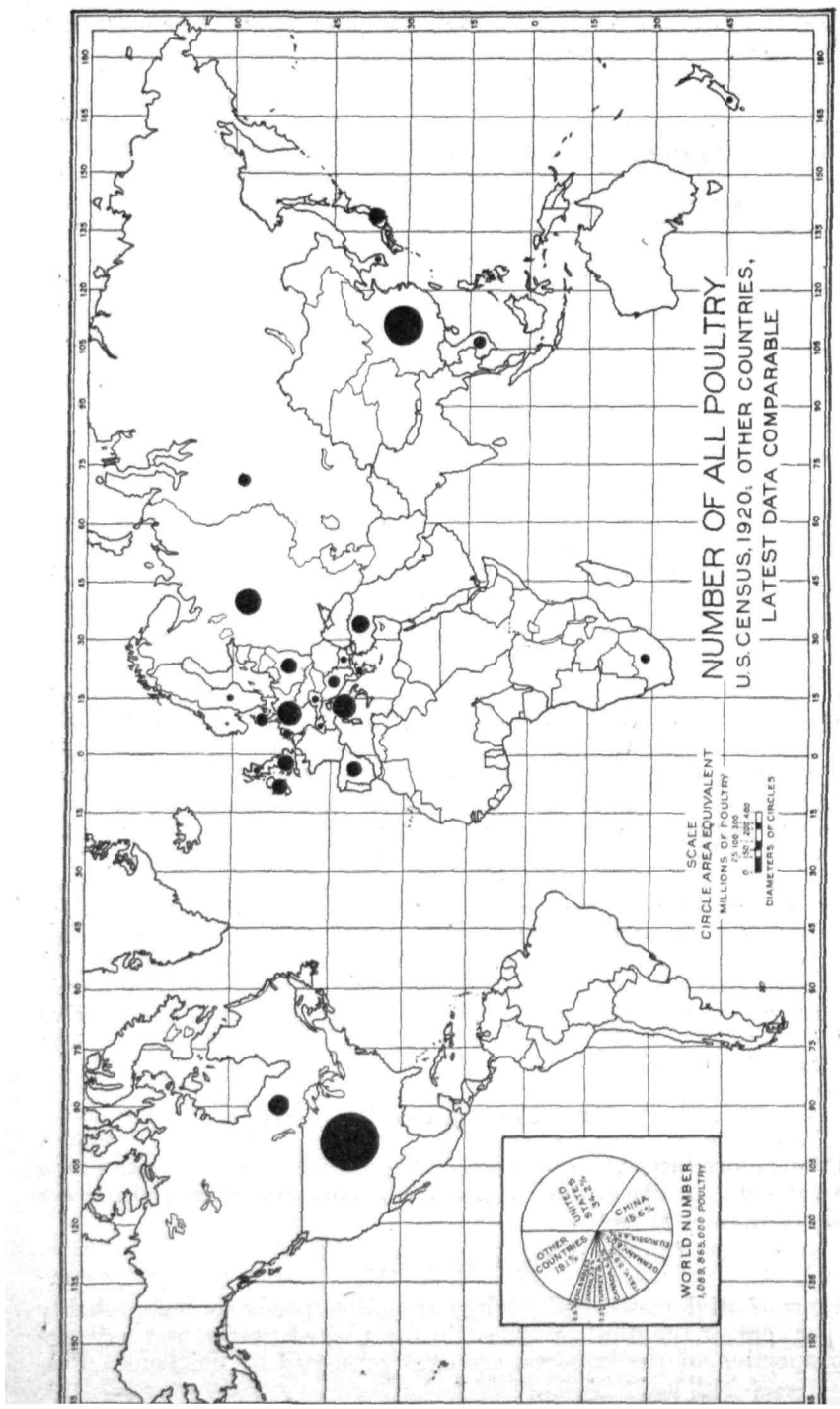


FIG. 1.—The number of poultry is larger in the United States than in any other country of the world. China ranks second

duction and trade in eggs of turkeys, guinea fowls, ducks, and geese are of only negligible importance.

Eggs enter consuming channels chiefly in the shell form and as such are consumed primarily in households, although bakers and confectioners also use considerable quantities in the shell. Very few eggs other than those in the shell pass through the familiar culinary outlets. Egg products are consumed mainly by wholesale bakers and by confectioners. Of these, the frozen products serve largely as an ingredient of cakes, and dried eggs find their outlet chiefly in the baking of pies, sweet specialties, and confections.

Considerable dried albumen and some dried yolk and mixed egg are also used in the arts. Liquid egg, yolk or albumen, treated with chemical preservatives, mainly boracic acid, is used some. This industrial outlet is of value in the disposal of eggs which have become unfit for food. Some liquid yolk and mixed eggs, as well as some dried egg or yolk, are consumed in tanning. Egg-yolk oil is used in dressing glove leather and in bookbinding. Dried albumen is used for finishing glazed leather, in chrome tanning of skins, and as a mechanical fixing agent in textile dyeing, particularly in printing delicate tints for which blood albumen is not suitable. Other uses are as a fixing agent for pigment colors, as an adhesive, as a sizing for paper, by bookbinders in gilding books, in making printers' ink, for thickening inks, and in clarifying wines.

Eggs in the Diet

Because of their nutritive value and the ease with which they may be prepared in a variety of appetizing ways, eggs have a distinct place in the diet. Like meat, their protein content is high; like milk, they contain most of the essentials for growth and repair of body tissues.

The white of the egg is a solution of albumen, a typical adequate protein, mixed with very small proportions of other substances. The yolk is rich in a phosphorus-containing fat in emulsified form which is easily digested and readily absorbed, and it also contains a protein with a high phosphorus content like the casein of milk. The other mineral elements that need particular attention in estimating the nutritive value of a food—calcium and iron—are present in the yolk in notable quantities, and it is also rich in the antirachitic vitamin and in vitamins A and B. In fact, egg yolks are so valuable as a source of iron that they are often included in diets for that special reason (fig. 2).

Whether eaten raw or cooked, eggs seem to be almost completely digested, with the advantage on the side of the slightly cooked egg. The ease of digestion varies with the method of preparation and the effect of this on flavor and the surface exposed to digestive juices.

Eggs are frequently prescribed for children because of the presence of the antirachitic vitamin, for patients with gout because eggs are low in purin-forming components, or for undernourished persons because of the readily available form of the tissue-building and energy-producing nutrients. The quantity used by people in general seems to be controlled somewhat by the price and varies with the season.

ing, but does not soften the fibers so much as stewing. Very young birds may be quickly cooked by broiling directly over the fire or in a pan or by frying.

Perhaps because the lean meat of poultry is rather dry and lacking in fat, other fat is often added in cooking and serving. For example, slices of bacon are laid over fowl to be roasted, and broilers are usually covered with butter or other fat before they are cooked. The popular dish known as "Maryland fried chicken" includes slices of crisp bacon, corn fritters, and a cream gravy, all of them rich in fat. Cold chicken is often used in salad with a rich dressing, or warmed up in a rich cream sauce.

The delicate flavor of chicken combines well with many others. For example, savory herbs, oysters, or chestnuts are used in stuffing and sweet peppers or mushrooms in sauces. By skillful blending of such flavors, poultry can be made the basis of a great variety of good dishes.

The cost of poultry varies considerably with supply and demand. In general the older fowls are cheapest, and by proper preparation can be made to approximate the younger varieties in flavor, though they are never quite so good. The percentage of edible flesh is greatest in these. Capons are always more expensive, on account of the more delicate flavor. Broilers and fryers are expensive if considered in relation to the amount of edible meat, especially in the early spring, but nothing quite takes their place on the bill of fare. The price of turkey is stimulated by holiday demands, and it can be purchased for less after the season is over. Squabs are usually bought as luxuries. Ducks, geese, and guineas are not so generally available and the prices are subject to greater fluctuation. Storage fowls in large centers are cheaper than freshly-killed stock because of greater convenience in handling.

In selecting, the consumer should be sure of getting the grade he pays for. By watching the market certain varieties may be purchased cheaper because of a temporary surplus. All forms of live poultry are cheaper in the fall than in the spring because of the cost of feeding through the winter. The younger fowls are characterized by smaller size, less fat, and the flexibility of bones, especially the breast bones.

Historical Development of the Poultry Industry

Although our common fowl was introduced into Great Britain many hundreds of years ago and brought to America by the first settlers, the poultry industry in its modern sense began its development within the last century. Fowls were bred in England during the Roman occupation for the sport of cock fighting. Use of their flesh as food was forbidden, however, by Druidical law. The Druids gave way to Christianity before the tenth century after Christ, but poultry was of comparatively little importance for several more centuries. As late as 1850 fowls were used in England in pagan rites.

By the time of the first settlements in America edible birds, domestic and wild, were largely classed together as "fowl." Barnyard fowls were considered an inferior sort of game to which little importance was attached. The plentifulness of wild fowl in the colo-

mestic birds. Poultry was freely eaten in time of want, as were all other animals. Of Jamestown in 1609, Captain Smith wrote:

> As for our hogs, hens, goats, sheep, horses, or what lived, our commanders, officers, and salvages (savages) daily consumed them, some small portion sometimes we tasted, till all was devoured.

Eggs were appreciated, but were almost entirely a warm-weather product. During Colonial days poultry keeping was common among the Indians, who by purchase or theft supplied themselves with stock. The Iroquois of central New York were found to keep chickens in 1687.

There was slight commercial aspect to poultry keeping previous to 1825. Most frequent mention of poultry products in the newspapers before that time was of feathers for beds and pillows. Between then and 1860 cheap grain in the inland districts and improv-

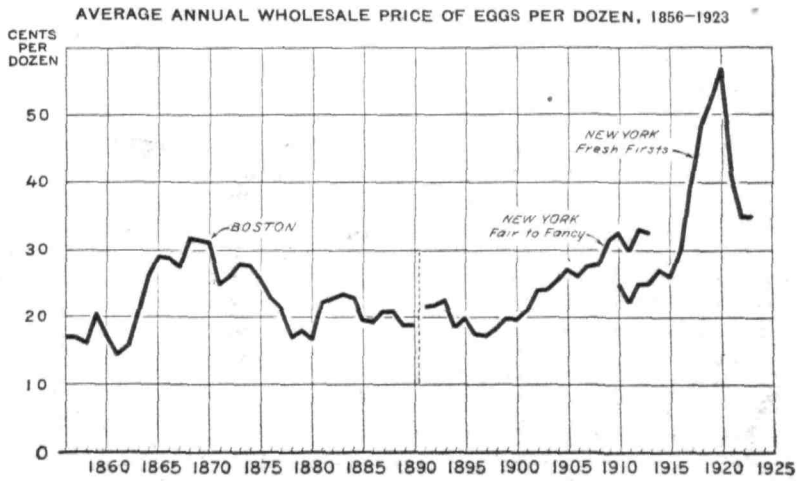


FIG. 3.—Egg prices increased materially during the Civil War, but fell back to a moderate level at which they remained comparatively constant to 1900. Prices increased steadily from 1900 to 1915, after which they doubled in price, reaching their highest point in 1920. Quotations for the same grade of eggs are not available for this entire period

ing transportation encouraged egg production in the Ohio Valley. In 1839 there were 16 States with poultry valued at over $250,000 each. New York, Virginia, and Pennsylvania had the largest numbers, New York was $1,153,413 in value. Ohio, Tennessee, and Kentucky, however, were only slightly lower in poultry value than Pennsylvania. Wisconsin and Iowa, the westernmost States listed had $16,000 worth each.

By 1860 poultry production for meat was becoming important near the cities. At the time of the Civil War the basis was already laid for separation of egg and meat production. Points close by the cities, as Perth Amboy, N. J., were marketing quantities of live and dressed fowls. In 1855 Perth Amboy shipped 50,000 fowls and in 1856 320,000 fowls and 1,800,000 pounds of dressed poultry. Western centers, typified by Cincinnati, were shipping thousands of barrels of eggs packed in cut straw. These shipments of eggs shut off by the war from their former market at New Orleans turned to the eastern seaboard.

As the commercial aspect became dominant, poultry keepers saw the importance of increasing production per hen and in developing cheap methods of raising chickens. In 1847 two patents were issued on "methods of incubation," though it was 40 years later that the first practicable incubator was invented. By 1840 or 1845 increasing attention was given to breeding, to feeding, and management for profit and to the introduction of new breeds. Asiatic fowls were first imported in important quantities shortly before 1850. Their popularity led to the first "hen fever" in the fifties, after which a rapid succession of breeds claimed attention. In 1840 the principal improved breeds were Dorking, Poland, Java, Game, Bantam, and Bucks County or Chittagong. By 1849, when the New England poultry breeders and fanciers held their first poultry show, Cochin-Chinas, Shanghais, and Plymouth Rocks had become well known.

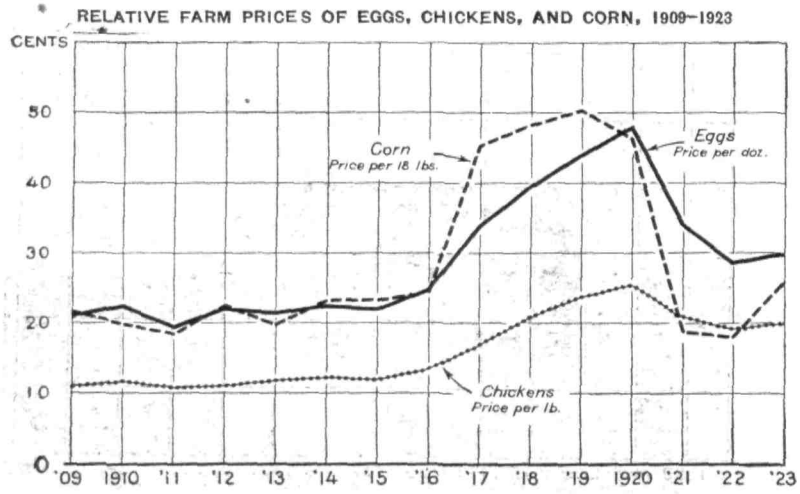


FIG. 4.—The farm prices of eggs, chickens, and corn remained practically constant from 1909 to 1916, at which time corn prices increased much more rapidly than the prices of poultry products. Corn prices fell much lower than egg prices following 1920, but by 1923 were approaching the same level

Interest in the breeding of the various classes of poultry for exhibition purposes increased rapidly, until by 1873 there took place the first organized effort to place the breeding industry upon a stable basis. In that year there was organized the American Poultry Association, which had for its object the formulation and adoption of a standard of excellence to be used exclusively by poultry associations in awarding prizes on exhibition poultry. A complete standard was adopted for all the then-recognized varieties of domestic and ornamental classes of poultry, and in 1874 the first "Standard of Perfection" was printed. Since that time, the "Standard," revised periodically, has served as the basis of guidance in breeding operations in developing many breeds and varieties. In many respects, therefore, the standard-bred poultry industry served as a foundation for the subsequent development of the industry. Poultry exhibitions (fig. 5) have exercised a remarkable influence in maintaining high standards of excellence and in fostering the interests of the in-

dustry. The number of standard breeds and varieties recognized by the American Poultry Association is as follows: Chickens, 42 breeds and 74 varieties; turkeys, 6 varieties; geese, 6 breeds, including 1 breed with 2 varieties; ducks 11 breeds, including 3 with 7 varieties.

During recent years the development of the poultry industry has been augmented greatly by the steady growth of the hatchery business. The number of hatcheries using mammoth incubators has increased very materially, and the parcel-post service in the transportation of chicks has enabled them to be distributed to all parts of the country. The International Baby Chick Association was organized in 1916, and largely through its instrumentality the quality of chicks distributed from the hatcheries has been improved from year to year.

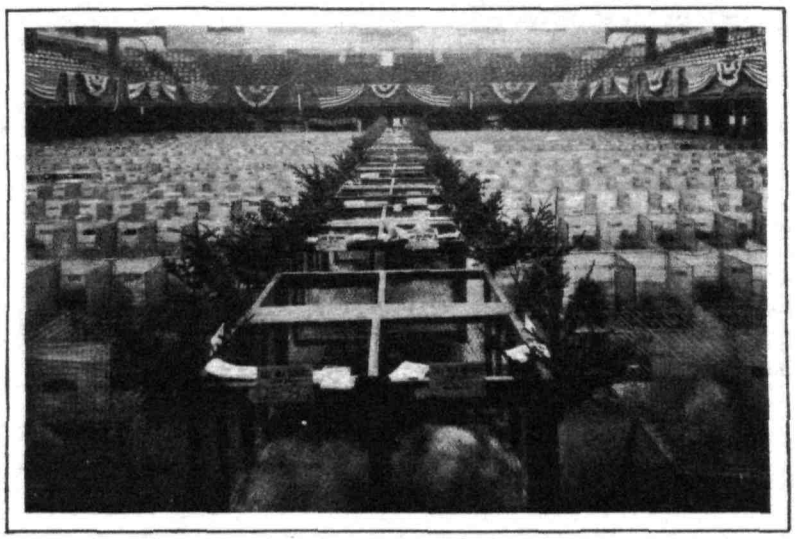


FIG. 5.—Interior view of a poultry exhibition. Several hundred of these poultry shows are held annually in the United States and have served to build up a high standard of excellence in breeding stock

In the early history of the poultry industry the egg market offered the main stimulus to improvement. Not only were eggs more of a luxury than poultry in a land of abundant meat, but they withstood holding and transportation as meat and fowls could not. Consequently many eggs were produced and prices ranged comparatively high. In 1863 egg shipments were reaching New Yok City from Ohio, Indiana, Illinois, and Minnesota. During 1866 the city received 150,000 barrels of eggs, averaging over 70 dozen to the barrel.

By 1874 eggs were being marketed in New York "from the second tier of States west of the Mississippi, from Tennessee, Georgia, Canada, and Mexico." Receipts in 1871 were 414,00 barrels; in 1874, 485,000; in 1875, 448,000; and in 1876, 527,000. Not only were receipts becoming greater and sources more distant, but distribution throughout the year had improved. From 1866 to 1876 the percentage of receipts arriving in January increased from a quarter of 1 per cent

to 5 per cent, and in May decreased from 18 to 14 per cent. December receipts improved but slightly with an increase from 2 up to 2.5 per cent. Seasonal variations in prices also were decreasing. The census of 1880, the first to enumerate poultry, showed the Middle Western States to be the largest producers of poultry and eggs. The westward movement has continued until within a decade the Pacific coast has joined the area shipping surplus eggs eastward.

Until the development of cold storage, marketing was limited by lack of means for preservation. Eggs were often preserved by immersion in lime water or oil to seal the porous shell, and by 1870 were sometimes stored in fruit houses or ice houses. The last method displaced the others in the eighties and gradually changed to mod-

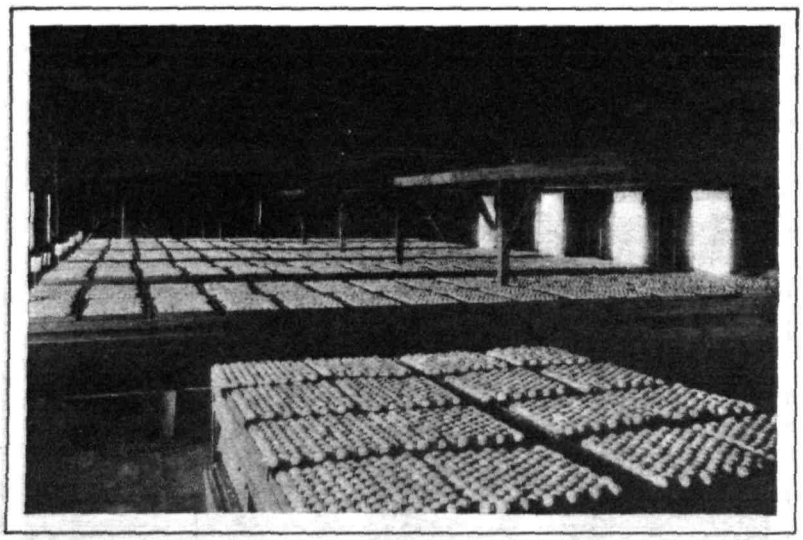


FIG. 6.—Millions of chicks are hatched annually in commercial hatcheries, which draw on the surrounding sections for eggs. Many of these hatcheries are accredited by the State organization

ern cold storage, which accelerated the increase in poultry during the eighties and nineties and has continued to lessen the seasonal variation in poultry and egg prices. It is doubtful, however, if refrigeration has greatly influenced the fluctuation in the growth of the industry during the past three decades. In connection with the more costly storage and transportation coming into use, the displacement of the barrel by the 30-dozen egg case about 1880 was a considerable economy.

Production of dressed poultry as well as of eggs was greatly stimulated by the demonstrated practicability of refrigeration for both transportation and storage. From 1880 to 1890 fancy poultry products had their greatest development. Attention to broilers, squabs, capons, and young ducks increased rapidly. The crest was soon reached, however, and by 1900 turkeys, ducks, and geese were decreasing in numbers.

COMPARATIVE GROWTH OF POULTRY, OTHER KINDS OF LIVESTOCK, AND HUMAN POPULATION, 1880–1920

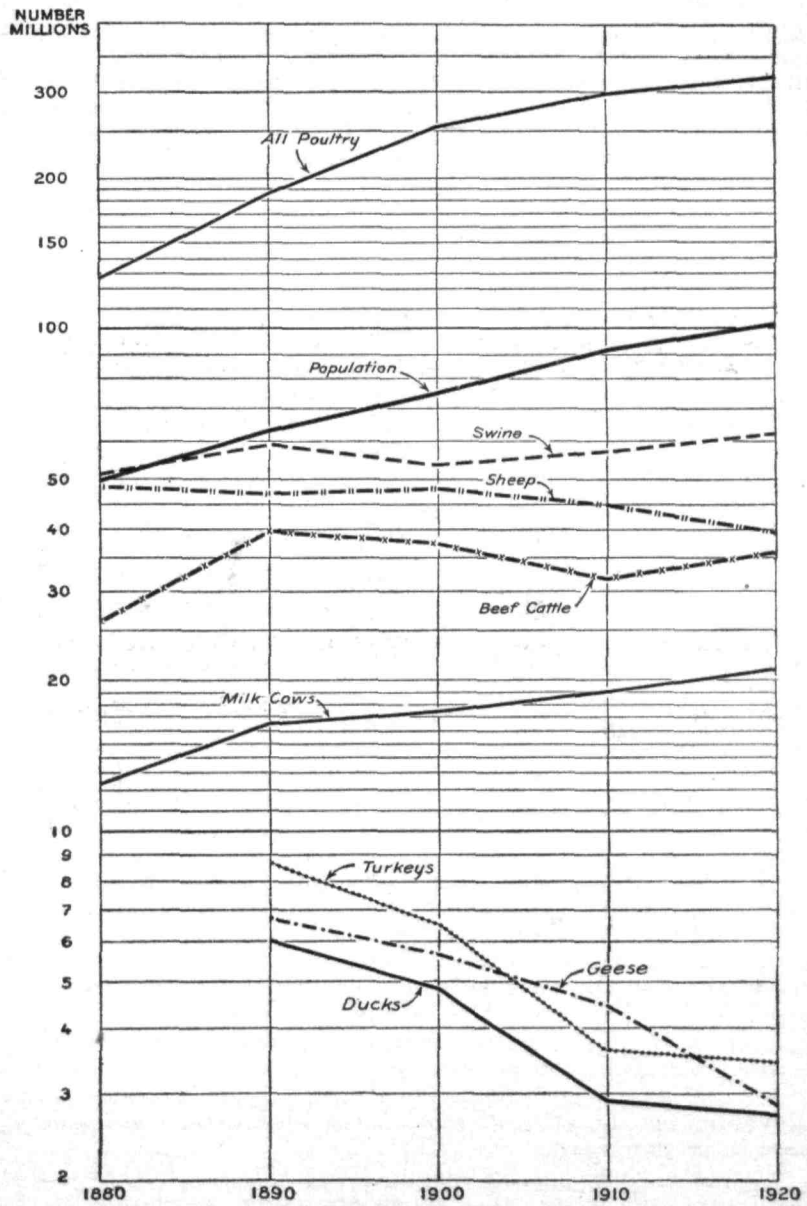


FIG. 7.—The number of poultry in this country increased much more rapidly than population from 1880 to 1900, whereas the increase was relatively about the same from 1900 to 1920. The rate of increase in poultry was greater than for any other kind of livestock, but was most nearly approached by milk cows. The number of poultry on hand used in this graph for the years 1890 and 1920 are corrected figures on poultry and not those reported by the Census Bureau. Corrections have been made to allow for difference in the time of taking the census

Turkeys decreased from 11,000,000 in 1890 to 6,500,000 in 1900, and to 3,700,000 in 1910. They still remain practically at the last figure. Decrease of geese slackened considerably from 1900 to 1910, but fell 5,500,000 or 65 per cent, during the three decades. With ducks, as with turkeys, the decrease was nearly one-half from 1890 to 1910 and have fallen slowly since then. Pigeons first enumerated in 1910 decreased 46 per cent by 1920. Increase at present is restricted to chickens, which are raised in nearly every county in the United States.

Comparison with egg production indicates a substantial increase in chickens during each decade for which figures are available. Increases in egg production by decades was 80 per cent from 1880 to 1890, 50 per cent from 1890 to 1900, 25 per cent from 1900 to 1910, and 5 per cent from 1910 to 1920. Egg production in dozens per capita was 9.11 in 1880; 13.09 in 1890; 16.96 in 1900; 17.30 in 1910, and 15.65 in 1920. These figures are approximately correct regardless of changes in inventories of poultry.

Figure 7 shows the relative rate of increase of poultry and human populations from 1880 to 1920. The rate of increase in poultry population began to drop about 1900, giving nearly equal percentage increase for poultry and population from 1900 to 1920. Decrease in number has occurred in the case of turkeys, ducks, and geese since 1890.

The Value of the Poultry Industry

The value of the poultry industry may be considered from two aspects: (1) The place of poultry raising in American agriculture, and (2) the monetary value of the poultry industry itself.

Poultry raising occupies an important place in a well-balanced agriculture. According to the census of 1920, poultry was raised on 90.8 per cent of the farms in the United States, and on many farms poultry products were reported to be one of the best paying crops. In 1920 there were 75.2 per cent of the farms of the country keeping hogs, 70.8 per cent keeping dairy cattle, 28.6 per cent keeping beef cattle, and 8.4 per cent keeping sheep. Poultry utilize enormous quantities of waste products, including grains and meat food, the value of which could hardly be utilized in as efficient a manner as in the production of eggs and poultry meat. Poultry are foragers and secure a part of their living from grass and other green food and insects. The raising of poultry utilizes labor and is a source of cash returns for practically every month of the year. Furthermore, eggs and poultry meat contribute an essential variety to the diet of the farm home table and, in addition, dispense with providing for the table of much meat food that would otherwise have to be purchased.

From the monetary standpoint, the poultry industry compares favorably with many other important crops, as shown by their estimated value for 1920, when the last census was taken. The estimated values for some of the leading agricultural crops are given below. (See fig. 8.)

Poultry products	[1] $1,047,000,000
All cattle raised	924,000,000
Wheat	726,000,000
All fruits and fruit products	681,000,000
Oats	539,000,000
Potatoes	340,000,000
Tobacco	299,000,000

The estimated value of poultry products was exceeded by the estimated value of only five other products: Dairy, corn, cotton, hay and forage, and swine.

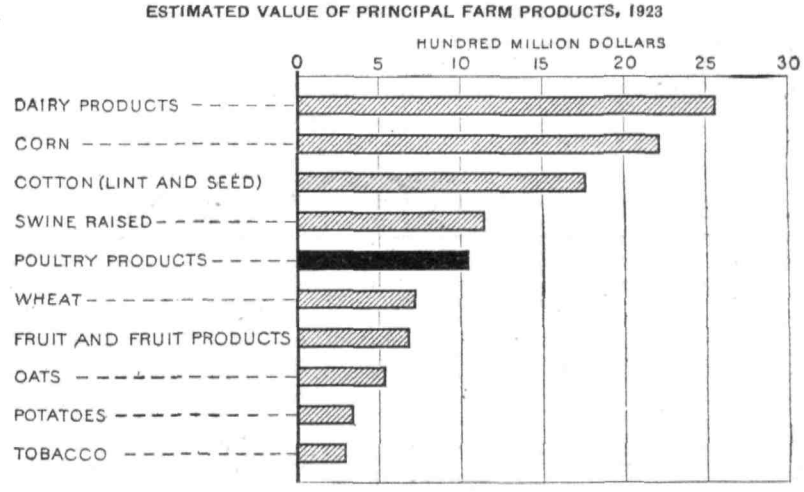


FIG. 8.—Only four farm products exceeded the value of poultry and eggs in 1923, dairy products heading the list. Poultry products were valued at over 1 billion dollars, exceeding wheat by 321 million

The value of eggs represents 57.4 per cent and the value of poultry meat 42.6 per cent of the total value of all poultry products. Chickens contribute 93.6 per cent of the value of all poultry and are the only class of poultry raised extensively for the production of eggs, all other classes being raised primarily for the production of meat.

Geographic Distribution of Poultry Production

The more important egg and poultry meat producing territories of the United States can be divided according to their geographical location and the character of the industry into three fairly distinct sections:

The first section comprises principally the States lying in the Mississippi Valley, including Minnesota, Wisconsin, Illinois, Michigan, Ohio, Indiana, Iowa, Nebraska, Kansas, Missouri, Oklahoma, Kentucky, Tennessee, and Texas. This extensive section produces an enormous quantity of eggs and poultry meat, the great bulk of which is produced on grain and stock farms. There are compara-

[1] This estimated value includes only the value of poultry products of farms and does not include the value of poultry products of the hundreds of thousands of small flocks.

poultry on farms in the United States as of January 1, 1920. Table 4 gives the number chickens on farms in the United States as of January 1, 1920.

TABLE 2.—*Value of eggs produced and chickens raised in the United States in 1919*

Iowa	$70, 212, 544	Virginia	$25, 879, 870	Maine	$7, 815, 871
Illinois	67, 690, 085	North Carolina	20, 406, 603	Montana	6, 883, 213
Missouri	66, 271, 029	Georgia	19, 218, 622	Connecticut	5, 876, 684
Ohio	64, 109, 133	Arkansas	16, 245, 102	Idaho	5, 062, 276
Pennsylvania	53, 709, 243	South Dakota	16, 050, 023	Florida	4, 893, 258
Indiana	52, 765, 970	Mississippi	15, 132, 499	New Hampshire	4, 341, 810
Kansas	44, 199, 844	Alabama	14, 779, 501	Vermont	4, 038, 495
Texas	43, 303, 622	Washington	13, 779, 958	Delaware	3, 210, 157
New York	42, 841, 499	West Virginia	13, 042, 688	Utah	2, 887, 570
California	40, 341, 744	South Carolina	12, 204, 752	New Mexico	2, 102, 831
Michigan	34, 960, 771	New Jersey	12, 200, 716	Wyoming	2, 021, 979
Minnesota	33, 438, 496	Maryland	11, 737, 629	Arizona	1, 699, 064
Wisconsin	30, 288, 326	North Dakota	10, 486, 386	Rhode Island	1, 526, 891
Nebraska	29, 500, 431	Oregon	9, 018, 444	Nevada	585, 698
Tennessee	29, 065, 336	Massachusetts	9, 004, 007	District of Columbia	37, 684
Oklahoma	28, 635, 007	Louisiana	8, 835, 402		
Kentucky	26, 210, 759	Colorado	8, 773, 648		

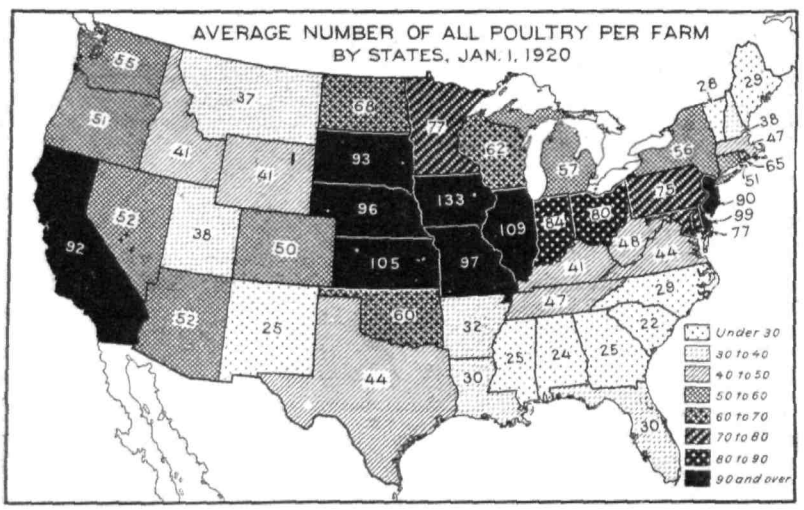


FIG. 12.—The average number of poultry per farm varies very materially, from 22 in South Carolina to 133 in Iowa. These figures are based on all farms in each State. Of the farms in the United States 90.8 per cent keep poultry. The smaller number of poultry per farm is found in the southern part of the country and the greater numbers in the Central West, in California, and in New Jersey

TABLE 3.—*Value of poultry on farms in the United States, January 1, 1920*

Iowa	$27, 779, 633	Virginia	$8, 909, 808	Maine	$2, 219, 332
Missouri	25, 470, 023	North Carolina	7, 324, 880	Montana	1, 994, 289
Illinois	25, 234, 061	Georgia	6, 879, 535	Connecticut	1, 979, 099
Ohio	20, 693, 940	Mississippi	6, 465, 450	Florida	1, 769, 265
Pennsylvania	18, 639, 535	Arkansas	6, 143, 635	Idaho	1, 489, 053
Indiana	16, 757, 365	South Dakota	6, 126, 335	New Hampshire	1, 334, 836
Texas	16, 674, 947	Alabama	5, 098, 288	Delaware	1, 215, 586
Kansas	15, 453, 540	Washington	4, 389, 759	Vermont	1, 167, 717
New York	15, 348, 600	New Jersey	4, 324, 584	Utah	814, 566
California	15, 293, 570	South Carolina	4, 263, 068	New Mexico	752, 235
Michigan	11, 587, 814	West Virginia	4, 230, 975	Arizona	640, 595
Minnesota	11, 405, 427	Maryland	4, 216, 105	Wyoming	634, 793
Oklahoma	10, 836, 525	Louisiana	3, 738, 883	Rhode Island	498, 257
Wisconsin	10, 726, 721	North Dakota	3, 667, 531	Nevada	183, 411
Tennessee	10, 591, 690	Oregon	3, 058, 515	District of Columbia	16, 013
Nebraska	10, 222, 546	Massachusetts	2, 951, 001		
Kentucky	9, 256, 715	Colorado	2, 924, 006		

TABLE 4.—*Number of chickens on farms in the United States, January 1, 1920*

Iowa	27,746,510	Virginia	7,860,488	Idaho	1,654,771
Illinois	25,120,643	North Carolina	7,393,161	Florida	1,554,896
Missouri	24,883,985	Georgia	7,221,788	Massachusetts	1,455,193
Ohio	20,222,637	Arkansas	6,955,132	Maine	1,403,284
Texas	18,062,744	South Dakota	6,641,572	Connecticut	1,120,393
Kansas	16,919,248	Mississippi	6,342,204	Utah	954,695
Indiana	16,754,293	Alabama	5,918,429	Delaware	948,656
Pennsylvania	14,503,468	North Dakota	4,328,567	Vermont	799,797
Minnesota	13,212,619	West Virginia	4,027,510	New Hampshire	771,233
Nebraska	11,615,257	South Carolina	3,954,365	New Mexico	713,937
Wisconsin	11,495,057	Louisiana	3,763,910	Wyoming	620,734
Tennessee	11,353,647	Washington	3,547,604	Arizona	495,065
Oklahoma	11,137,259	Maryland	3,436,376	Rhode Island	253,697
Michigan	10,913,645	Colorado	2,874,721	Nevada	155,197
Kentucky	10,477,598	New Jersey	2,534,371	District of Columbia	10,370
California	10,426,648	Oregon	2,500,123		
New York	10,414,600	Montana	2,055,120		

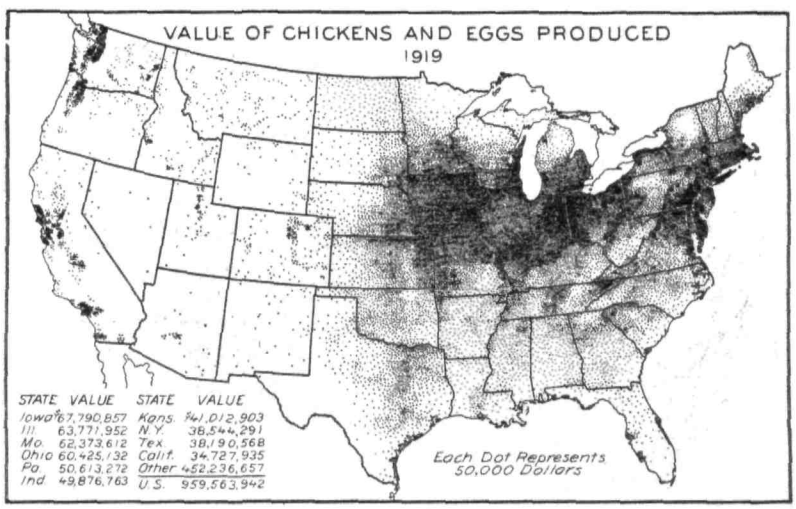


FIG. 13.—The farmers of the Middle West produce both market poultry and eggs in considerable excess of local requirements

Poultry Production by Kinds

Of the various kinds of poultry on farms in the United States as of January 1, 1920, the latest census figures available, chickens constituted 96.43 per cent of the total numbers and contributed 93.60 per cent of the total value. The relative standing of the other classes of poultry is shown in Table 5.

TABLE 5.—*Numbers and value of various kinds of poultry and pigeons on farms in the United States, 1920*

Class	Number	Per cent	Value	Per cent
Chickens	359,537,127	96.43	$349,508,867	93.60
Turkeys	3,627,028	.97	12,904,989	3.46
Geese	2,939,203	.78	5,428,806	1.45
Ducks	2,817,624	.75	3,373,966	.90
Guinea fowls	2,410,421	.65	1,582,313	.42
Pigeons	1,493,630	.40	537,576	.14
Ostriches	231		57,540	
Total	372,825,264		373,394,057	

The Chicken Industry

The chicken industry of the United States comprises several million flocks of varying sizes, including farm flocks, commercial flocks, and back-yard flocks. The size of each of these three kinds of flocks varies considerably, and there are many farm flocks that contain more chickens than many commercial flocks. The important point of distinction in connection with the three kinds of flocks is somewhat as follows: A farm flock is regarded as such when the labor income from the farm is derived not only from chickens but also from hay, grain, other classes of livestock, dairy products, fruits, vegetables, or other products; the relative amount of labor income derived from the chickens may be of minor or of major importance. A commercial flock is regarded as such when the labor

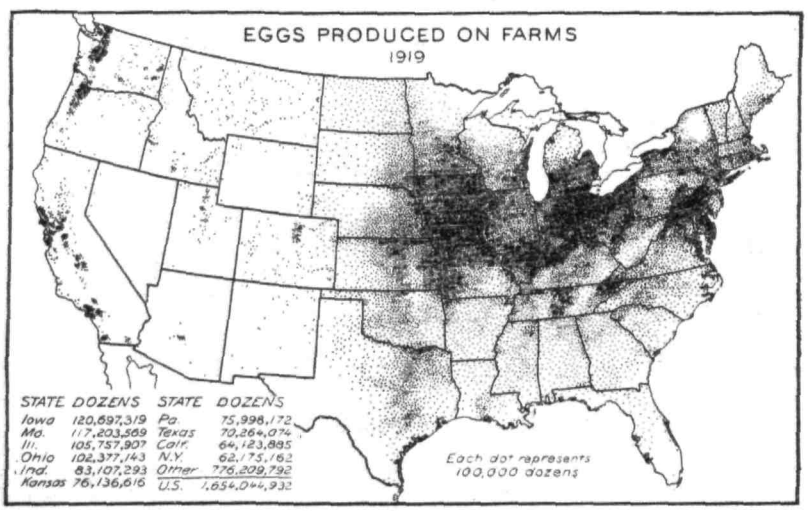


FIG. 14.—Eggs produced on farms show a slightly greater concentration than poultry in the Middle Western and Pacific Coast States

income is derived almost entirely from the chickens. A back-yard flock is regarded as such when usually only a few chickens are kept on a city, town, or village lot either for the primary purpose of breeding standard-bred chickens for exhibition or breeding purposes, or primarily for the purpose of providing eggs and poultry meat for the home table. Back-yard flocks are kept for the most part by women and business and professional men. The number of chickens kept in back-yard flocks, however, and the value of their product is not taken into consideration in this article, because the census returns do not include the enumeration of such flocks, which is unfortunate, inasmuch as back-yard flocks would add several million dollars to the estimated value of the poultry industry.

The fundamental factors affecting the net revenue obtained from chickens vary somewhat in the case of farm, commercial, and back-yard flocks. On the grain and stock farm the relative cost of raising the young stock and of producing eggs and poultry meat is less than in the case of commercial and back-yard flocks. On the

other hand, commercial poultry men usually have the advantage over farmers of securing greater average egg production per bird and higher prices for their products. Commercial poultry farms are located for the most part in the northeastern section of the country and on the Pacific coast. In other sections of the country commercial farms are located in the vicinity of the larger cities. Nearness to market, good shipping facilities, and volume of production are three valuable assets that usually enable the commercial producer to obtain a relatively larger net revenue per bird than the farmer.

The Feed Cost of Raising Chickens

Feed, labor, and fuel, are the more important items concerned in the cost of raising chicks. In connection with labor, however, prac-

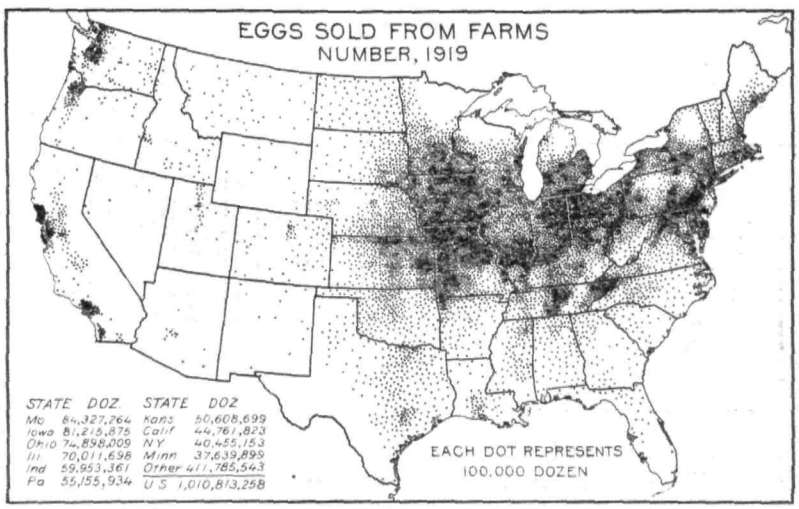


FIG. 15.—A large proportion of eggs are not consumed where they are produced but have to be shipped to market. The Middle West is the greatest area of surplus egg production, but a large number of eggs are also shipped from the Pacific coast and from other sections

tically no figures are available from any part of the country which would show the amount of labor involved in raising a given number of chickens. It is readily understood how difficult it would be to keep records of the time employed in raising chickens on the farm, but it is unfortunate that the majority of commercial poultry men have not made a practice of recording the amount of labor involved in raising chicks to maturity in contrast with the amount of labor involved in caring for the laying stock. As a matter of fact, the commercial poultry man would not find it easy to keep a separate item of the labor required in rearing his chickens, because this rearing is done simultaneously with other work. Fuel is another item in the cost of rearing concerning which practically no figures are available as to the quantity required during the brooding period. There are a few figures available, however, which may be taken as showing approximately the quantity of feed required to raise chickens to maturity.

The Indiana Experiment Station has reported the results of determinations made concerning the quantity of grain feed required to raise White Plymouth Rock chicks to maturity. It was found that it took aproximately 30 pounds of grain feed per bird to raise pullets up to and including 28 weeks of age and approximately 33 pounds of grain feed to raise cockerels up to and including 28 weeks of age.

The Connecticut Experiment Station has determined the quantity of feed consumed per chick weekly for 24 consecutive weeks in White Leghorns and Rhode Island Reds. The results are shown in Table 6.

TABLE 6.—*The average weight per chick per week and the average quantity of grain feed consumed per chick per week in White Leghorns and Rhode Island Reds*

Week	White Leghorns		Rhode Island Reds	
	Average weight per chick	Average quantity of grain feed consumed per chick	Average weight per chick	Average quantity of grain feed consumed per chick
	Pounds	*Pounds*	*Pounds*	*Pounds*
0	0.08	0.00	0.08	0.00
1	.11	.07	.11	.08
2	.18	.15	.16	.16
3	.26	.25	.26	.24
4	.38	.32	.36	.33
5	.50	.41	.54	.44
6	.69	.51	.74	.60
7	.90	.66	.96	.69
8	1.09	.74	1.23	.88
9	1.22	.84	1.52	.94
10	1.41	.93	1.80	1.01
11	1.56	.98	2.01	1.07
12	1.80	1.00	2.30	1.19
13	1.93	1.07	2.39	1.16
14	2.06	1.04	2.51	1.15
15	2.21	1.12	2.76	1.23
16	2.36	1.12	2.91	1.39
17	2.49	1.33	3.14	1.54
18	2.63	1.30	3.22	1.60
19	2.72	1.37	3.44	1.52
20	2.90	1.43	3.68	1.69
21	3.05	1.39	3.85	1.70
22	3.12	1.36	4.03	1.73
23	3.23	1.33	4.16	1.67
24	3.28	1.41	4.30	1.76
Total		22.13		25.77

Judging from the Indiana and Connecticut results, it may be safely assumed that the quantity of grain feed required to raise White Leghorns to maturity is about 20 to 25 pounds, and to raise White Plymouth Rocks, Rhode Island Reds, and chickens of other general-purpose breeds to maturity is about 25 to 35 pounds.

The Feed Cost of Egg Production

The cost of producing eggs is affected by many factors which vary in different sections and which change from year to year, the three most important being labor, feed, and the average number of eggs laid per bird. Feed is the most important item, since it normally represents from one-half to two-thirds of the total cost of production.

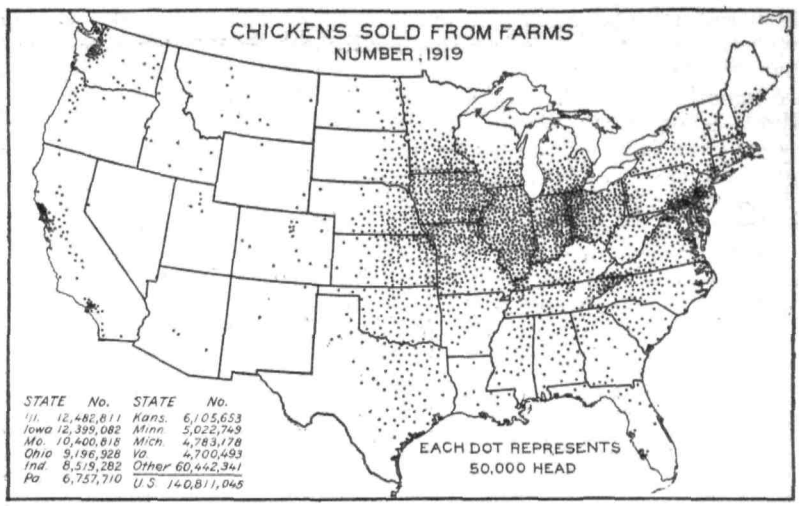


FIG. 16.—The sections producing surplus chickens are, in general, the same as those producing surplus eggs, as shown in Figure 15

In the case of farm flocks the amount of labor spent in caring for the chickens varies from season to season and is practically an undetermined quantity. In the case of commercial flocks, however, the net income may be regarded as the labor income, since practically all of the labor is devoted to the chickens.

Data concerning the quantity of feed consumed by laying hens have been obtained by a few of the State experiment stations. The quantity of feed consumed by laying hens is affected by a variety of factors, chief of which include the kind of food supplied, the size of

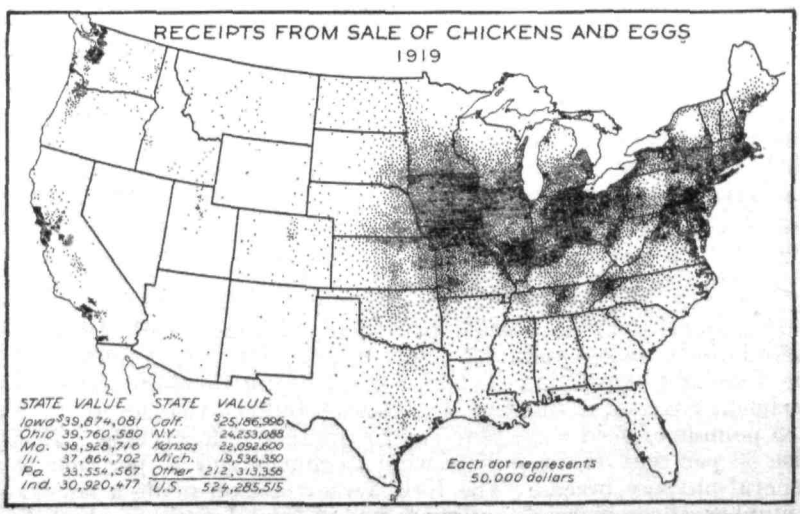


FIG. 17.—The distribution of receipts from the sale of chickens and eggs follows closely the number of poultry and eggs sold but is considerably affected by the price received for farm products

the hens, and, to a certain extent, the number of eggs laid. A ration consisting of a variety of grains usually induces greater consumption than where one grain is fed. Leghorns and similar breeds, which are smaller than the general-purpose breeds—Plymouth Rocks, Rhode Island Reds, Wyandottes, and Orpingtons—consume less feed a year than birds of the larger breeds. Usually birds bred for high egg production consume slightly more feed than less well-bred birds of the same size. From data submitted by a number of experiment stations it is found that Leghorns laying an average of approximately 150 eggs per birds consume about 70 to 85 pounds of grain food per year and that general-purpose breeds with the same production consume about 80 to 95 pounds per year.

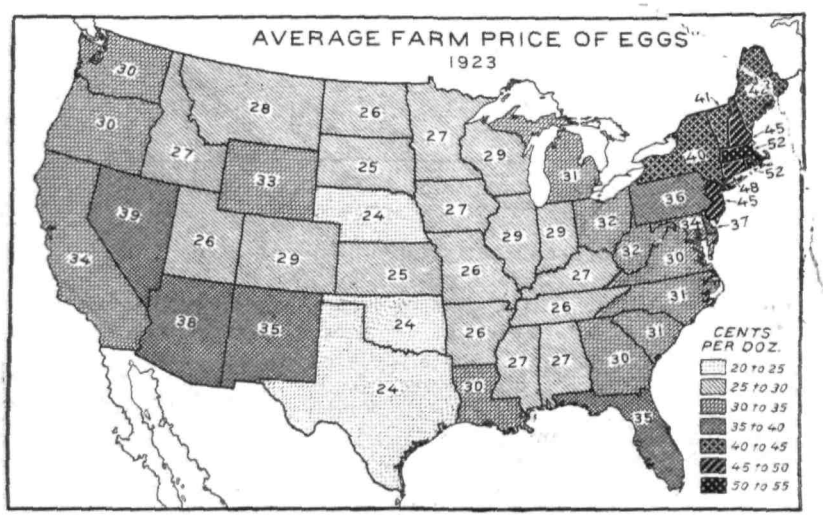


FIG. 18.—The farm price of eggs is affected by the supply and demand and by the distance from market. The highest prices are received in the New England States and the lowest prices in the Middle West and South

The quantity of feed required to produce 1 dozen eggs per bird is directly affected by the number of eggs laid. Egg production per bird is governed by a variety of factors, including the breeding of the layers, their age, and their care and management. At the Storrs egg-laying contest, conducted by the Connecticut Experiment Station, it was determined, based on a three-year average for pullets only, that the average feed consumption to produce 1 dozen eggs was 6.75 pounds. In this case approximately 60 per cent of the pullets were general-purpose breeds, principally Plymouth Rocks, Rhode Island Reds, and Wyandottes, and 40 per cent were Leghorns. At the Vineland egg-laying contest, conducted by the New Jersey Experiment Station, it was found, also with pullets, that an average of 5.89 pounds of feed were required to produce 1 dozen eggs. In this case 60 per cent of the pullets were Leghorns and 40 per cent were general-purpose breeds. The New Jersey station made a survey of a number of commercial poultry farms in New Jersey on which Leghorn pullets and yearling hens were kept and found an average feed consumption of 7.8 pounds of feed to produce 1 dozen eggs.

average quantity of feed consumed by general-purpose breeds and Leghorns at the United States Experiment Farm at Beltsville, Md., is shown in Table 7. Here is it shown that Leghorn pullets required an average of 5.2 pounds of feed to produce 1 dozen eggs, Leghorn yearlings 5.5 pounds, general-purpose pullets 6.8 pounds, and general-purpose yearlings 9.8 pounds.

TABLE 7.—*Monthly record of total feed consumed per dozen eggs and egg yield per hen, U. S. Experiment Farm*

Month	General-purpose pullets		General-purpose yearlings		Leghorn pullets		Leghorn yearlings	
	Feed per dozen eggs	Eggs per hen	Feed per dozen eggs	Eggs per hen	Feed per dozen eggs	Eggs per hen	Feed per dozen eggs	Eggs per hen
	Pounds	*Number*	*Pounds*	*Number*	*Pounds*	*Number*	*Pounds*	*Number*
November	16.0	4.5	32.7	2.2	8.1	6.6	44.0	1.3
December	12.3	7.0	37.0	2.3	9.9	6.7	17.8	4.0
January	11.7	7.1	32.7	2.8	7.8	8.9	8.1	8.1
February	8.8	8.6	15.3	5.0	6.6	9.1	5.6	10.3
March	5.7	16.3	6.9	11.8	4.2	17.4	3.9	17.1
April	4.8	16.8	5.5	13.4	3.5	20.0	3.4	19.5
May	4.9	16.0	5.8	11.9	3.6	19.6	3.5	19.2
June	5.4	13.1	7.0	9.8	3.8	17.0	4.1	15.1
July	6.0	12.5	7.4	9.2	4.3	14.8	4.5	12.7
August	6.6	11.7	8.6	7.9	5.6	10.9	6.8	.5
September	8.3	9.4	11.7	6.2	9.0	6.1	12.9	3.6
October	11.7	6.8	23.4	3.4	21.4	2.9	29.5	1.9
Average or total	6.8	129.8	9.8	85.9	5.2	140.0	5.5	121.3

Data concerning economic returns in egg production are compiled each year in different sections of the country, and although the basis of compilation frequently differs in various sections the results all go to show that the production of eggs is usually sufficiently profitable to regard poultry raising as a stable agricultural enterprise.

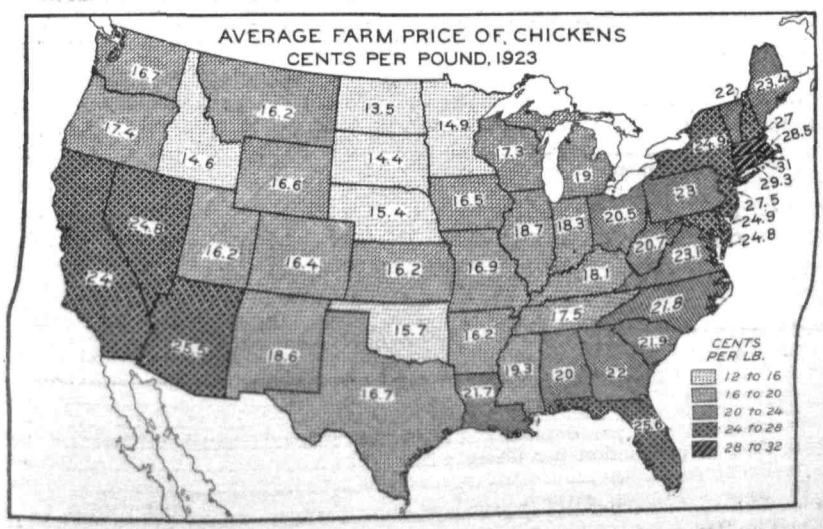


FIG. 19.—The farm prices of poultry are affected by the same factors as the farm prices of eggs. The relative farm prices of eggs and poultry are the same for different sections, although a comparison of individual States shows some variations

Tabulated records are given below for two sections of the country, California and Missouri, each of the records representing two phases of production, production on commercial poultry farms and production on farms where grain and classes of livestock other than poultry are regarded as the major sources of farm income—that is, the records show what it costs to produce a dozen eggs with commercial and farm flocks, respectively.

The Poultry Extension Service of the California College of Agriculture has submitted the following table (Table 8) showing the cost of egg production on 29 commercial farms in different parts of California. The records cover operations for the year 1922, the latest year for which figures are available; and, although they were obtained from flocks with an average of 540 layers it is believed that the records are applicable to flocks comprising from 1,000 to 2,000 layers, a number which is common to many commercial poultry farms.

TABLE 8.—*The average cost of egg production on 29 commercial poultry farms in California, 1922*

1. Stock on hand, January, 1923	$948.32
2. Stock sold and consumed	202.42
3. Value manure	72.90
4. Value eggs produced	1,830.06
5. Miscellaneous	26.07
Total credits	3,079.77
6. Stock on hand, January, 1922	676.96
7. Value all feed	1,125.16
8. Value all labor	464.91
9. Taxes, water, and insurance	41.77
10. Depreciation	83.67
11. Interest on investment	93.14
12. Miscellaneous	25.75
Total expenses	2,511.36
Profit	568.41

SUMMARY

1. Investment:		
Land		$900.00
Improvements		928.39
Equipment		226.32
Supplies		84.95
Stock		753.10
		2,892.76
2. Average size of flock	hens	540
3. Average number eggs produced	dozen	5,857
4. Number eggs per hen		130
5. Gross income per hen		$3.94
6. Net income per hen		$1.05
7. Gross income per dozen		$0.36
8. Cost of production per dozen		$0.26
9. Profit per dozen		$0.10
10. Rate of interest earned	per cent	19

The Poultry Extension Service of the Missouri College of Agriculture has submitted figures covering the feed cost of producing

eggs in Missouri. The data submitted in Table 9 cover a survey of approximately 400 farms with an average of 160 chickens each and is for the year 1923.

TABLE 9.—*The feed cost of egg production on approximately 400 farms in Missouri, with an average of 160 chickens per farm, 1923*

Month	Egg production per bird	Value of eggs sold per farm	Value of chickens sold per farm	Total value per farm	Cost of feed per bird	Cost of feed per dozen eggs	Profit over feed costs per bird
	Number				*Cents*	*Cents*	*Cents*
November	4.1	$26.27	$11.95	$38.22	10.6	30.9	11.5
December	4.8	30.67	9.91	40.58	10.1	25.0	12.2
January	8.2	40.07	10.64	50.71	10.7	15.6	16.9
February	9.1	39.52	10.20	49.72	10.8	14.1	17.1
March	16.1	55.75	7.97	63.72	13.1	9.7	25.1
April	15.3	55.63	8.38	64.01	12.4	9.6	24.6
May	16.7	52.06	18.40	70.46	15.1	10.8	26.6
June	13.1	34.57	23.65	58.22	15.4	14.1	19.4
July	11.5	28.80	18.67	47.47	14.4	14.9	16.5
August	10.1	26.70	17.23	43.93	14.8	17.4	18.8
September	9.4	29.74	25.11	54.85	17.3	22.0	29.5
October	7.4	29.14	22.99	52.13	18.2	29.2	23.5
Total	125.8	448.92	185.10	634.02	$1.63		$2.42
Average						17.77	

It will be observed that the average egg production per bird on the California commercial poultry farms was 130 and on the Missouri general farms 125.8. The value of produce per farm in California, minus the value of the manure and miscellaneous products, was $2,032.48, and in Missouri the value of eggs and chickens sold per farm was $634.02. In California eggs contributed 89.05 per cent and in Missouri they contributed 70.80 per cent of the total receipts from eggs and chickens. This difference is to be expected, since poultry meat in the Middle West usually has a higher value than on the Pacific coast; also in the Middle West the general-purpose breeds such as Orpingtons, Plymouth Rocks, Rhode Island Reds, and Wyandottes are the predominating breeds kept, whereas on the Pacific coast the White Leghorn is kept almost exclusively on the commercial poultry farms.

The cost of feed per bird in California was $2.09, and in Missouri it was $1.63, the difference being a reasonable expectation in view of the amount of waste grain and other feed obtained by fowls on general farms, and also in view of the relatively lower cost of grains fed on general farms as compared with commercial poultry farms.

In California the cost of producing a dozen eggs was 26 cents, and in Missouri it was practically 18 cents. It must be remembered that in the case of Missouri labor and overhead expenses have not been taken into consideration, whereas in California the costs of all operations have been considered. It should also be borne in mind that the data considered are for two different years. In both cases, however, the figures are sufficiently low to justify the statement that management of the flocks was very efficient.

It is obvious, of course, that the greater the egg production per bird, the less the production cost per dozen eggs and the greater the profits per bird. An average production per bird of 125.8 and 130 eggs for Missouri and California, respectively, has been shown to

have given good returns. These averages are much higher than the average production per bird for the various States, as shown in Figure 20.

Other records of production are interesting in demonstrating what can be achieved with well-bred stock and under the most efficient systems of management. The poultry extension service of the Connecticut Agricultural College has reported records of production for 1924 for back-yard, farm, and commercial flocks in

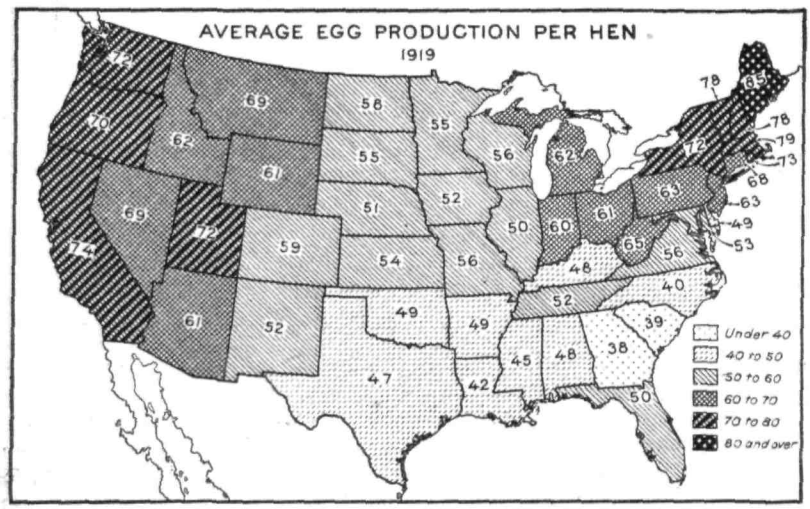


FIG. 20.—The average egg production per hen is lowest in the Southern States, varying from 38.5 eggs in Georgia to 85.3 eggs per hen in Maine. This is the total number of chicken eggs produced for the year 1919 divided by the total chickens on hand January, 1920. No correction is made for males. The highest egg production is found in the northeastern part of the country and Pacific coast, where are also the States which pay the highest prices for eggs and poultry

Connecticut in which records from 350 flocks with a total of 88,297 birds showed an average production of 142.58 eggs per bird. Based on the average size of the flock, the records show some very interesting results, as given in Table 10.

TABLE 10.—*Egg production per bird for flocks of different sizes in Connecticut, 1924*

	Back-yard flocks	Farm flocks	Commercial flocks
Number of flocks	44	236	70
Average number of birds per flock	23	162	700
Average number of eggs per bird	151.30	143.30	141.65

In order to illustrate clearly the importance of the quality of the laying stock and systems of flock management, the records of production of the 10 best and 10 poorest flocks for the back-yard, farm, and commercial flocks as reported by Connecticut are given in Table 11.

TABLE 11.—*The average egg production per bird in the 10 best and 10 poorest back-yard, farm, and commercial flocks, respectively, in Connecticut, 1924*

Flock number	Back-yard flocks				Farm flocks				Commercial flocks			
	10 best flocks		10 poorest flocks		10 best flocks		10 poorest flocks		10 best flocks		10 poorest flocks	
	Birds	Average production	Birds	Average production	Birds	Average production	Birds	Average production	Birds	Average production	Birds	Average production
	No.	*Eggs*	*No.*	*Eggs*	*No.*	*Eggs*	*No.*	*Eggs*	*No.*	*Eggs*	*No.*	*Eggs*
1	11	246	23	136	351	231	56	99	782	182	1,616	121
2	42	220	13	135	196	216	216	98	509	178	437	115
3	9	219	25	131	70	210	247	98	961	177	417	114
4	37	213	28	128	109	207	57	98	893	175	380	111
5	39	192	22	118	163	204	46	93	444	175	360	110
6	14	192	31	117	323	192	78	92	384	175	517	108
7	6	189	31	116	290	190	372	92	730	173	517	103
8	24	184	35	115	239	189	380	86	538	170	338	101
9	7	182	34	113	213	187	66	82	552	168	390	91
10	9	179	32	104	50	187	170	70	788	166	1,247	80

The economic importance of high over low average egg production may be illustrated by reference to the results obtained in commercial flocks in New Jersey in 1923. The flocks were divided into two groups, those which laid under and those which laid over 160 eggs as the flock average. In the first group the average production per flock was 146.3 eggs and the cash value in eggs produced was $3.47 per bird. In the second group the average production per flock was 178.4 eggs and the cash value in eggs produced was $4.59 per bird. The second group showed an excess return of $1.12 per bird over the first group.

SEASONAL VARIATION IN RECEIPTS OF EGGS AT FIVE MARKETS, 1921–1923

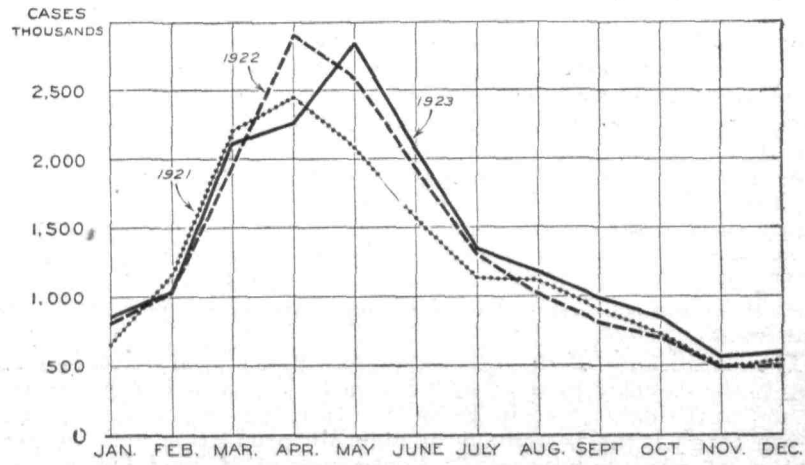


FIG. 21.—The seasonal variation in receipts o eggs on the five markets reflects accurately the seasonal variation in production. They are heaviest during the spring months, gradually decline during the summer and fall, and reach their lowest point in November or December. From this point they increase again rapidly until they reach their highest point in April or May

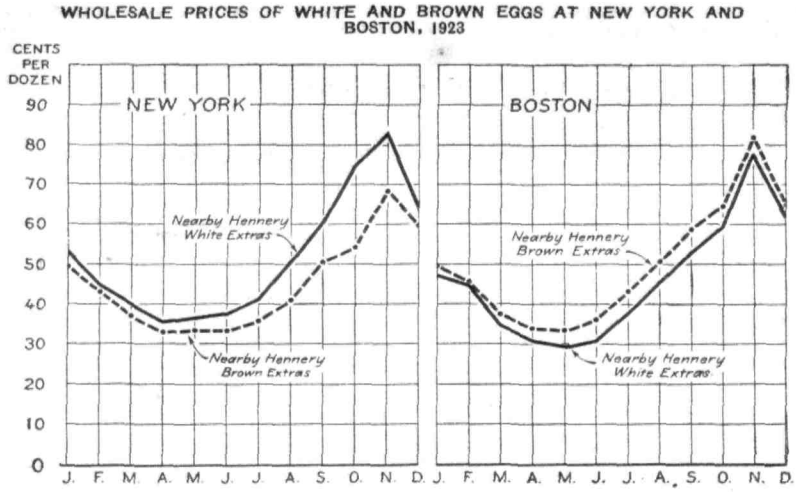


FIG. 22.—The New York market shows a price preference which is nearly uniform throughout the year for white eggs as compared with brown, whereas the reverse is true in Boston. The shell color of eggs, although having no effect on their food value or quality, is therefore a factor to be considered in selecting the market to which shipment should be made

It has been established for some time that pullets lay better than yearling and older hens, and corroborative evidence concerning this point is obtained by referring again to results secured in New Jersey in 1923. In 26 commercial flocks the pullets laid 153.6 eggs and the yearling hens laid 127.3 eggs per bird, and in 23 farm flocks the pullets laid 147.8 eggs and the yearling hens 128.7 eggs per bird.

In actual practice there are four primary factors which affect economic returns in relation to the cost of feed consumed and the value of eggs produced. These four factors are: (1) The quantity of feed consumed, (2) the price of feed from time to time, (3) the number of eggs produced, (4) the prevailing price of eggs at the time of production. The poultry man has little or no control over the price of feed or the price of eggs. Under ordinary conditions of practice the average quantity of feed consumed per bird, as discussed previously, from month to month is fairly stable. The poultry man can control the rate of egg production at different times of the year, and it is this particular aspect that deserves special mention. There is some variation in feed prices from season to season throughout the year but not nearly to the same extent as pertains to egg prices. The monthly trend in egg prices is shown in Figure 22, from which it will be seen that relatively high prices prevail during the fall and winter months as compared with spring and summer prices.

The significance of the value of monthly egg production in relation to the monthly price of eggs is clearly shown in Figures 21 and 22 and in the data given in Table 12. In this table a comparison is shown between the percentage of monthly production and the percentage of monthly "returns." In the case of 36 New Jersey commercial flocks the "returns" are in terms of the average cash receipts per flock, and in the case of 400 Missouri farm flocks the "returns" are in terms of profits over feed per bird.

TABLE 12.—*The relation of percentage of monthly egg production to percentage of monthly receipts per flock in 36 New Jersey commercial flocks, 1916, and the relation of percentage of monthly production per bird to percentage of monthly profits over feed per bird in 400 Missouri farm flocks, 1923*

Month	New Jersey		Missouri	
	Production per flock	Receipts per flock	Production per bird	Profit over feed per bird
	Per cent	*Per cent*	*Per cent*	*Per cent*
November	3.20	5.50	3.26	4.75
December	4.30	7.10	3.82	5.04
January	6.50	7.70	6.52	6.98
February	8.50	7.80	7.24	7.07
March	12.80	10.00	12.81	10.37
April	14.10	10.40	12.17	10.16
May	13.70	10.30	13.28	10.99
June	11.30	9.40	10.42	8.02
July	9.70	9.70	9.15	6.82
August	9.10	7.60	8.03	7.77
September	4.90	6.90	7.48	12.19
October	3.10	5.40	5.89	9.71

It will be seen that in the months of September, October, November, December, and January, in the case of both New Jersey and Missouri, the percentage of "returns" are greater than the percentage of production, which is not true of the other months of the year. This simply means that eggs are worth more relatively during the five months mentioned, and consequently production during this period has a relatively higher value than at other times of the year.

The Feed Cost of Fattening Chickens

With the gradual development of the poultry industry there has resulted an increasing need for more knowledge concerning efficient methods of preparing poultry flesh for human consumption. Fattening is a finishing process designed to prepare chickens for human consumption in the most economical way. The main object in fattening is to improve the quality of the lean meat, the accumulation of fatty tissue as such being of secondary importance. When a chicken has been properly fattened much of the water in the flesh is replaced by oil, so that when the chicken is cooked the flesh becomes tender and juicy. Improvement in the quality of market chickens leads to increased consumption, which in turn leads to increased demands for prime fattened stock, thus creating a tendency for the greater improvement of the poultry industry. During recent years, however, so much attention has been given to the question of breeding for egg production that it is possible that the best interests of the fattening industry have been sacrificed to some extent at least. However important may be the matter of developing heavy-laying strains, there will always be a high proportion of chickens other than those used for breeding purposes and for which it is necessary to develop the most efficient means in preparing for market.

The cost of fattening chickens is influenced primarily by the quality of the stock, the amount of labor required, the quantity of feed consumed, and the price of the labor and feed at the time of fattening.

The great majority of chickens raised on farms annually are fattened in commercial fattening stations located at the more important shipping centers. The chickens are received at the fattening stations usually in an unfattened condition, and vary a great deal in respect to quality. About 50 per cent of them represent general-purpose breeds, about 25 per cent represent Leghorn and similar breeds, and the balance are birds of mixed breeding. The results of experiments conducted at a number of the fattening stations show that chickens of the general-purpose breeds usually fatten better than those of Leghorn and similar breeds and those of mixed breeding.

The amount of labor required at fattening stations is a variable factor, since it is sometimes impossible to keep the fattening bat-

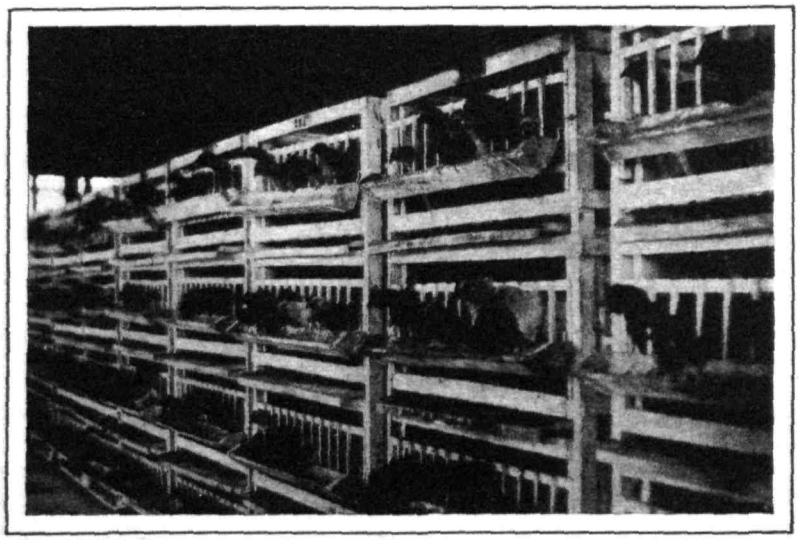


FIG. 23.—Feeding or fattening stations of large capacity are common in modern poultry packing establishments

teries sufficiently full to occupy the labor in the most efficient manner. The price of the labor is a fairly stable factor; and neither the amount nor price of labor is considered in this article, since costs in fattening are treated entirely in terms of the quantity of grain required to produce 1 pound gain in flesh production.

The quantity of feed required to fatten chickens is given in tables 13 and 14 and is seen to be influenced by the average size of the chickens and the length of time they are fattened. The price of the feed is not taken into consideration because when considered from year to year it is such a fluctuating factor. On the other hand, the results of extensive series of experiments have established fairly definitely the approximate quantities of feed required to produce 1 pound of gain in flesh production, and by applying the prevailing prices of grains at the time of fattening the monetary cost of fattening at any time can be determined. Records showing the quantity of feed used in fattening chickens in a number of fattening stations

in the Middle West were secured by the United States Department of Agriculture and are given in the following tables. The records show that it required an average of 3.26 pounds of grain plus 4.90 pounds of buttermilk to produce 1 pound of gain.

TABLE 13.—*The average quantity of grain used per pound of gain in flesh production in chickens of different average weight and fed different lengths of feeding periods. Fattening station results*

Lot number	Number of chickens	Average weight per bird	Days fed	Average quantity of grain per pound of gain [1]
		Pounds		*Pounds*
1	3,907	2.18	6	3.66
2	1,085	3.08	6	2.96
3	15,731	2.39	7	2.68
4	14,841	2.69	7	2.96
5	11,878	2.55	8	3.37
6	12,199	2.81	8	3.16
7	10,360	2.40	9	4.04
8	7,368	3.18	9	3.66
9	2,068	2.51	10	4.04
10	7,836	3.24	10	3.71
11	644	3.98	11	5.07
12	1,657	3.22	12	4.26
13	8,464	2.54	13	3.16
14	6,720	2.18	14	2.80
15	892	1.90	15	2.58

[1] The number of pounds of grain given in the table were obtained with fattening rations consisting of approximately 40 per cent grain and 60 per cent buttermilk.

Experiments have also been conducted in determining the quantity of feed required to produce 1 pound of gain in flesh production in fattening chickens in small numbers, as under farm conditions. The results are shown in Table 14.

TABLE 14.—*The average quantity of grain used per pound of gain in flesh production for chickens of different average weight and fed different lengths of feeding periods. Farm practice results.*[1]

Lot number	Number of chickens	Average weight per bird	Days fed	Average quantity of grain per pound of gain [1]
		Pounds		*Pounds*
1	102	2.76	10	3.33
2	84	4.43	10	2.96
3	241	2.95	14	3.20
4	225	4.14	14	3.48
5	68	4.99	14	7.12
6	148	3.14	21	3.99
7	105	4.33	21	4.62
8	68	4.99	21	7.51

[1] "Experimental results in fattening chickens" by M. A. Jull, and W. A. Maw, *In* Poultry Science, vol. V, no. 4, 1923.

In connection with the results shown in Table 14 it will be noted that lots 5 and 8 required a much higher average quantity of grain per pound of gain than all other lots. The fattening rations for lots 5 and 8 were moistened with water, whereas the rations for the other lots were moistened with skim milk.

The Problem of Feeding

Although general methods of feeding have been giving fairly good results, when the really fundamental problems of feeding are considered very vague ideas prevail. It may be that much more efficient methods of feeding would result from more refined methods of investigational work.

The raw products consumed by fowls are used in repairing waste and in providing raw materials for growth and reproduction, and this process gives rise to the production of the two fine foods—eggs and poultry meat. The raw products must contain, then, the materials out of which the body and eggs are made. The body consists of water, salts, proteins, carbohydrates, fats, and various other organic substances which are formed from the latter. The egg consists of the albumen, a secretion of the glands of the oviduct, and the yolk, which is a real cell. The albumen contains over 87 per cent water and nearly 11 per cent protein. The other constituents of the albumen, or white of the egg, are of less importance. The yolk is much more complex than the albumen and contains about 50 per cent water and 50 per cent solids: Oil, 23 per cent; protein, 16 per cent; lecithin, 11 per cent; salts, 3 per cent; and cholesterol, 1.5 per cent.

The complex character of the body and the egg suggests the nature of raw products needed by the fowl. In the production of eggs and in the development of body tissue the relative value of the raw products depends upon their composition and digestibility. From the standpoint of composition alone there are essential differences among the raw products used as poultry feeds. All the staple grains—corn, wheat, oats, rye, barley, and buckwheat—contain from about 10 to 12 per cent protein, whereas they are all low in ash constituents. The percentage of nitrogen-free extract, about 70, is practically the same in corn, wheat, barley, and rye, whereas it is about 60 in oats and buckwheat. The so-called concentrated feeds are naturally relatively rich in protein, the percentage being about 82 in dried blood, 50 in meat scraps, 35 in gluten meal, 25 in ground bone, and 20 in fresh green bone, while they are relatively poor in nitrogen-free extract, containing only about 2 to 5 per cent with the exception of gluten meal, which contains about 47 per cent.

Not only must the composition of the raw product be known, but also the percentage of each constituent that is digestible. It is extremely unfortunate, therefore, that relatively few experiments have been conducted in determining the digestion coefficients of poultry feeds. Enough work has been done, however, to warrant a few statements of a general character: Corn is the most thoroughly digestible of all grains, and this is true not only of the total organic matter but also of protein, nitrogen-free extract, and fat. The protein and nitrogen-free extract in wheat are more thoroughly digested than in barley, buckwheat, and oats, and the fat in these three grains is more readily digested than that in wheat. Among the staple grains rye is the least digestible. The digestibility of both protein and fat in meat scraps is very high, making this co-called concentrated food relatively important in feeding practice.

Nearly all the fundamental facts of nutrition still remain to be determined, for it is known now that the character of the fat, car-

bohydrate, and protein is of as great importance as the quantity. Although some of the simpler substances, such as water and inorganic salts, used in the development of tissue or in the formation of eggs, are in a condition to be utilized directly, practically all other substances must be reduced to simpler compounds. Fats must be reduced to fatty acid; and the nature of the fatty acid is important, because the character of the fat laid down in the tissue is somewhat dependent upon the character of the fat consumed. In regard to protein consumption, it is important to know what amino acids are present in the proteins, because the various amino acids now known have specific functions which can not be replaced by other amino acids.

Very probably one of the most important problems awaiting solution in the field of poultry nutrition is to determine the optimum amounts of protein to maintain nitrogenous equilibrium in growing chicks as well as for laying hens. The reason for this is that nitrogen is the most difficult element to supply to the body of the bird, and that nitrogen can be furnished in one form only, the proteins, which are expensive from the economic standpoint as well as the physiological, because an excretion of excessive nitrogenous material places special burdens on the excretory system. It is possible that many laying rations as prepared at present contain too much protein, but future investigational work must solve this problem.

In addition to the composition, digestibility, and other important qualities of the raw products, evidence is accumulating that they must contain other bodies neither protein nor carbohydrate nor fat nor mineral, but of an organic nature without which the fowl can not live. Apparently these elements are required in very small quantities, but they are of vital importance. They are called vitamins, and in general it may be said that sufficient investigational work has already demonstrated the vital necessity of the antirachitic vitamin to prevent the development of rickets in chicks reared in confinement.

Mineral metabolism seems to be closely associated with the functions of the vitamins. Also the question of the essential mineral requirements is bound up with protein supply, since vegetable proteins contain only small quantities of the most essential minerals, calcium, and phosphorus, while the proteins of animal origin contain these elements in greater quantity but probably not enough to satisfy requirements. This is especially true in respect to calcium and probably true also of phosphorus, at least in the feeding of hens for egg production.

In the growth of the chick there is a gradual increase in the requirement of calcium, magnesium, phosphorus, and sulfur. Milk contains a relatively large quantity of calcium, phosphorus, sodium, and potassium; hence when chicks are supplied with all the sour skim milk they want much is supplied in the way of mineral requirements. The growing chick, on the other hand, has small need for calcium carbonate in comparison with the laying hen. The growing chick needs calcium phosphate for bone formation, whereas the laying hen needs calcium carbonate for the formation of eggshells. Bone ash and rock phosphate are better than oyster shells as sup-

plements to the ordinary grain rations for growing chicks. In the case of the laying hen, calcium in rock phosphate can be utilized in the development of bone, but not in the formation of eggshell. A deficiency of calcium carbonate (oyster shells, clam shells, and limestone) leads to a decrease in egg production, but does not produce soft-shelled eggs. Bone ash and calcium carbonate, when fed with certain feeds, increase their capacity to cause gain in live weight. Therefore, investigational work has already demonstrated that an adequate supply of mineral nutrients in poultry rations is of great practical importance.

The Problem of Breeding

The quality of chickens kept in all parts of the country has been improved considerably through the replacement of mongrel stock with standard-bred poultry and through the use of standard-bred males with grade or mongrel females. During recent years, particularly, there has been a great improvement in the laying quality of chickens in back-yard, farm, and commercial flocks. This improvement is largely the result of a realization on the part of poultry producers of the economic importance of good egg production. Officially conducted egg-laying contests have been in operation for a number of years, and these have demonstrated the possibilities of improving egg production through proper systems of breeding combined with intelligent selection.

The inheritance of factors involved in annual egg production has been a subject of careful inquiry by a number of State experiment stations. Although the problem is an extremely complicated one, certain facts have become well established, and these, along with a few other more outstanding results in inheritance studies, are considered very briefly in subsequent remarks.

One of the most important factors from the standpoint of the economics of egg production is the development of early-maturing strains of layers. It is not only important to avoid hatching late in the season but also to develop by selection and consistent breeding methods strains that mature early enough to commence laying in October or early November. Pullets which commence laying in from 150 to 200 days after being hatched, as compared with pullets which commence laying in from 250 to 300 days, not only produce more eggs during the most profitable season of production but also usually tend to lay more eggs per year. Earliness of maturity is inherited and can be developed in a strain of fowls by proper methods of selection.

A case of sex-linked inheritance in the factor for winter egg production has been reported, though to date it has not been substantiated. If true, however, it should prove of considerable economic importance in the development of heavy-laying strains. On the other hand, there are two cases—one in Rhode Island Reds and one in White Leghorns—which seem to show that the factor for heavy laying is not transmitted as a sex-linked factor but is inherited in the ordinary Mendelian manner. In other words, these investigations go to show that the selection of female breeders may be as significant from the genetic standpoint as the selection of male breeders.

Evidence has been accumulating that the factor for small-egg size dominates the factor for large-egg size. To whatever extent this is

true it becomes a very important matter, because if the factor for small-egg size becomes well fixed in the flock it would prove difficult to eliminate it completely.

Considerable progress has been made in the study of the inheritance of broodiness, the evidence to date going to show that its presence depends upon two factors. By suitable breeding methods it has been possible to develop quickly a strain of low broodiness from a strain with a very high degree of broodiness. This is a problem of considerable economic importance, since broodiness in a flock means decreased egg production and its elimination means greater profits.

The hatchability of eggs gives evidence of being transmitted from mother to daughter and from sire to daughter, although it has not been demonstrated that it is transmitted from sire to son. However, this latter point may be demonstrated within a few years, and the fact that this very important problem is only now in the process of being solved is indicative of the difficulties involved in a study of many of the problems of inheritance. One authority has gone so far as to say that in his opinion hatchability is primarily a matter of breeding. At any rate, it is now very certain that strains of fowls with high hatchability can be developed by proper methods of selection.

Another eminently practical problem affecting hatchability has been receiving the attention of the geneticists. It has been ascertained that there is no necessary correlation between the number of embryos which die during the period of incubation and the number of chicks that die within three weeks after being hatched. This means that there are specific factors that cause the death of embryos. It is well known that far too high a proportion of embryos die at hatching time, and certain lethal characters have been isolated which cause the death of embryos possessing them. These lethal characters appear to be inherited in the same simple Mendelian manner as many other characters, and thus it is possible to eliminate through selection the factors giving rise to the characters.

The important matter of the possible inheritance of resistance to various poultry diseases is receiving consideration. Resistance to bacillary diphtheria of poultry is believed to be due to the presence of a unique qualitative Mendelian factor. It is therefore anticipated that strains of poultry resistant to the infection may be developed. So with fowl cholera. Two workers are already making a study of the possibility of developing, through selective breeding, strains of poultry immune to the ravages of fowl cholera. In time these and other lines of work of a similar character should produce results of great value in the control and eradication of various poultry diseases.

Problems of Management

Considerable progress has been made during recent years in respect to problems of management, with the result that systems of rearing and production are being conducted more efficiently than ever. Many phases of poultry management might be discussed, but only three of the more important will be mentioned here—the artificial lighting of laying houses, the culling of the laying flocks, and the accreditation of hatcheries.

The artificial lighting of laying houses.—The use of artificial lights in laying houses during the winter months has become a common practice on many poultry farms, especially on the commercial farms in the northeastern section of the country and on the Pacific coast. The use of artificial lights does not increase the annual production of eggs as much as it increases the proportion of eggs laid during the fall and winter months, when egg prices are relatively the highest. The lights are used from about the first of November to the latter part of March.

In an experiment conducted by the United States Department of Agriculture, in which one 75-watt light was used in each of two pens of 50 White Leghorn pullets, it was found that 50.2 and 60.6 dozen eggs more were produced respectively than in two check pens

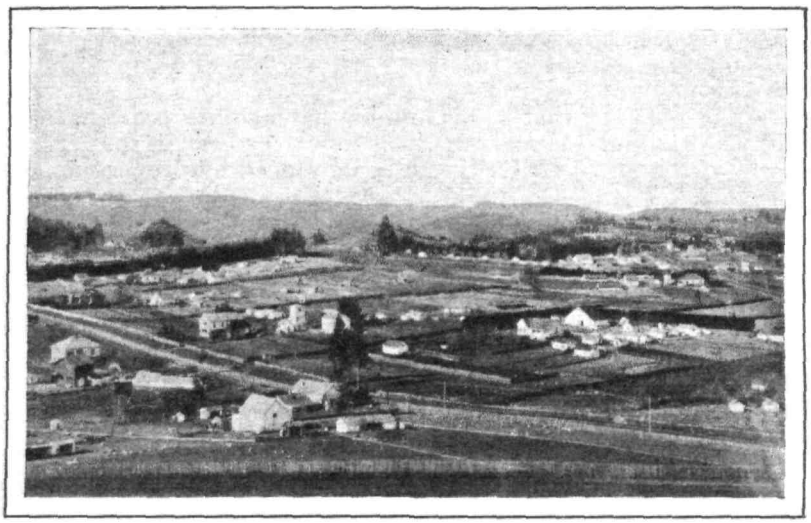


FIG. 24.—A group of small farms in California where every farm is entirely devoted to commercial poultry farming

of the same number of White Leghorn pullets, which were not lighted, the experiment running from November 1 to March 20.

The lights were turned on at 4.30 a. m. and were kept on until daylight, being turned off by the poultry man when he fed the fowls in the morning. Some poultry men use lights in the morning and evening, usually having the lights on approximately one hour at each time. Whether lights are used in the morning only or during the morning and evening, they should not be kept on for a longer time than will give the laying stock from about 12 to 13 hours of working time. An excessive use of artificial lights is harmful, particularly in the case of breeding stock. Again, if lights are used in the evening a special dimming device is necessary so that when the bright lights are turned off enough light may still be left to allow the hens to see the roosts. Another method used by many poultry men is to use the lights for one hour during the night, frequently from 8 to 9 o'clock or from 9 to 10 o'clock. The birds

are fed at this time and thus get an extra feed every day. With this method a dimming system must also be used.

The outstanding advantage in the use of artificial lights in the laying houses is to increase feed consumption, which in turn gives rise to increased egg production. As stated previously, an excessive use of lights is to be avoided, but where they are used judiciously the layers can be kept in better physical condition than when lights are not used and egg production is increased at the time of year when it is of the greatest economic value.

The culling of laying flocks.—A study of the physiological changes incident to continuous egg production and the correlation of body characters with the ability to lay well has led to the system of culling laying hens. This practice has had a remarkable influence in the more successful management of thousands of flocks. Poultry men have unconsciously learned to study their birds individually, and the importance of selecting for any purpose whatever is more thoroughly appreciated.

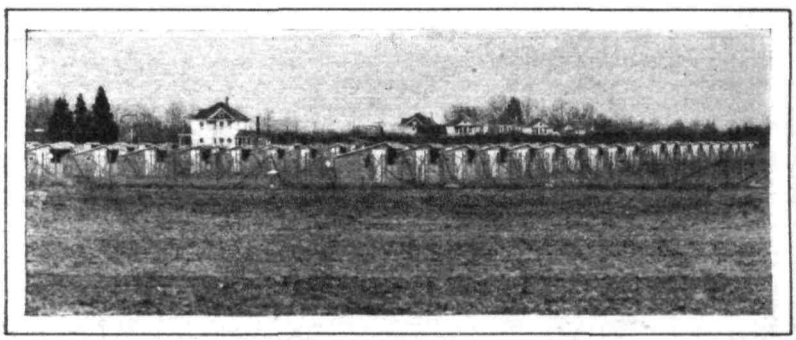


FIG. 25.—Egg-laying contests at one of the State experiment stations. The egg records obtained at these contests have greatly stimulated interest in the culling of flocks

Another great service that culling has rendered the poultry industry of the country has been to impress upon the minds of those concerned that selection means greater efficiency in production, and that even without the introduction of new blood the quality of the stock can be greatly improved. Moreover, the practice of culling yearling hens on the basis of past production will finally lead to the more efficient culling of pullets for future production. This will mean that unprofitable producers can be eliminated from the flocks at the commencement of the laying season.

The accreditation of hatcheries.—The business of hatching and selling baby chicks by commercial hatcheries operated for this purpose exclusively has become of very great importance in the development of the American poultry industry. Large numbers of hatcheries are now operating in all parts of the country, and several million chicks are sold annually by these hatcheries alone. For the most part they are located in what may be called community poultry centers—that is, where there is a sufficient number of flocks to supply eggs enough to keep the hatchery in operation for about four or five months of the year. Some of the hatcheries secure their hatching eggs from flocks of all kinds, whereas others secure theirs from

The artificial lighting of laying houses.—The use of artificial lights in laying houses during the winter months has become a common practice on many poultry farms, especially on the commercial farms in the northeastern section of the country and on the Pacific coast. The use of artificial lights does not increase the annual production of eggs as much as it increases the proportion of eggs laid during the fall and winter months, when egg prices are relatively the highest. The lights are used from about the first of November to the latter part of March.

In an experiment conducted by the United States Department of Agriculture, in which one 75-watt light was used in each of two pens of 50 White Leghorn pullets, it was found that 50.2 and 60.6 dozen eggs more were produced respectively than in two check pens

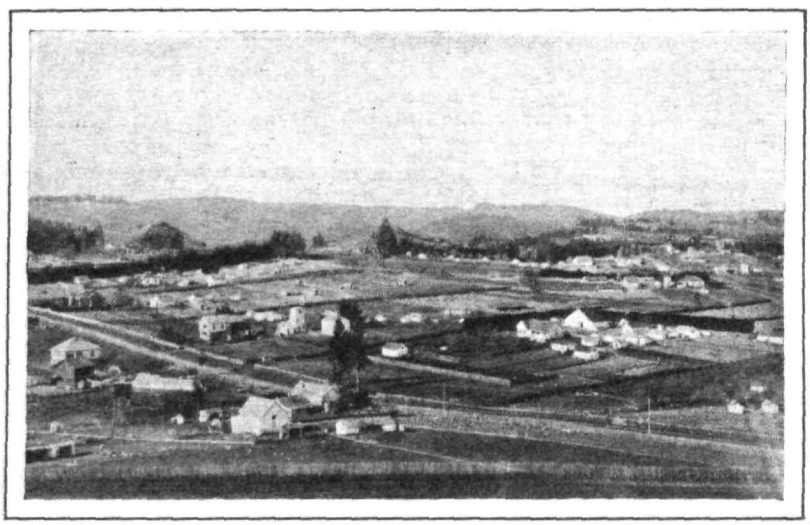


FIG. 24.—A group of small farms in California where every farm is entirely devoted to commercial poultry farming

of the same number of White Leghorn pullets, which were not lighted, the experiment running from November 1 to March 20.

The lights were turned on at 4.30 a. m. and were kept on until daylight, being turned off by the poultry man when he fed the fowls in the morning. Some poultry men use lights in the morning and evening, usually having the lights on approximately one hour at each time. Whether lights are used in the morning only or during the morning and evening, they should not be kept on for a longer time than will give the laying stock from about 12 to 13 hours of working time. An excessive use of artificial lights is harmful, particularly in the case of breeding stock. Again, if lights are used in the evening a special dimming device is necessary so that when the bright lights are turned off enough light may still be left to allow the hens to see the roosts. Another method used by many poultry men is to use the lights for one hour during the night, frequently from 8 to 9 o'clock or from 9 to 10 o'clock. The birds

are fed at this time and thus get an extra feed every day. With this method a dimming system must also be used.

The outstanding advantage in the use of artificial lights in the laying houses is to increase feed consumption, which in turn gives rise to increased egg production. As stated previously, an excessive use of lights is to be avoided, but where they are used judiciously the layers can be kept in better physical condition than when lights are not used and egg production is increased at the time of year when it is of the greatest economic value.

The culling of laying flocks.—A study of the physiological changes incident to continuous egg production and the correlation of body characters with the ability to lay well has led to the system of culling laying hens. This practice has had a remarkable influence in the more successful management of thousands of flocks. Poultry men have unconsciously learned to study their birds individually, and the importance of selecting for any purpose whatever is more thoroughly appreciated.

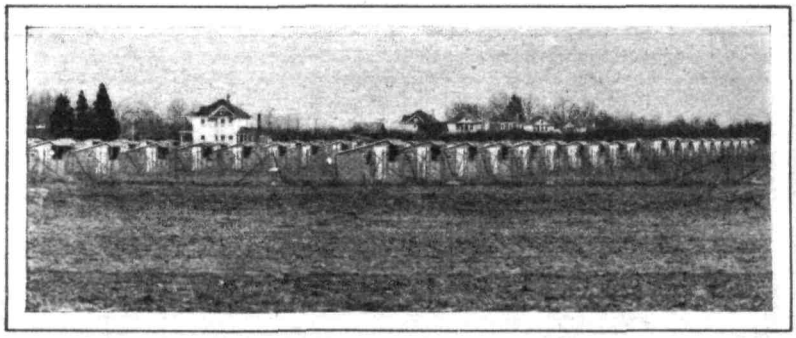


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selected flocks over which the hatchery operators exercise some control in respect to maintenance of breeding stock of certain quality only.

During recent years there has been widespread interest among hatchery operators and buyers of baby chicks in the adoption of a scheme to insure the production of chicks of the highest possible quality. From this there has grown a demand for official inspection and regulation of hatcheries and of flocks supplying eggs for their use. The system of official control in some States has developed through cooperation between hatchery operators and the State department of agriculture or poultry department or the poultry extension service of the State agricultural college or the State farm bureau, or all four of these organizations working together.

The fundamental features of the accredited hatchery system in the different States are essentially the same, only the more important of which need be mentioned. The flocks supplying eggs for the hatcheries must contain nothing but purebred birds, and the birds used as breeders must also be inspected by an authorized in-



FIG. 26.—Typical commercial poultry farm in the Northeastern States. This type of farm usually contains about 5 acres, which is entirely devoted to maintaining about 1,500 White Leghorn hens. The main product is market eggs

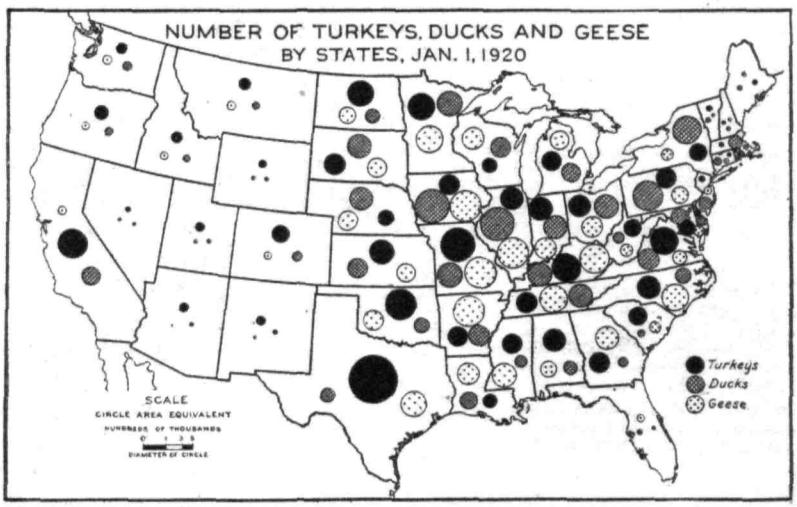
spector. Each bird must conform, in a reasonable degree, to the standard for the breed and variety set forth in the American Standard of Perfection. In addition to this every bird must be healthy and vigorous, and the female must conform, in a reasonable degree, to the best known standards for egg production. The hatcheries shall not use any eggs for hatching except those coming from inspected flocks. The incubators used by the hatcheries must be thoroughly disinfected after each hatch and every effort must be exerted by the hatchery operator to produce chicks of only the highest quality. The containers used for shipping chicks must be approved by an authorized inspector. Also, the hatchery operator is usually required to keep a specified set of records concerning the number and kind of eggs incubated as well as the number of chicks hatched, and other information concerning the sale and shipment of chicks. The chicks are usually sold under a State trademark which serves as a guarantee of the superior quality of the chicks. For the most part, the State-accredited hatchery schemes are self-supporting, fees and expenses being supported in part by

the hatchery operators themselves. The adoption of the hatchery system has meant a very great deal in respect to the improvement of the quality of chicks hatched sold during the past few years. The extent to which the accredited hatchery system becomes nation-wide in its scope, the greater will be the benefits to the baby-chick industry, which has already assumed enormous proportions to the poultry industry as a whole.

The Turkey Industry

Turkey raising in the United States has long been an important enterprise because of the large quantities of turkey meat consumed annually. Since there is always likely to be a keen demand for such a popular article of diet, it is desirable to encourage the raising of turkeys to meet this demand.

Turkey raising is a very adaptable enterprise, since these fowls are being raised in practically all parts of the United States. The



F G. 27.—Number of turkeys, ducks, and geese on farms as shown by the census of 1920

census of 1920, the latest figure available, shows the six leading States in production of turkeys to be Texas, Missouri, Oklahoma, California, Kentucky, and Virginia. An enormous number of small flocks are raised annually on grain farms, and there are also many large commercial flocks. Formerly large numbers were raised in New England, but in recent years there has been a decided decrease. There have been decreases in other parts of the country as well, and this has resulted in a marked decrease in the number raised in the country as a whole. According to the census of 1900, there were on farms in the United States 6,594,695 turkeys; in 1910 there were 3,688,708; and in 1920 there were 3,627,028. Although the census enumerations were taken at different times of the year, the totals are fairly representatives of the trend in numbers.

Several causes have been assigned for the decrease in the number raised. The rearing of the young stock, in some respects at least,

requires more detailed attention than is the case with most other classes of poultry. The prevalence of blackhead has been a dominant factor. The birds range widely and frequently trespass upon the property of neighbors, the vexation tending to discourage turkey raising. Finally, little attention has been given the more important problems of the industry by investigators and others interested.

On the other hand, there is opportunity for further development. Turkey raising is profitable, particularly where conditions are suitable and proper methods of management are followed. Turkeys can be raised successfully with very little equipment, so that the capital outlay in the enterprise is small. Except during the growing season, the management of the flock is a fairly simple matter. Of course, considerable care must be exercised in maintaining constitutional vigor in the breeding stock; the flock must be kept rela-

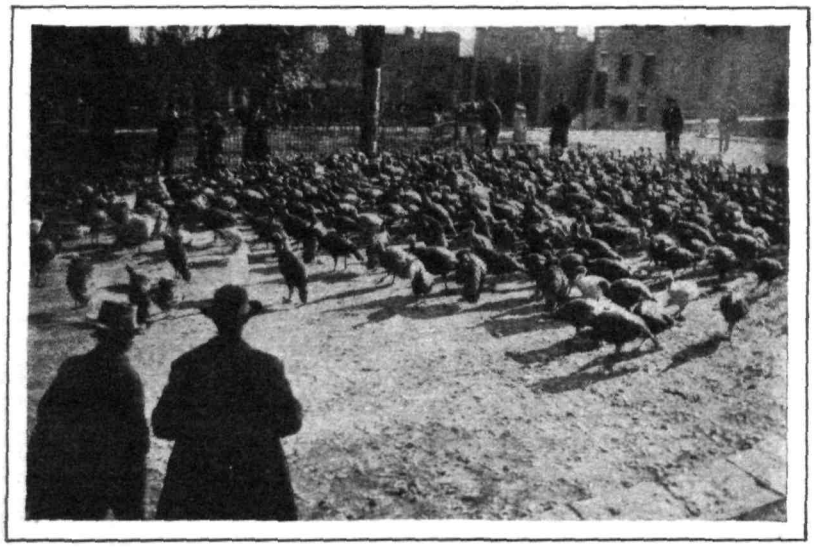


FIG. 28.—Turkeys are driven to market in some of the Southern States. This flock has been gathered from a large number of farms where turkeys are kept in small flocks

tively free from disease; and the soil, especially where the poults are fed, must be kept sanitary. But these factors can be dealt with when proper care is exercised. Moreover, turkeys are inclined to range freely, and in so doing they destroy many injurious insects and pick up much waste grain. This reduces the costs of raising and increases the profits. Prices for live and dressed turkeys have always been considerably higher than those for other classes of poultry.

The Goose Industry

Geese are raised successfully in all parts of the United States, but are most abundant in the Middle West and South. According to the census of 1920, there were reported 2,939,203 geese in the United States, a decrease from 4,431,980 reported in 1910. Illinois, with 195,769 geese, contained the greatest number, but Missouri,

Arkansas, and Iowa each nearly equaled this production. Following these States, but with a considerably smaller number of geese, came Kentucky, Tennessee, Minnesota, North Carolina, and Texas. The ascendency in the number of geese kept on farms has passed very largely from the South Central to the North Central States during the last 10 years. About one-tenth of the farms in the United States reported geese. Geese could be raised profitably on many more farms, because they are hardy, are the closest grazers known, and will get almost their entire living from a good pasture.

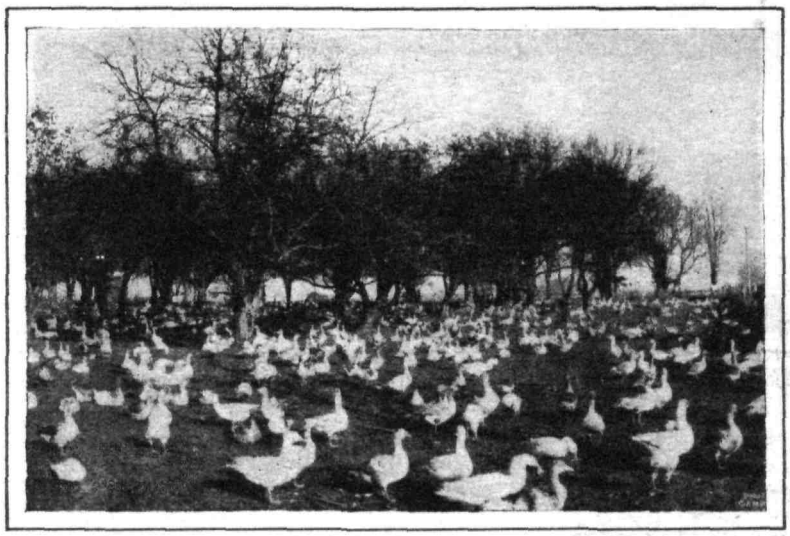


FIG. 29.—Flock of geese being fattened for the holiday market. These geese were collected from a wide area from general farms where the raising of geese is a side issue

The Duck Industry

According to the census of 1920 there were 2,817,624 ducks in the United States on January 1 of that year, valued at $3,373,966. This shows a slight decrease in numbers from the census of 1910, indicating that the production of ducks in the country as a whole is hardly holding its own. The decrease occurred in the Southern States, but several of the States in which ducks are raised on special duck farms showed an increase in the number of ducks kept. Massachusetts, California, and Colorado showed an increase of about 5 per cent. New York, which contains by far the greatest number of duck farms, located for the most part on Long Island, showed no change in the number of ducks, but as the number raised on commercial farms has undoubtedly increased materially in the last 10 years a decrease in the number of ducks on general farms must have occurred to offset this increase on duck farms. Ducks are most numerous in the following States, arranged according to their production: Iowa, Illinois, Pennsylvania, New York, Missouri, Minne-

sota, Tennessee, Ohio, South Dakota, Indiana, and Nebraska, the number ranging from about 235,000 head in Iowa to 100,000 in Nebraska.

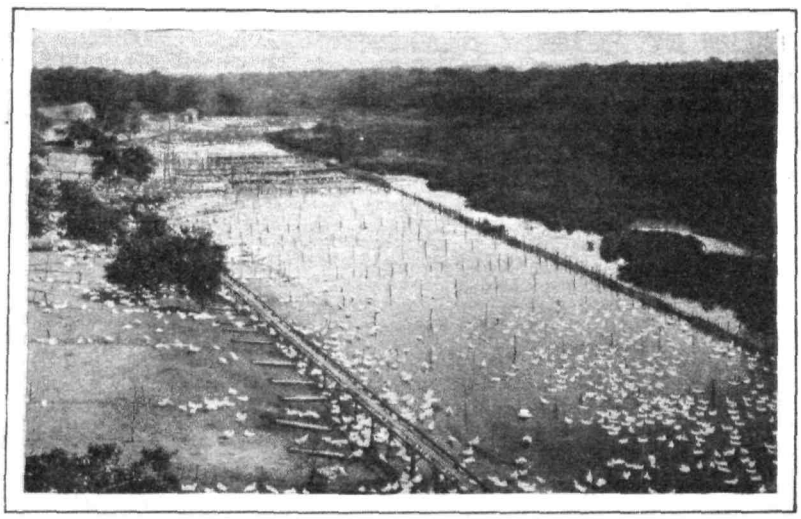


FIG. 30.—Duck farming on Long Island is one of the most highly specialized phases of the poultry industry. Many of these farms market from 50,000 to 100,000 ducks during the first six months of each year

The Guinea-Fowl Industry

The value of the guinea fowl as a substitute for game birds, such as grouse, partridge, quail, and pheasant, is becoming more and more recognized by those who are fond of this class of meat, and the demand for these fowls is increasing steadily. Many hotels and restaurants in the larger cities serve prime young guineas at banquets and club dinners as a special delicacy. When well cooked, guineas are attractive in appearance, although darker than common fowls, and the flesh of young birds is tender and of especially fine flavor, resembling that of wild game. Like all other fowl, old guineas are very likely to be tough and rather dry.

A few of the larger poultry raisers, particularly those who are within easy reach of the large eastern markets, make a practice of raising a hundred or so guineas each year; but the great majority of guineas are raised in small flocks of from 10 to 25 upon farms in the Middle West and in the South. Many farmers keep a pair or a trio of guineas more as a novelty than for profit, and from these a small flock is raised.

The total number of guinea fowl in this country is comparatively small, the number on farms in 1920, according to the census figures, being 2,410,421. This number is slightly less than the number of either ducks or geese, about two-thirds the number of turkeys, and a very small percentage of the number of chickens. The census figures show an increase of 36 per cent in the number of guinea fowl on

farms in 1920 over the number in 1910. Texas showed the largest number, followed by Pennsylvania, Georgia, Alabama, South Carolina, Illinois, Oklahoma, and Missouri.

The Pigeon Industry

Pigeons are kept in all parts of the United States, but most of the large squab-producing plants are found near the large cities in the Northeastern and Middle Western States and on the Pacific coast. Many pigeons are kept as a side issue on general farms in the Middle West and South, but their value is much less than those specially bred and fed for large squabs. Prolific pigeons that produce large squabs are confined in pens on most squab-producing plants; common pigeons, which are less prolific and produce smaller squabs of a poorer quality, are kept on the general farms and are usually allowed their freedom.

The demand for squabs, especially in large cities, is increasing. Squabs are often used to replace dressed game, which is decreasing in this country. The prices received for squabs are high enough to make squab raising return a fair profit wherever there is a good market. Most of the large successful pigeon farms make a business of selling breeding stock and are not devoted primarily to the production of squabs for meat.

The Game-Poultry Industry

In the United States the game-bird market has undergone a complete change within a generation. Formerly this market was as well supplied both in quantity and variety as any in the world, the game consisting entirely of wild birds. Now, after almost complete elimination for a period of years through legal restrictions, the game-bird market, although enormously decreased, is gradually growing. The birds marketed, however, except for certain imported species, are for the most part propagated in captivity.

Between 1870 and 1880 the passenger pigeon was shipped literally by the carload, and a single consignment of prairie chickens to a New York dealer weighed 20 tons. Wild ducks by the tens of thousands were poured into the game markets from all the important hunting grounds of the country. It gradually became evident that an increasing demand, easily catered to because of improved facilities for shipping and marketing, was rapidly depleting the wild stock. Conservation laws multiplied, sale was prohibited, and through a final enactment, the Federal migratory bird treaty act of 1918, the market for wild game birds in the United States was practically closed.

However, this law and also those of numerous States have provisions designed to permit and encourage artificial propagation of game birds and their marketing under restrictions intended to prevent drafts on the wild stock, such as our former experience proved to be incompatible with its maintenance. This legislation has developed unevenly, as is usually the case where the 48 States act independently on a given subject. No fewer than 28 States have fair to good laws on the subject, and at least 12 others have made a beginning. The problem is a difficult one, and game breeders

should realize that there is no disposition to hamper them; rather the almost universal desire is to encourage them so far as can be done without endangering our present standard of protection of wild game.

The propagation and sale of migratory waterfowl (that is wild ducks, geese, and swans) is legal under regulations issued by the Secretary of Agriculture; in 1922, 4,291 individuals obtained permits to possess, propagate, and sell birds of this class. These game breeders reared approximately 42,800 birds, of which about 12,200 were sold for propagating purposes (including those used for decoys), 10,100 for food, and 8,000 were eaten at home.

The breeding of nonmigratory game birds, such as pheasants and quail, is under State regulation, but statistics as to the extent of the industry are very unsatisfactory. State game departments in a number of instances rear and distribute many pheasants, but this activity can not be reckoned in estimating the commercial importance of the propagation of these birds. Definite totals can hardly be attempted with present knowledge of the subject, but the statement may be ventured that the 13,100 pheasants, exclusive of importations reported, sold for food in New York and New Jersey in 1922 exceeded those sold for such use in other States. The number sold for propagating and stocking purposes doubtless is far larger, but definite figures have been unobtainable. So far as individual propagators are concerned the data available would indicate that, while fewer are engaged in the culture of upland than of aquatic game birds, the numbers of these birds sold for propagation and for food are somewhat larger.

Under present conditions the market for artificially propagated game birds is mainly with others desiring to engage in rearing the birds and to sportsmen for decoys and for restocking shooting coverts. Prices realized from these sources are so high that only a limited demand exists for the birds for table use, mainly by the most luxurious hotels and clubs. So long as the demand for decoy, stocking, and propagating birds absorbs most of the output at fancy prices, it is not likely that production of birds for food will become much more important than it is at present. However, should the rearing of game birds continue to increase, prices would decrease and a more general market for the birds could be established.

By-Products and Their Uses

Feathers and manure are by-products of the poultry, pigeon, and game-poultry industries and have a commercial value of considerable importance.

Feathers

Feathers are a by-product of the poultry industry, except in the ostrich industry, which, however, is now limited to very few localities and is not extensive anywhere in the United States. Although feathers are a by-product, they are of considerable value and have extensive uses, especially in the manufacture of millinery specialties and in the making of pillows, cushions, mattresses, dusters, artificial flowers, and for other purposes. The value of feathers is affected by the class of birds producing them and by the color. Goose and duck

feathers are usually more valuable than chicken and turkey feathers, and white feathers always command a higher price than colored ones.

Manure

Poultry manure is a valuable by-product of the poultry industry. On many farms and on some commercial poultry plants the manure is returned directly to the land. In other cases it may be collected and sold either as a fertilizer or for tanning purposes. The use of chemicals for tanning, however, has greatly decreased the demand for poultry manure for this purpose. As a fertilizer poultry manure is especially valuable, as is indicated by its chemical composition—1.44 per cent nitrogen, 0.39 per cent potash, and 0.99 per cent phosphoric acid.

Poultry Diseases and Sanitation

Chickens, turkeys, ducks, geese, and pigeons are susceptible to many diseases, some of which are highly infectious and cause a high mortality. They may also harbor various kinds of parasites, some living on the surface of the body and others in the trachea, crop, stomach, intestine, or air sacs.

The contagious diseases which are caused by microorganisms and the weakness and loss of flesh and egg production caused by the larger parasites are the most important conditions which the poultryman has to consider in the endeavor to keep his birds healthy.

The course, lesions, and results of disease in birds naturally correspond with those observed in other animals, but present some variations. Birds as a rule do not show any marked resistance to the more infectious diseases to which they are susceptible, as a large percentage or practically the entire flock may become infected upon exposure. Their ability to recover from a virulent disease is also limited, and the mortality is usually high.

It is unfortunate that there is no satisfactory way of estimating the economic loss from disease in poultry. Were it possible to show by figures the annual cost to the poultry industry of losses through death, impaired vitality, decrease in egg production and in egg fertility as a result of disease, the total would undoubtedly be surprisingly large. Since there are no available statistics on poultry losses due to disease in general, or to any one specific disease, statements as to the economic phase of the subject can only be made in the most general way.

Those who are engaged in poultry-disease investigations, and no doubt those who are engaged with other poultry problems over a large field, realize that diseases of various kinds are extremely common in domesticated birds and that the losses sustained are very great. Although the value of an individual fowl is comparatively small, the tendency of infectious diseases to destroy a large portion of the flock, or cause a marked decrease in egg production, makes the total monetary loss a considerable item and often means failure to the man who is making poultry raising a business.

Among the most important infectious poultry diseases in the United States are bacillary white diarrhea of baby chicks, Bacterium pullorum infection of the egg organs in hens, coccidiosis of all the

domesticated birds and particularly of growing chickens and pigeons, tuberculosis, roup, chicken pox, fowl typhoid, cholera-like diseases, and blackhead of turkeys. All of these diseases occur annually throughout the country, are highly fatal, and are of the greatest economic importance both as a result of the high mortality in infected flocks and the decrease in egg production which they cause.

There are numerous minor infectious and noninfectious diseases of poultry, the aggregate annual loss from which is undoubtedly large, but these luckily do not involve so high a percentage of individuals in the flocks attacked or prove so fatal as the group previously mentioned.

The control of disease in poultry presents problems of a character somewhat different from the control of disease in other domesticated animals, owing to several causes: (1) Because of the close association of fowls in flocks, an infectious disease which gains entrance to the premises is likely to spread rapidly and affect many birds by the time symptoms become apparent to the owner; (2) fowls seem to show less resistance to their natural diseases than do other animals to theirs, and the percentage of affected ones which recover in severe outbreaks is less than is the case in outbreak of disease among larger animals; (3) the same care or nursing can not well be given to fowls that is part of the routine procedure in dealing with other animals; (4) the value of the average fowl does not warrant the time consumed and the cost of treating each one separately, hence individual treatment is not practicable in cases where a large number of birds are affected and measures must be adopted which will do the greatest good through treating the flock as a whole.

The control of poultry diseases must be governed to a large extent by the specific nature of each disease and its avenue of entrance to the flock. Measures which look toward prevention of disease are of the first importance, and if these were generally adopted and conscientiously followed by poultry raisers several of the more important diseases could be checked materially or practically controlled. For instance, bacillary white diarrhea of baby chicks, which results primarily from ovarian infection in hens, could be eradicated if flocks which harbor the causative germ were not used for breeding purposes. Other diseases could be prevented by safeguarding against their entrance to the flock.

Sanitation plays an important part in the control and prevention of infectious poultry diseases. Some of the most serious diseases are not influenced by any known method of treatment, and the only hope of stopping an outbreak of disease or lessening the number of its victims is by instituting sanitary measures including frequent cleaning and disinfection of the chicken houses, isolation of the sick, and sterilization of the drinking water by means of an appropriate antiseptic.

Parasites

Most fowls harbor parasites, and no doubt are affected to a greater or less extent by them, depending upon the degree of infestation. Economically, however, the parasitic troubles are relatively of minor importance, as compared with the infectious diseases. At least seven

different species of lice occur on chickens, and still other forms occur on other poultry. Of the many kinds of mites affecting poultry the three most important are the red mites which feed on the birds at night, the depluming-scabies mite, and the scaly-leg mite. Ticks do considerable damage to chickens in the Southwestern States. It is possible and practicable to keep a flock of poultry free from all external parasites, and this should be the aim of every one who is endeavoring to establish a successful poultry industry.

The principal internal parasites are the gapeworm which attaches itself to the internal surface of the windipe of the young chicken and at times is responsible for heavy losses, the roundworms of the intestine, and the tapeworm. Most chickens are infested with one or more species of parasitic worms. These worms may be present in small numbers and may do no apparent damage. If, however, the birds are kept under conditions favoring the spread and multiplication of the parasites (for example, overcrowding in small pens), the fowls may become heavily infested, and in consequence they may be weak, unthrifty, emaciated, and unproductive. In connection with the use of treatments, preventive measures along the lines of cleanliness and sanitation should be used to keep internal parasites under control.

Marketing Poultry Products

The marketing of poultry products is a highly specialized business which has become of great commercial magnitude. During 1923, more than 16½ million cases of 30 dozen eggs each were required to supply New York, Chicago, Philadelphia, Boston, and San Francisco alone. During this same period there were shipped to these cities over 340,000,000 pounds of dressed poultry. The average

RECEIPTS AND NET COLD-STORAGE MOVEMENT OF EGGS IN FIVE MARKETS, 1923

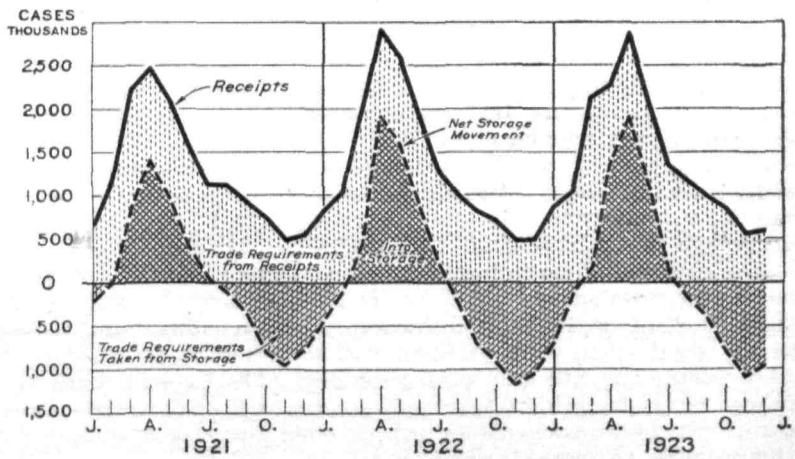


FIG. 31.—The line labeled "Net storage movement" shows the net quantity of eggs placed in cold storage or taken out of storage in the five markets each month. When it is above the zero line, it indicates the quantity placed in storage; when it is below the zero line, it indicates the quantity taken out of storage for trade use. The shaded area between the two lines therefore shows the quantity of eggs absorbed by current consumptive demand

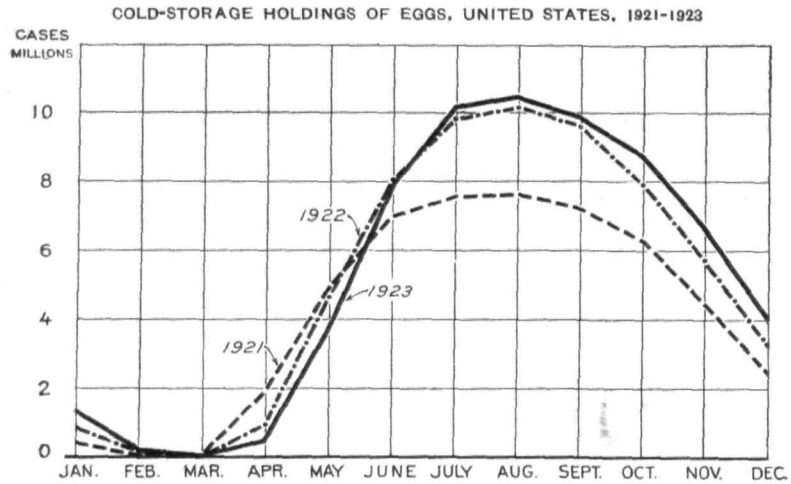


FIG. 32.—Cold-storage holdings of eggs in the shell are practically at zero point March 1 of each year and reach their peak about August 1, from which they decline until they reach their low point again on March 1

daily requirements of the district served from New York City were over half a million dozen eggs, about 450,000 pounds of dressed poultry, and nearly 35 carloads of live poultry. These products must be gathered from the farms where they are produced, concentrated for shipment, graded, packed, transported, perhaps placed in cold storage and distributed through the jobbing trade to the retailers before they finally get into the hands of the consumers. Each step in the marketing process requires labor, money investment, skill, specialized knowledge, and risk. All these costs and processes, coupled with the great distances which most poultry products must travel when marketed in commercial quantities, necessitates the saving of time in handling and the prevention of waste and loss in so far as possible. In consequence the various marketing functions have been divided to a large extent and are performed by different groups, and specialization in each of them naturally has taken place to a marked degree.

The production of poultry and eggs is not uniform but fluctuates greatly with the season. Spring is the natural season of reproduction for all poultry and in spite of changes and improvements in management designed to shift a part of the production to other seasons, the spring and early summer will continue to be the seasons of greatest egg production. (See fig. 21.) They are also the seasons during which the great bulk of chickens must be hatched and reared, with the result that most of them will continue to go forward to market during the fall and winter seasons. The present marketing practices which have been developed to cope with this seasonal production will therefore continue to be needed and to add complexity to the problem of successful marketing.

Both eggs and dressed poultry are highly perishable products. Unless they are marketed promptly after they are produced or are handled under conditions which are suitable for preserving their

quality, they will deteriorate very rapidly and eventually spoil. Since spoilage means loss and deterioration means a lessened value, methods of handling, processing, grading, and transporting have been devised to prevent this, and this again has increased the tendency toward specialization and complication of the marketing process.

There is a wide variation in the quality of poultry products as they enter the channels of trade. A part of this is due to natural differences in the original product. A part is caused by deterioration that has occurred after production and which may be due either to poor handling or to delay in marketing. With this variation in quality existing, it is usual to examine these products at one or more points during the journey to market and to sort or grade them according to quality if they are to be placed in the consumptive channels best suited to them and if the best prices are to be realized for them. Such sorting or grading, although necessary, introduces additional processes in the system of marketing.

Methods of Handling Eggs from the Farm to the Consumer

The channels of trade through which eggs reach the terminal markets are too numerous and too varied to attempt to describe them all in detail. In a broad way these channels may be divided into those in which the eggs are shipped by the producer direct to the terminal market and those in which the eggs pass through a concentration point after they leave the hands of the producer, there to be combined with other similar lots for shipment to the terminal market.

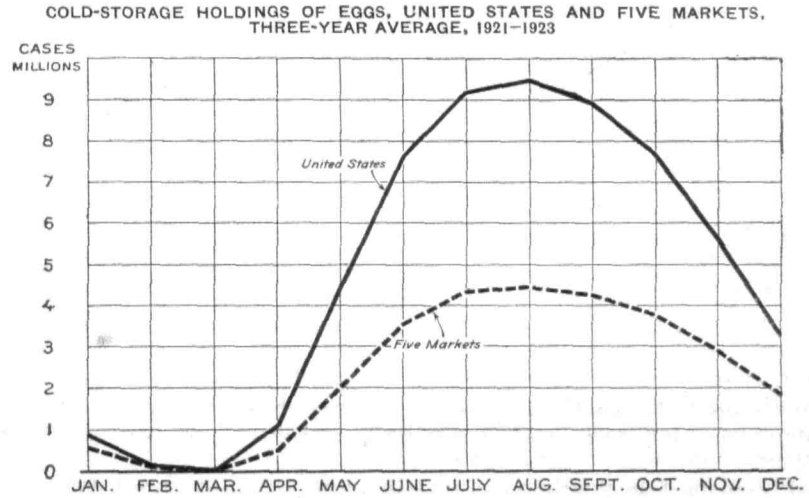


FIG. 33.—On April 1 the holdings of storage eggs in the five markets constitute about 44 per cent of the holdings of the entire United States. The proportion in the five markets increased slightly until it was over 46 per cent on August 1, the time at which the holdings were greatest. As the eggs were drawn out of storage the proportion gradually increased still further, owing to the more rapid rate of withdrawal from storages outside of the five markets, until it amounted to more than 66 per cent on February 1

Among the channels followed by shipments made direct from producers to terminal markets may be mentioned producer to consumer, producer to retailer, restaurant, etc., and producer to city jobber or wholesale receiver.

Producer to consumer.—This channel is utilized principally by those producers who live in fairly close proximity to the terminal market or who are within easy shipping distance. The establishment of a city route by the producer which he serves regularly on certain days is one means of securing the necessary contact with the consumer. This form of producer-to-consumer selling is, of course, limited by the necessity of a suitable location but is one which is undergoing development in favorable localities at the present time. This method of marketing requires more time and effort but should result in better prices than can be secured through most other methods.

Another means of establishing direct trade between the producer and consumer is a modification of the above where the producer on

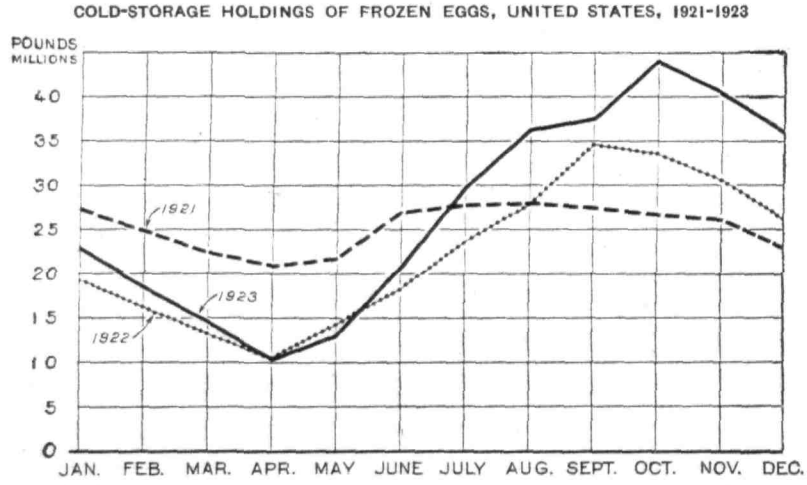


FIG. 34.—The cold-storage holdings of frozen eggs show a general tendency to increase after the flush egg-producing months of spring, reaching their highest point about September, after which there is a gradual decrease until the following spring. The quantity of frozen eggs in storage is much smaller and varies within narrower limits than the holdings of shell eggs. The movement of frozen eggs out of storage differs from that of shell eggs in not being reduced to the zero point and then built up again with entirely new supplies. Frozen eggs can be held over from one season to another, whereas it is not feasible to do so with shell eggs

certain days takes his eggs to the city and disposes of them at the public market. In this manner it is possible to establish a regular clientele which seeks out the producer at the market instead of the producer going to the consumer's door.

Parcel post is another channel through which a direct trade between producer and consumer is carried on. Because the postal charges increase with distance, most parcel-post trading is limited between points within the second zone. Shipments are usually made

at regular prearranged intervals and several dozen sent at a time to reduce the shipping cost per dozen.

Where producers live on well-traveled automobile roads, a considerable quantity of eggs is sold at the farmers' doors. Many city dwellers who own automobiles form the habit of motoring to the farm of some producer for their eggs either because they can secure a product of superior quality or because they can often purchase more cheaply there, quality considered, than they can in the city.

In any system of direct dealing in poultry products between the producer and the consumer it is essential that the quality of the product be given careful consideration. Consumers buy from producers partly because they expect to get a fresher, better product. If their trade is to be held, it is of the utmost importance that their confidence and expectations are not disappointed.

Producer to retailer.—A fairly common outlet for eggs is the shipment by the producer to a retailer, hotel, restaurant, soda fountain, or hospital in the city. Often this furnishes a most advan-

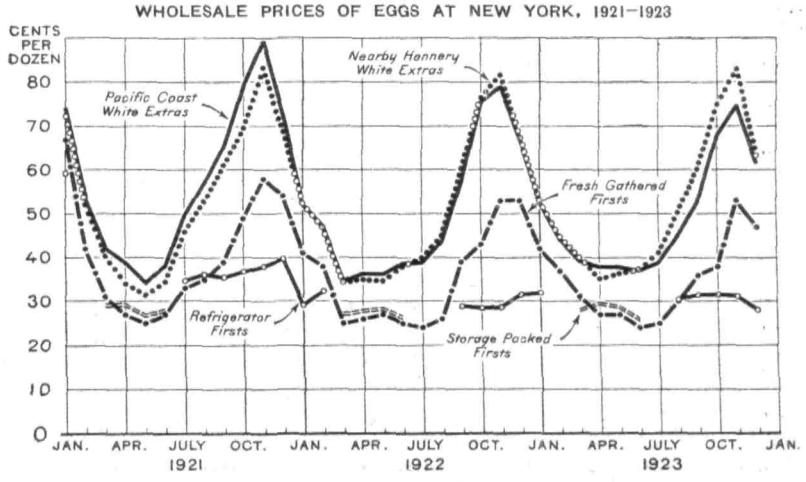


FIG. 35.—The prices of Pacific Coast White Extras and nearby Hennery White Extras show a very close agreement because of their high quality and the demand which exists for the product of such quality. The slightly higher price of the Pacific coast eggs in 1921 was doubtless due to the closer grading and greater uniformity of the eggs and the better packing. Since a quotation has been established on the New York market for New Jersey eggs as packed by the Producers' Cooperative Association of that State, the price of this grade has averaged higher than the Pacific coast eggs. Fresh Gathered Firsts, which are mainly eggs from the Middle West, exhibit the same general price tendency but range considerably lower, the difference in price being greater during the summer and fall than during the spring. The greater price spread during the former season is due to the greater difference in quality during the heated season and also to the fact that the users of this grade turn to storage eggs to a considerable extent when prices become high, which lessens the demand and tends to hold the prices lower. Storage Packed Firsts run several cents higher than Fresh Gathered Firsts, owing to the more careful grading and better packing which are essential in eggs to be placed in storage. Refrigerator Firsts, which are the Storage Packed Firsts as they come out of storage, show a price level several cents higher than the latter, an increase which normally represents carrying charges and profit. The tendency is for the price of Refrigerator Firsts to rise during the fall and winter with that of Fresh Gathered Firsts, but not to the same extent

tageous market, the price frequently being agreed upon in advance either at a flat rate throughout the year or at a stated advance above the wholesale market price of eggs of a certain grade. One of the difficulties in the way of this system of marketing is that production must ordinarily be sufficient in amount to allow fairly frequent shipments in case lots and also that this class of trade frequently insists upon a specified quantity delivery each week throughout the year. To furnish this quantity at the season of low production requires a flock of such size that there will be a considerable surplus during the rest of the year which must be disposed of in some other way. In this outlet quality is again a question of paramount importance if the customers are to remain satisfied.

Producer to city jobber or wholesaler.—Undoubtedly most eggs shipped by producers to the terminal market are sent to jobbers or wholesale receivers. Eggs handled in this way are shipped largely by express from all sections within a reasonable distance of the market. It is this outlet which is used by producers who desire to make their own shipments to market but who do not wish to give the time and necessary effort to take advantage of any of the other channels to terminal market outlets previously described. Among the agencies handling eggs which reach their market through a concentration point may be mentioned the country store, the huckster, the local buyer, the poultry and egg-packing house, the creamery, and the cooperative association.

The country store.—In general farming sections at a considerable distance from the large consuming markets it has long been the custom for country stores to handle the eggs of their farmer customers. This has been done largely as a convenience to the store's patrons and because it attracted trade, rather than through a desire on the part of the storekeeper to engage in the egg business. The eggs are taken in either for cash or in trade, usually the latter. They are commonly purchased on a case-count basis—that is, a flat price per dozen without regard to the quality of the eggs or even whether they are good or bad. Such a system means, of course, that an average price is paid for all qualities and that the price of good eggs is enough lower than it should be to cover the loss on the poor eggs. Under such a system, where quality receives no recognition, there is no incentive to produce a good article. The country store has undoubtedly been one of the greatest factors in encouraging careless and dilatory handling of eggs and is responsible for a great deal of the deterioration and loss which occurs. Because the store usually has no facilities for holding the eggs, further deterioration in their quality is likely to occur before they are shipped. When the storekeeper gets a sufficient number of eggs on hand to make it worth while, or when he finds it convenient to do so, he ships them to an egg packer or buyer.

The huckster.—The huckster makes a business of going through the country with a wagon or automobile truck buying eggs at the farms or from storekeepers. He may be working independently, or he may be an agent of the egg packer. In former years hucksters used wagons altogether and frequently made trips of several days or a week's duration. Under these conditions the eggs suffered severe deterioration in quality. At present most hucksters use auto-

mobile trucks and bring in each night the eggs which they have gathered during the day. With proper protection of the eggs from the sun and rain and from jolting or rough handling and with routes established which are covered regularly and frequently, eggs of very good quality are secured by this system.

The local buyer.—In many small towns egg buyers are located. These men may be in business for themselves or may be buying for an egg packer. Their egg business, unlike that of many country stores, is on a cash basis, and they are more likely to buy on a loss-off basis—that is, to throw out and refuse to buy any bad eggs or to offer the seller his choice of a case-count or loss-off basis with a higher price named if he agrees to the latter. In some localities or States these buyers operate on a quality basis—that is, they divide the marketable eggs into two or more grades and graduate the rate of payment according to the quality of the eggs. Too often these buyers are inadequately equipped with proper facilities for handling the eggs without deterioration, but since they follow this as a business they are more likely to ship promptly and therefore avoid much of the loss and deterioration which the storekeeper incurs.

The poultry and egg packer.—The poultry and egg packer constitutes the principal concentrating agency of the great poultry



FIG. 36.—By proper handling and careful grading the cooperative marketing associations composed of Pacific coast producers have been able to standardize the quality of their eggs and to establish an outlet for them on the New York market, where the high-grade demand is for eggs of the kind produced on the Pacific coast. The prices obtained are sufficiently above the San Francisco market to pay the cost of shipment across the country and still yield a profit

and egg producing section of the Middle West. Receiving shipments from producers, storekeepers, hucksters, and local buyers, the packer grades and combines these lots and ships them forward to the final market in large lots, usually straight car lots of eggs or dressed poultry or car lots of eggs and dressed poultry mixed. The up-to-date packer has an establishment equipped with chill rooms for holding eggs under proper temperature conditions, and appre-

ciates the necessity for chilling and handling the eggs promptly. In consequence deterioration is largely checked or much slowed down after the eggs reach the packer's hands. Shipments of eggs by the packer generally go to the city wholesale dealer or to the cold-storage warehouse.

The creamery.—In some sections of the country creameries make a busines of handling the eggs brought in by their patrons. This is more especially true of cooperative creameries. Because the creamery often has chill-room facilities which it can utilize for the eggs, because the patrons are more likely to deliver their eggs frequently and therefore in a fresh condition, since they must deliver their milk or cream at regular and frequent intervals, and because

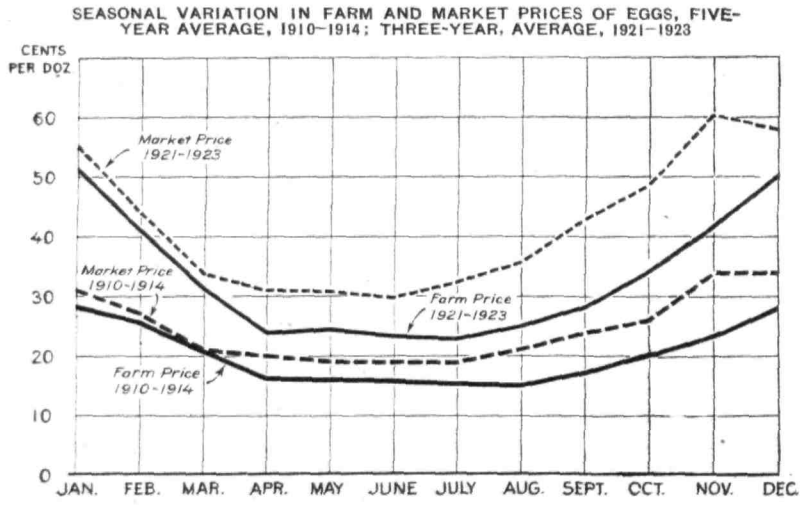


FIG. 37.—The farm price of eggs shown is an average of the prices received by producers in the States of Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, and Nebraska. The New York price is the wholesale price of Fresh Gathered Firsts, a large part of which comes from the States named. The farm and market prices are very close together during the late winter and early spring, and gradually separate during the summer and fall until November, when they are farthest apart. This increase spread is doubtless due to the greater deterioration which occurs during the heated portion of the year and to the tendency of producers to hold eggs in the fall on a rising market. As a consequence, the quality of the farm eggs approximates less closely the quality purchased on the terminal market, so that the losses in candling and grading are greater and must be covered by the difference in the buying and wholesale prices

the outlets for butter and eggs are generally closely related, the creamery is a logical agency for handling the eggs of a community. Shipments of the eggs received, like those of the butter made, usually go to a city wholesale receiver.

The cooperative association.—In some sections, particularly where egg farming is highly developed, egg producers have banded themselves together into cooperative associations which act as the marketing agencies for their members. In some cases these associations undertake only the concentration, grading, and shipping of the eggs, placing the terminal market distribution in the hands of private agencies already established; in other cases the distributing

functions of the terminal market wholesale dealer and, to a less extent, those of the jobber are assumed by the association. Interest in the development of cooperative egg-marketing associations is widespread at the present time, and they are becoming an increasingly important factor in the marketing of eggs.

Methods of Handling Poultry from Farm to Consumer

Live poultry.—A very large part of the poultry marketed leaves the hands of the producers alive, largely because producers have not the proper facilities for dressing and they are not skilled in the

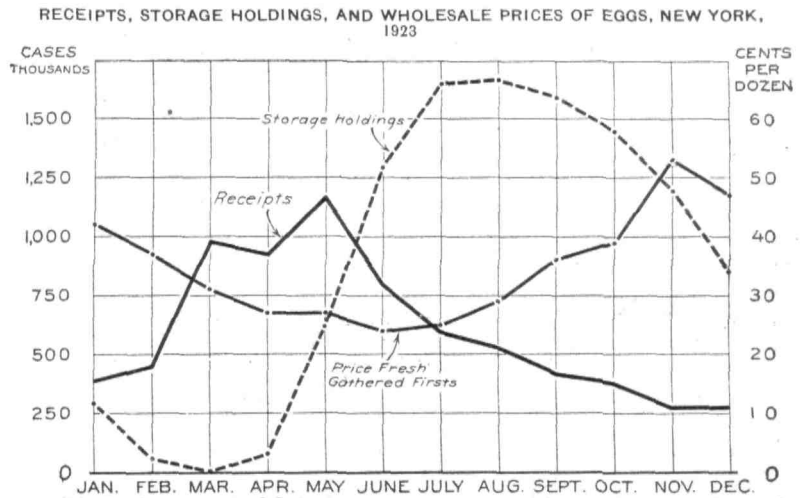


FIG. 38.—The excess of receipts during the season of flush production depresses prices until they reach a point where it pays to place eggs in cold storage and hold them for the period of scarcity, when prices are higher. Consequently storage holdings accumulate during the season of flush receipts and low prices and are drawn upon for use during the season of light receipts and higher prices. *If production and receipts were uniform throughout the year, the price also would* remain more nearly uniform and there would be little need to hold eggs in cold storage

operation. It usually pays them best, therefore, to sell alive and to allow other agencies to dress such of the poultry as conditions require.

The producer usually ships live poultry to the city wholsale receiver or sells to a local buyer or to a poultry packer. His location with respect to market influences his choice of an outlet. If within easy shipping distance of a good market, he usually ships there. If more remote from market, he sells to the local buyer or ships to the poultry packer or car-lot shipper. The car-lot shipper of live poultry concentrates the small shipments from producers and local buyers and forwards them to market in car lots. The poultry packer also often ships car lots of live birds when market conditions are more suitable for shipment alive than dressed or when the volume of receipts is greater than he can fatten and dress out. The demand for live fowl at the time of the Jewish holidays of the spring and fall is an important factor in drawing heavy shipments at that time.

Shipments of small lots of live poultry are made either by express, freight, or automobile truck in coops covered with wooden slats, rods, or wire netting. Shipments in car lots by freight may be made in ordinary stock cars by piling the coops along each side of the car. Special cars for shipment of live poultry are in common use. These have 128 compartments, 64 on each side of the car, built in tiers extending from the floor to the roof. The outside of the car is covered with wire netting to provide good ventilation. A small space at the center of the car accomodates a supply of feed and the attendant who must accompany the shipment to feed and water the birds while en route. Such a car has a capacity of about 4,600 chickens, from 2,000 to 2,400 geese and from 1,200 to 1,500 turkeys.

Dressed poultry.—As previously stated, most poultry is marketed alive by the producers. Some is dressed and shipped to market when the distance is not too great, but there is always the risk of spoilage in addition to the added trouble of dressing. Certain specialized types of poultry farms, such as the duck farms of Long Island, make a practice of dressing most of their output and shipping it iced in barrels. But the greater part of the dressed poultry received at the large eastern markets comes from the Middle West and is dressed and shipped by the large number of poultry-packing establishments located there.

The poultry packing house's supply of live poultry reaches it by wagon or automobile truck, by express, or by freight either direct from the producer or from the local poultry buyer. Many of these establishments have a feeding station in connection with them where much of the young stock which is received in a rather thin condition is fattened for a period of 10 days to two weeks and where many of the hens are also fed for a few days to improve their condition and color. Other establishments dress out the poultry received without preliminary feeding. Most of the poultry is dressed during the late summer, fall, and early winter months.

When ready for dressing, a bird is taken in hand by an expert killer and picker, bled by cutting the veins in the throat, struck to loosen the feathers by running the point of the knife into the brain, and is then rough picked, that is, the bulk of the feathers removed rapidly. The bird is next turned over to a pinner, often a woman, who finishes the plucking by removing all the pinfeathers and any other feathers left on the carcass by the rougher. The head is then wrapped in paper and the carcass is hung or laid on a cooling rack. As soon as a rack is filled, it is run into a chill room which is maintained at a temperature of 30° to 32° F. and left there for about 24 hours. At the end of this time the body heat will have been entirely removed from the carcasses, a step essential to good keeping quality, and they will be ready for grading and packing. The method of picking described is called "dry picking," and birds so picked are preferred in most markets because of their better appearance. Dry-picked birds also keep better in cold storage than scalded birds. Some poultry is scalded, but this is mostly stock of the lower grades or else is stock intended for markets which show no preference for dry-picked poultry.

As soon as the dressed poultry is thoroughly chilled it is graded by class, quality, and weight and packed for shipment. At present

most dressed poultry is box packed. Each box holds 12 carcasses, which may be packed in a single layer with the breasts up, in a double layer with the sides up, or in other styles, depending upon the class of the poultry and market requirements or the individual requirements of the packer. Some poultry is also packed in barrels. The barrel pack is used mostly, however, for lower-grade stock, such as old cocks. As soon as packed the boxes or barrels, if they are to be shipped soon, are placed in a chill room where the temperature is about 30° to 32° F. and held there until they are loaded into the car for shipment. If the packages are to be held for some time before they are shipped, they are placed in a sharp freezer where the temperature is from 5° F. to −10° F. and frozen solid. They are then removed to a room where the temperature is about

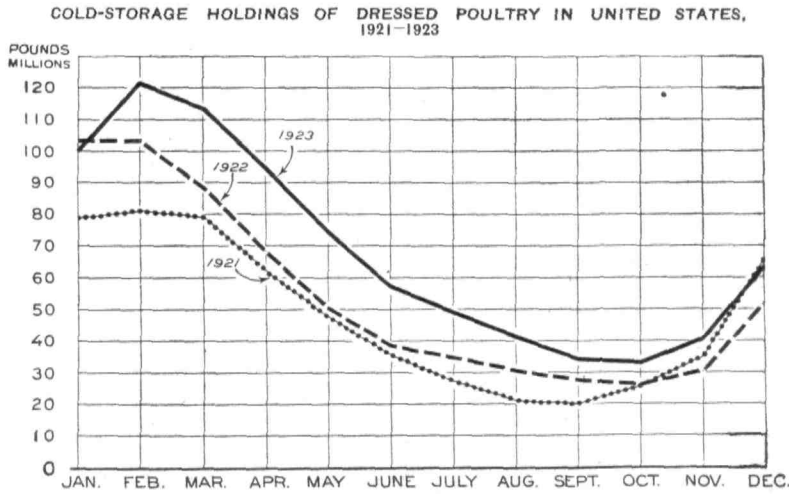


FIG. 39.—Because the quantity of poultry which arrives on the markets in the fall and winter months is in excess of the immediate market demands, the surplus is placed in cold storage and held until the season of shortage, which occurs during the late winter, spring, and summer months. With storage an adequate supply of all classes is available throughout the year. Although the greatest average quantity of poultry in storage at one time during any year appears large, approximately 100,000,000 pounds, this is less than 1 pound for each person in the United States

10° F. for further holding. Poultry packed and handled in this way without ice is called dry-packed poultry, as distinguished from poultry packed in ice.

Dressed poultry is shipped to market either in straight car lots, which is preferable, or in mixed car lots with some other perishable product, such as eggs or butter. Refrigerator cars must be used. The car is usually iced with a mixture of crushed ice and about 10 per cent salt in order to secure a temperature sufficiently low to insure the poultry carrying in good condition. If eggs and dressed poultry must be shipped in the same car, the packages of poultry should be placed next to the ice bunkers and along the floor of the car where the lowest temperatures occur, the eggs being placed near the center and toward the top of the load. Reversal of these positions is likely to result in damage to the eggs from freezing and may not carry the poultry in the best condition.

Where refrigerator-car service is not available, where the quantity of dressed poultry to be shipped is comparatively small, or where the distance to market is short, ice packing is sometimes used. The dressed poultry after thorough chilling, which is often accomplished in ice water or cold running water, is packed in barrels in layers, alternating each layer of poultry with a layer of cracked ice, while on top of the barrel is heaped a generous header of ice. Carcasses are sometimes packed with their backs against the barrel, with the feet and legs toward the center, and the hollow space at the center filled with a core of cracked ice. Dry packing, under most conditions, is superior to ice packing. Small lots of dressed poultry, especially when shipped by producers, is often sent to market by express without icing when the haul is short and the weather cool. In hot weather, however, the poultry should be iced.

Market Distribution of Poultry Products

The typical agencies of distribution in the larger markets consist of wholesale dealers or receivers, jobbers, and retailers. In general, the wholesale dealers receive their supplies of poultry and eggs from shippers, usually in comparatively large lots. These they distribute to the jobbers and to large users such as chain-store organizations. The jobbers, in turn, distribute their supplies to the retailers and may do some grading to meet the needs of the particular retailers which they serve. Jobbers usually operate a delivery service. When the products reach the hands of the retailers they are, in turn, sold to consumers, either in the jobbing grades as received or after a still more refined grading on the part of the retailers.

The functions of these various dealers are not always clearly separated. The wholesale dealer may do some jobbing business, whereas the jobber may act as a receiver to some extent. In the smaller markets in particular there is a tendency for the services of the wholesale dealer and the jobber to be combined in the same hands. The various classes of dealers may operate in eggs or dressed poultry alone or in both. Most dealers in live poultry confine their operations to that line, although this business is sometimes combined with dressed poultry and less often with eggs as well.

Cold Storage of Poultry Products

Cold stroage of dressed poultry and of eggs plays an important part in the marketing of these products. The production of eggs is decidedly seasonal in character. During the spring and early summer months production is at its height and the quantity available for market is far in excess of the consumptive demand at that time. In the fall and winter months, on the contrary, the marketable surplus of eggs of current production is far below the demand for consumption. Before the advent of cold storage of eggs there was no efficient means of holding over commercially the surplus crop of the season of flush production to the season of scarcity. In consequence the prices of eggs were very low during the spring and summer, often being so low that it did not pay to gather and market

the eggs. In the fall and winter, on the other hand, the prices shot up very high relatively, but even at such prices eggs were not available for free use by the majority of the population.

With the advent and commercial development of cold storage this condition changed. The surplus egg crop of the season of flush production is now placed in cold storage and held in a wholesome condition until the period of scarcity, when it is drawn upon to supplement the inadequate supply of fresh-laid eggs produced at that time. Owing to the demand for eggs for storage in the spring, the prices of eggs, while still at or near the lowest point of the year during this period, are kept from sinking to the ruinously low levels previously reached. Similarly, the available supply in the warehouses during the fall and winter, although it does not interfere with the sale of high-class fresh eggs at highly satisfactory prices, furnishes eggs at a moderate price to the great majority of consumers who otherwise would be able to use eggs only to a limited extent, if at all. The maintenance of the price of eggs at a level in the spring, which is profitable to the producer, is of far greater importance to the average farmer than extremely high prices in the fall, because most of the eggs available for market are produced during the former season. (See figs. 37 and 38.)

Therefore the cold storage of eggs acts as a market stabilizer in two respects: (1) As a stabilizer of price, modifying extremes in either direction, and (2) as a stabilizer of market supply, making eggs an article of food available to all throughout the year. The maximum holding of eggs in cold storage in the United States in 1923 amounted approximately to 315,000,000 dozen, or about 14 per cent of the total estimated farm production for the year, and occurred about August 1. (See figs 32 and 33.)

The movement of eggs into storage normally begins in a comparatively small way in March, proceeds at a rapidly accelerated rate during April and May, slackens perceptibly during June, and is concluded with a comparatively small movement into storage during July, the high point in storage holdings being reached about August 1. (See figs. 32 and 33.) The movement of eggs out of storage normally begins slowly in August, becomes more rapid in September and October, reaches its most rapid rate during November and December, and then gradually tapers off until the storage warehouses are practically emptied by March 1. Contrary to the opinion commonly held, eggs are not carried from one storage season into another, for the reason that eggs will not keep sufficiently well during such a long period of storage and also because the storage charges would make such a practice unprofitable. Another fact, often misunderstood, is that the companies operating the storage warehouses seldom own any of the eggs which they are holding. These eggs, are owned by shippers, by speculators, by receivers or dealers, or by companies which have outlets for the eggs in connection with their regular trade. The business of the warehouse companies is to rent to the owners of these eggs the space in which to store them and also to a considerable extent to advance money on the eggs held.

The laws of many States define as cold storage all eggs which have been held at a temperature of 40° F. or less for 30 days or more,

not counting refrigeration in transit, and require them to be sold only as cold-storage eggs. Such laws often provide that the egg cases must be marked with the date on which they were placed in storage and with the date they were taken out, and place a limit on the length of time eggs can be held in cold storage and be sold for human consumption.

Eggs produced in April are commonly considered to be the best storage eggs. This is because they are produced and traverse the various market channels to the storage warehouse during a period when the weather is still cool and favorable. As a result they go into storage in better condition than eggs produced during later warm weather, and they very naturally come out in better condition at the end of the storage period. Eggs for storage are carefully graded

COLD-STORAGE HOLDINGS OF VARIOUS CLASSES OF DRESSED POULTRY, UNITED STATES, THREE-YEAR AVERAGE, 1921–1923

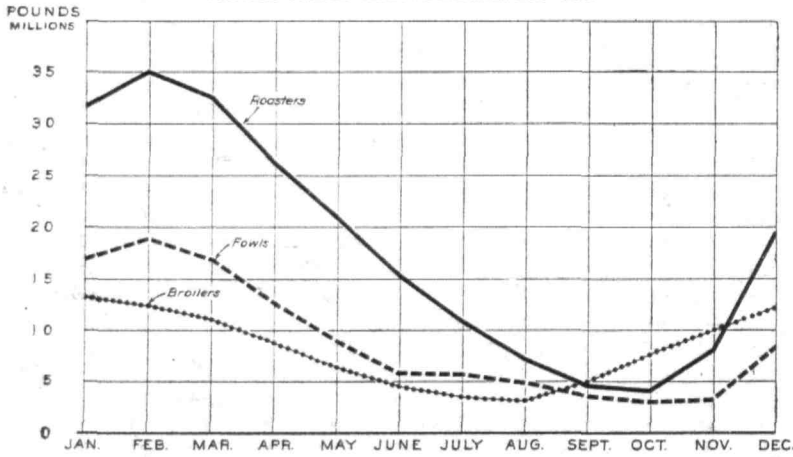


FIG. 40.—Roasters form the largest class of dressed poultry held in cold storage, followed in order by fowl, broilers, and turkeys. Owing to their younger age when ready for market, the holdings of broilers in storage begin to increase earlier in the fall than do the other classes. Fowls are marketed to some extend throughout the year, but roasters reach the market during a limited season only. This means that there is a greater excess of roasters over immediate consumptive needs than there is of fowl, which results in the accumulation of greater storage holdings of the former

and are packed in new cases, fillers, and packing material. Eggs so packed are called "storage-packed" eggs. Eggs for storage should be of good quality and should contain no dirty, cracked, or washed eggs, as these spoil more quickly.

The cold-storage rooms for eggs must be sweet and clean, and should be maintained at a temperature as close to 30° F. as possible and at a humidity of about 86. Other products should never be stored in the same room with eggs, as the latter are very likely to absorb foreign odors and flavors. During the last few years several methods of processing eggs have been devised which consist of dipping them in hot mineral oil solution for a few seconds. The purpose of this is to seal the pores of the eggshell and thus prevent or lessen the evaporation of moisture from the eggs and the absorption

of flavors and odors. These processes are used principally with eggs which are to be placed in cold storage as a supplemental precaution to insure the best possible quality in the eggs when they are removed from storage for sale.

Figuring profit on the storage of eggs is not simply a matter of comparing the price at which eggs go into the warehouse with the price at which they come out. Before a profit can be realized a number of costs must be covered by the price advance, such as rental of storage space, insurance, interest on advances made, losses due to spoiled eggs, possible lowering of grade due to deterioration, and possible rehandling and other miscellaneous costs. It must be remembered also that while the into-storage price usually represents a wholesale price, the out-of-storage price often represents a jobbing price, which is therefore not strictly comparable.

Although there is more or less movement of both live and dressed poultry (figs. 41 and 42) to market throughout the year, there are

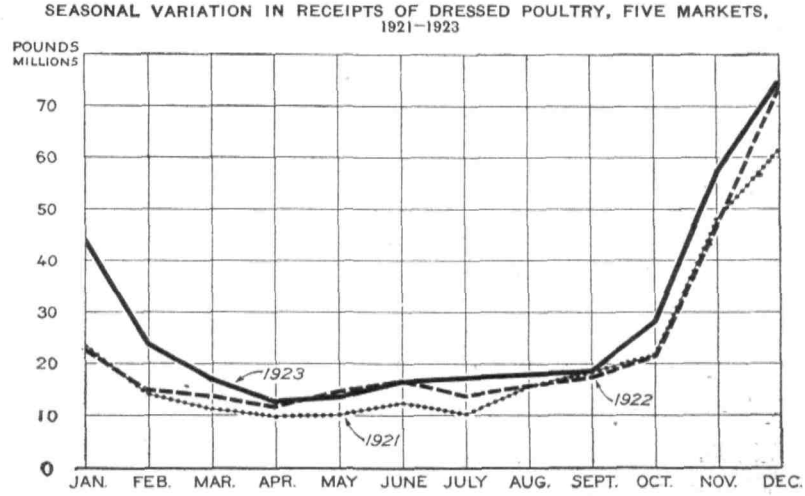


FIG. 41.—The receipts of dressed poultry on the five markets are heavy during the fall and early winter months and are much less and quite uniform during the rest of the year. During the months of heavy receipts the markets are oversupplied for immediate needs. At this time, therefore, the excess is placed in storage, which is later drawn upon to supplement the receipts of the spring and summer months, which are below market requirements

well-defined periods of relatively flush and relatively scanty production and movement of this commodity. Flush supplies reach the market in the fall and early winter months, when hens have finished their laying for the season and when the crop of chickens hatched in the spring and early summer begin to reach marketable size. Consequently the cold storage of dressed poultry serves the same purpose as the cold storage of eggs. It makes available throughout the year certain classes of poultry, such as broilers and roasters, which otherwise would be on the market in quantity only during a portion of the year. It also serves as a stabilizer or equalizer of the general supply between the period of flush production and the period of scanty

production. The reserve supply of frozen poultry always available serves also as a price stabilizer, preventing extreme fluctations in the price of fresh-dressed poultry during periods of relative scarcity or the occurrence of temporary shortages.

Dressed poultry is held in cold storage in a frozen condition at a temperature of about 10° F. The low point in storage holdings of dressed poultry occurs about September or October 1. From this time on the holdings increase rapidly until they reach their high point about January or February 1 and then decrease gradually until they reach their low point again.

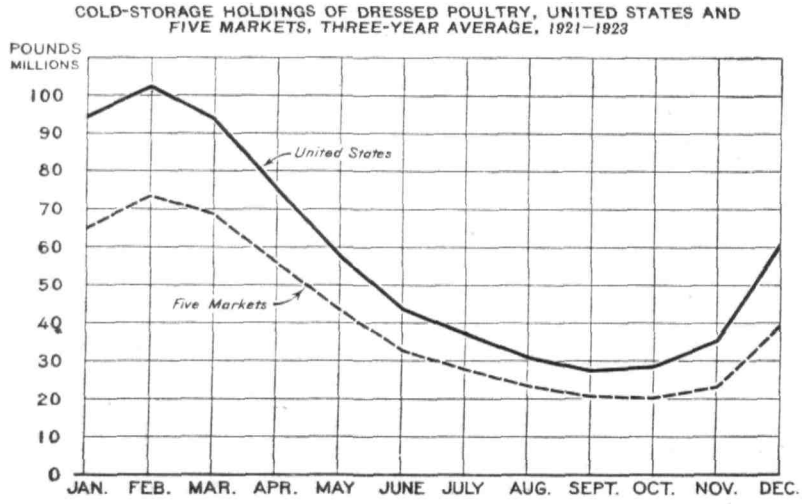


FIG. 42.—The movement of dressed poultry in and out of cold storage in the five markets follows very closely that of the country as a whole. Although the proportion of holdings which are stored in the five markets varies somewhat at different seasons, it amounts approximately to 70 per cent of the total holdings

Manufacture and Use of Frozen and Dried Eggs

Where eggs are handled in large numbers at concentration points in the producing territory, there will always be found among them a considerable number which are cracked, and therefore unsafe for shipment, and others which, while still edible, are dirty or so far weakened that they will not stand shipment and arrive at market in good condition. Consequently some establishments make a business of breaking such eggs out of the shell and freezing them solid to make their shipment possible and to check any further deterioration in their quality. Egg-breaking units in connection with egg packing houses are therefore largely salvaging units and save for human consumption considerable quantities of eggs which otherwise would be wasted to a large extent. A good many packing houses do not have breaking units but sell eggs of this character to plants within easy shipping distance which do have these facilities. Dealers in the terminal markets often make a practice of breaking out any badly cracked or leaking eggs which they find on candling the

eggs received, and selling them to bakers in liquid form without freezing for immediate use. Stock suitable for breaking may also be sold to an egg-breaking establishment if one is located in the market.

The product of the egg-breaking establishments of the United States consists almost exclusively of frozen eggs. These may be put up as whole or mixed eggs or may be whites or yolks frozen separately. Formerly some dried eggs were manufactured, but at present the bulk of the dried eggs used here is a Chinese product.

The breaking stock is first carefully candled to remove as far as possible all eggs which are unfit for inclusion in the frozen product. The eggs are then sent to the breaking room and opened by experienced girl breakers into cups, where they are judged by appearance, smell, and sometimes taste for edibility. This work is done in a refrigerated room which is finished in white and is kept scrupulously clean in order to keep down the bacterial content of the finished product. The girls are dressed in white uniforms and caps, and utensils are sterilized in an adjoining room whenever they come in contact with a bad egg. The eggs as opened and passed are emptied from the cups into a larger container, if whole egg is to be prepared, or are separated into white and yolk as opened if frozen yolk and white are to be prepared separately. The broken-out product is next emptied into a churn, where it is agitated until a homogeneous mixture is obtained. The liquid mixture is then drawn off into cans, each of which holds about 30 pounds of egg, and immediately placed in a sharp freezer at a temperature of about 0° F. It is held in storage at a temperature of about 10° F., which will insure its remaining in a hard, frozen condition.

Dried egg may be prepared by several different processes. The spray method consists of spraying the liquid egg into the top of a high chamber which is maintained at a temperature of about 160° F. In falling to the floor the egg spray is converted into a fine powder, which is then ready for packing and shipment. This method is used for whole eggs and yolks. Another method used also for whole egg and yolk consists of feeding the liquid product in a thin layer on a belt which revolves in a chamber heated to a temperature of about 140° F. After a number of layers of the dried egg accumulates on the belt it is scraped off in the form of flakes and is sifted and graded according to size, or may be ground to a uniform size or powdered. Still another method is employed, especially in drying egg white. It consists of drying films of the liquid product on metal pans which are placed in a temperature of about 120° F. The dried material is then scraped off in the form of flakes and sold as egg albumen.

Grading Eggs and Poultry

The grading of poultry (fig. 43) and eggs, like that of other farm products, is a necessary process incidental to successful marketing. Grading consists of the separating or sorting of a product of miscellaneous quality and condition into two or more lots or grades of greater uniformity, thereby making it easier to determine the

market value of the various grades and also making the product better adapted to the various market outlets available.

Frequently the grading of eggs is done more or less completely at more than one stage of the journey to market. When eggs are bought from the producer on a loss-off or quality basis, a preliminary grading takes place at that time. Ordinarily, however, the first grading takes place at the egg-packing house, where all bad eggs are thrown out, breaking stock may be graded out for separate treatment, and where various grades may be made based upon quality and size and upon soundness and cleanliness of shell. After the eggs arrive at the terminal market they are usually candled again by the jobber or some other dealer to remove any bad eggs and to further classify them into grades according to quality and other factors which will make them especially well suited to the

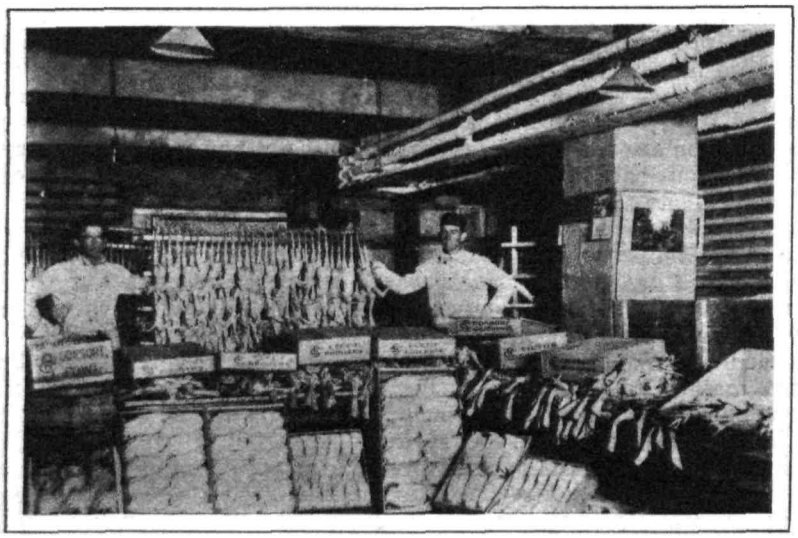


FIG. 43.—After poultry is killed, plucked, and chilled it is graded and attractively packed in small boxes

dealer's trade outlets. Sometimes another grading takes place in the hands of the retailer who desires to refine the grades still more to suit the tastes of his customers.

Since the interior condition of an egg is the principal consideration in determining its quality, the process of candling (fig. 44) by which the interior of an egg is examined is the principle feature of grading. In candling, each egg in turn is held up to a hole about 1¼ inches in diameter which is cut in a circular metal screen within which a bright light is located. The candling is done in a dark or practically dark room so that the light coming through the opening in the screen passes through the egg, illuminates it and reveals the condition of its contents in a very satisfactory manner to an experienced operator, especially when the egg is rotated from side to side so as to expose its entire surface and contents to view.

The market standards for eggs vary considerably in the different parts of the United States. Even though the same grade names

are used in different markets, as is often the case, the quality of the eggs represented usually is not identical and may be very different. Grading in all markets, however, is accomplished by the same means, a combination of candling and inspection without candling, and is based upon consideration of the same basic factors. The principal factors considered are size or weight, color, uniformity, condition of shell, size and condition of air cell, condition of white, condition of yolk, and condition of germ spot. Size or weight affects the market value, and in most markets there is a minimum weight for the better grades below which the eggs can not fall regardless of their interior quality without a lowering of the grade. Color is a factor of importance in certain markets. (See fig. 22.) Uniformity of size, shape, and color affect the market price to some extent, because of the pleasing appearance which uniformity always imparts to a lot of eggs. Condition of the shell affects the grade according to cleanliness, soundness or freedom from cracks, and freedom from irregularities or abnormalities. The size of the air cell is small in a newly laid egg and increases as the egg ages and evaporation of moisture from its contents takes place. A fixed position of the air cell and lack of movement of its lower outline is associated with good quality, whereas a movable air cell and waviness of its lower line are generally associated with loss of quality. The egg white in a fine egg should be clear, free from any foreign matter and firm or relatively thick. The yolk should be held well in the center of a fresh egg by the thick white, should be barely visible as a faint shadow, and should show but a slow movement when turned or twirled. With age and the loss of quality, the yolk becomes more plainly visible, moves more freely, approaches the shell more closely when the egg is turned, and may appear higher or lower in the egg than when fresh. The germ spot in a fresh-laid egg which has undergone no embryo development is not visible before the candle. As development of the germ takes place the spot becomes visible as a reddened area on the yolk and becomes larger as development progresses until finally blood is visible, when the egg is no longer edible.

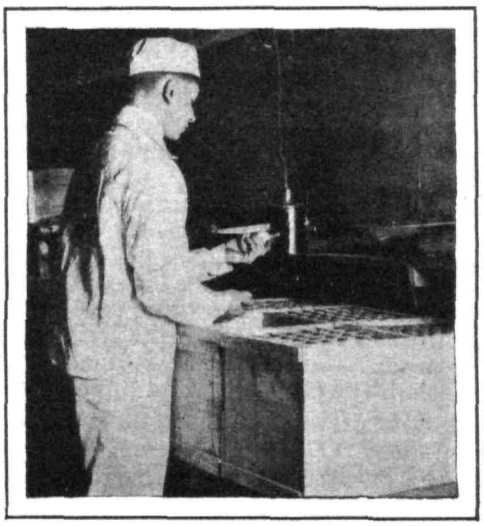


FIG. 44.—Candling is the principal and most important operation in grading eggs

Eggs are commonly classed as fresh or fresh gathered, storage or refrigerator, and processed. Fresh or fresh gathered and storage or refrigerator are terms which need no explanation. Processed eggs are

those which have been subjected to some preserving process other than cold-storage and usually refers to one of the oil-immersion processes. Eggs may also be classed as hennery and as near-by. By hennery eggs are meant those which are shipped directly to the market from the poultry farms on which they were produced. Near-by eggs are those which originate in the territory immediately surrounding the market, and the limits of this territory are usually defined by the market using this class designation. Although grade names vary considerably in the different markets, the most usual grades used are extras, extra firsts, firsts, seconds, third, No. 1 dirty, No. 2 dirty and cracks, in which extras and extra firsts designate the higher grades and the other names lower grades.

The produce or mercantile exchanges of the various large markets provide and define official classes and grades for eggs, and more or less trading occurs on the basis of these grades. In case of dispute regarding the grade of eggs involved in an exchange transaction an inspector appointed by the exchange for that purpose may be called in to make an official inspection. In such a case the inspector determines the grade, and his findings are binding upon the members of the exchange concerned, unless reinspection is requested, in which case the result of the reinspection is final.

Tentative United States standards and grades for eggs have been prepared by the Department of Agriculture. These are based upon the same factors discussed above. The purpose of these grades is to establish a basis for grading and for grade names which can be used uniformly in all parts of the country. The general adoption of such uniform national standards and grades will, it is believed, remove much of the uncertainty now experienced in marketing eggs and will promote freer trading in eggs between markets and between shipping points and the terminal markets.

Dressed poultry is graded at the packing house where it is dressed just before packing. The classes and grades in use vary somewhat in different sections of the country and also with individual packers. The usual classes of dressed chickens are broilers, fryers, roasters, fowl, stags, capons, and old cocks or roosters. Broilers are young chickens, usually males, weighing up to about 2½ pounds each. Fryers are young chickens, also usually males, weighing from 2½ to 3½ pounds each. Roasters are generally young males weighing 4 pounds or over. Fowls are mature hens. Stags are young males which have developed to the stage where they have begun to get coarse-meated and stringy and may often dress out somewhat bluish in color, especially after freezing. Capons are unsexed males which have been grown to a good weight but which are still soft meated. Old cocks or roosters are mature male birds.

The most common classes of turkeys are old toms, old hens, young toms, and young hens; of geese, old geese, young geese, and green goslings; of ducks, old ducks, young or spring ducks, and green ducklings; of guineas, old guineas, guinea hens or guinea keets, and young guineas or squab guineas; and of pigeons, pigeons and squabs. In addition to these classifications quotations often subdivide still further on the basis of weight, whether the poultry is fresh dressed or frozen, corn fed or milk fed, dry packed or ice packed, and on geographical origin.

The quality grades used for the different classes of dressed poultry are commonly three in number, in addition to culls. The different grades may be differentiated by number, by letter, or by names given them by individual packers. In general, the factors considered in determining grade are uniformity, condition of flesh, color of carcass, freedom from pinfeathers, freedom from torn skin, whether well or poorly bled, absence of deformities and broken bones, and, to some extent, color of legs and feet. In the best grade the carcasses should be very even and uniform in size, well fleshed, well bled, smooth skinned, of a good bright color, and free from pinfeathers and torn skin. The second grade is composed of birds of good quality but which show some defects, such as slight tears of the skin and not entire freedom from pinfeathers, sufficient to keep

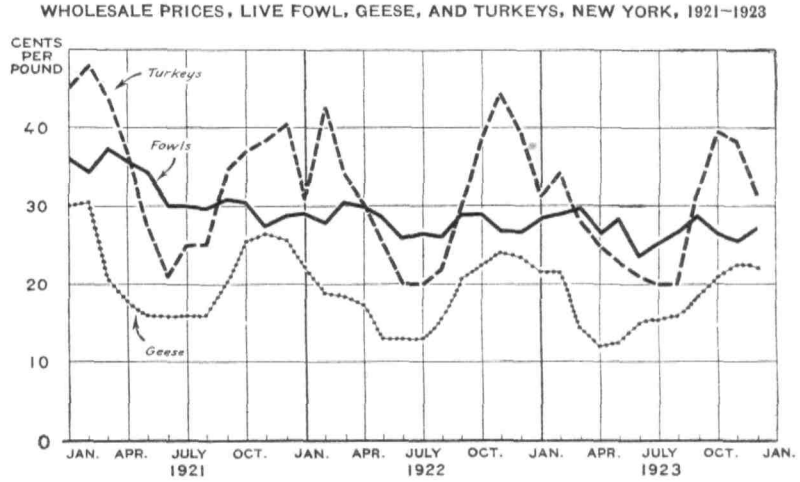


FIG. 45.—Wholesale prices of live fowl show less violent price fluctuations throughout the year than either geese or turkeys. The two latter classes reach their highest prices during fall and winter when the young stock is available for market and when the demand is greatest. Turkeys vary most in price and reach the highest levels, responding particularly to the Thanksgiving and Christmas markets

them out of the first grade. The third grade usually consists of badly torn, not so well fleshed, poorly bled, not so bright colored, and more heavily pinfeathered carcasses, and birds with broken bones and less serious deformities. Culls consist of the very poor and uneven carcasses, those with serious deformities, and in general those which are not good enough for the better grades.

Certain market preferences are observable both in dressed poultry and eggs in some of the larger cities. For example, New York City prefers and is willing to pay a higher price for white-shelled eggs, while in Boston the preference is for brown-shelled eggs. (See fig. 22.) Also eggs with pale-colored yolks are preferred among a certain part of the highest-prices trade in New York. In both New York and Boston dry-picked poultry is greatly preferred to scalded poultry; in some cities, particularly the southern markets, this preference is much less marked.

Cooperative Marketing of Eggs and Poultry

Coincident with the widespread interest in cooperative marketing of other farm products in the last few years, there has developed a marked activity in the cooperative marketing of poultry and eggs, particularly the latter. Associations of producers have been formed in many sections of the United States for the purpose of concentrating, grading, and marketing the eggs of their members. The underlying reason for effort of this kind is dissatisfaction on the part of producers with the existing marketing agencies, either because prices are considered unsatisfactory or because no adequate recognition is given to good quality and superior market value. On the Pacific coast production greater than the market requirements of that section, coupled with a distance from eastern markets too great to allow individual shipments by express, has been a factor of great importance in bringing about cooperative shipments in car lots by refrigerated freight in order to provide an outlet for the surplus production.

The earliest efforts at cooperative marketing of eggs were the formation of local egg circles. A number of producers in a locality band together in such a circle either informally or under specific contract, pool their eggs, and locate a suitable market to which the eggs are shipped. A member of the circle acts as the collecting, grading, and packing agent and receives and disburses to the members the payments for eggs. The member so acting either performs this service gratuitously or receives a specified sum for each dozen eggs handled. Many of these circles require the members to stamp each egg or carton of eggs marketed with the number or name of the circle and with a number representing the individual member. In this way responsibility for any eggs furnished which are not of proper quality and which might therefore be the cause of complaint can be tracted to the member furnishing the eggs and steps taken to prevent a recurrence. Many of these egg circles have succeeded in securing prices which are materially better than the local prices otherwise obtainable by members.

Another form of cooperative effort in egg marketing is the utilization of the cooperative creamery as the collection and marketing agency. Eggs are collected from the creamery patrons along the established cream routes or are delivered to the creamery when milk or cream is brought in. Because the milk or cream must be delivered at frequent and regular intervals and delivery of the eggs can be made at the same time without extra effort, the creamery is in a good position to receive the eggs while they are fresh and of excellent quality. The creamery is also often in position to provide the necessary collection, grading, and holding facilities at a small overhead cost, and, since eggs and butter are usually closely associated throughout the process of market distribution, is also often in position to provide good outlets with a minimum of effort.

Cooperative marketing through the egg circle or through the creamery is usually local in character. Cooperative effort on a scale covering a larger producing territory is undertaken through the organization of the egg producers into an association formed specifically for that purpose. Some of these associations have failed, but

others have succeeded, and the movement continues to grow rapidly and the chances of success improve as conditions desirable for the formation of such associations are better understood and as the form of organization and method of operation becomes more nearly perfected.

The chances for success for a cooperative egg-marketing association depend upon a number of conditions. Chief among these may be mentioned the following: A plainly evident need for cooperative marketing; a sufficient number of cooperators and a sufficient volume of eggs to carry the necessary overhead without its being burdensome and to enable advantageous marketing contracts or outlets to be arranged; production sufficiently concentrated to allow economical handling; the cooperative spirit on the part of the producers; a sufficient spread between local prices and the prices avail-

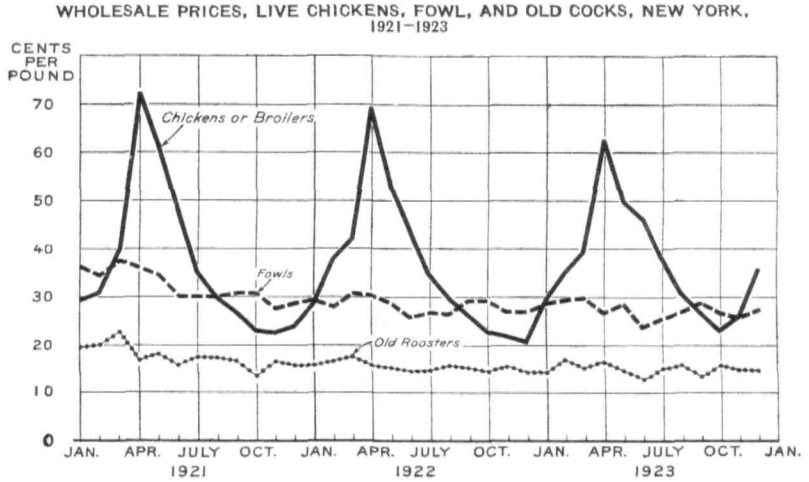


FIG. 46.—In the spring the new crop of chickens begins to appear on the market. The first of them, which are broilers, are in limited supply and consequently bring a high price, which declines rather rapidly as larger supplies are received. Later, as chickens of all weights and qualities arrive on the market, their average price falls below that of live fowl. The wholesale price of old cocks follows that of fowl very consistently, but is uniformly considerably lower, since old cocks are the poorest grade of the live classes

able in the terminal markets to make the effort worth while; suitable market outlets; a definite and practical plan of marketing; capable management and a suitable form or organization. The attempt should not be made to organize such an association until a thorough survey has been made of the situation and a definite plan of action outlined and agreed upon.

One of the most important features of successful cooperative egg-marketing associations is the marketing contract. By the terms of this the association agrees to market to the best possible advantage all eggs delivered to it. The producer agrees to deliver all his eggs, except such as he uses at home or for hatching purposes, to the association for a term of years. He may be given the right by the association to market his eggs or a part of them elsewhere, but must then pay to the association the same amount per dozen as is deducted

by the association when making the sale for the member. Contracts of this character have been declared by the courts to be legal and binding upon the association and the individual members. Such a contract with each member is very necessary in order that the association may hold its members and may know within reasonable limits the volume of eggs at its disposal throughout the year with which to make sales contracts and fill orders.

The eggs received at the grading station of the association are graded, the shipper being given credit on the books of the association for the number of dozens of eggs of each grade delivered. The eggs of the same grade from the different producers are then packed together and forwarded to market, where they are disposed of through the regular channels which the association has established.

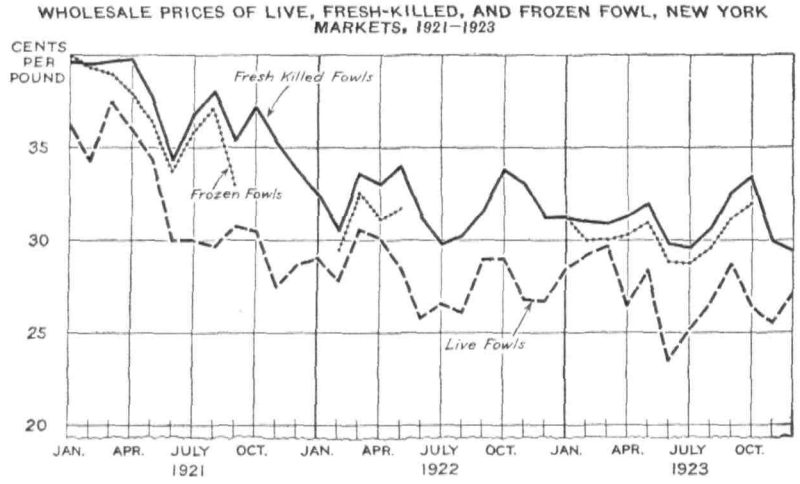


FIG. 47.—The wholesale price of frozen fowl follows that of fresh-killed fowl consistently, but is usually slightly lower. The wholesale price of live fowl is usually considerably below that of fresh killed fowl, but does not follow it so consistently. The price of live fowl tends to increase in the spring and fall, at the time of the Jewish holidays

All eggs of like quality received during a certain length of time, usually a week, are pooled together, and payment is made on the basis of the average price received for each grade in the pool minus the regular deduction for operation. A conservative partial payment or advance may be made on receipt of the eggs at the grading station, the balance realized being returned as a deferred payment upon final settlement of each pool. At the end of the year if a surplus has accumulated as a result of the regular deductions which is in excess of the amount needed for use in the association's business, this excess is returned to the members in proportion to the quantity of eggs marketed for each by the association.

The services performed by a cooperative egg-marketing association for its members are identical, so far as they go, with the services performed by the private agency or succession of such agencies concerned with the movement of eggs through the ordinary channels of trade from the producer to the consumer. To be successful, therefore, it is essential that the association perform these services

just as efficiently or more efficiently than these private agencies. Ordinarily the association confines its activities to concentrating, grading, packing, and shipping the eggs to the final market, utilizing the already existing distribution agencies after the eggs reach that point. In some cases, however, associations maintain salesrooms in one or more of the terminal markets and assume the functions of the wholsale dealer and to some extent that of the jobber. Not much has been done as yet in the way of assuming the functions of the retailers, but this is a possible development of the future. Associations sometimes process and place in cold storage or place in storage without processing a part of the surplus production of the spring season. This is done either to strengthen their market position under unusually heavy receipts or to help in supplying their regular outlets during the period of scarcity in the fall and winter. Sometimes the holding of eggs in cold storage is undertaken by an association as a speculation. This is generally inadvisable and may cause a serious setback in the affairs of the association, especially during its early existence.

The most common causes of failure of cooperative egg-marketing associations have been unfavorable conditions of production, inefficient management, lack of a definite and practical plan of marketing, lack of the cooperative spirit on the part of the members, and competition on the part of dealers which the association is unable to meet successfully.

Among the cooperative egg-marketing associations which are at present operating, perhaps the best known are the various Pacific coast associations. These operate in the territory around San Francisco, Los Angeles, Portland, Seattle, and other points. To handle their business in the East these cooperatives are federated under the name "Pacific Egg Producers" and maintain an office and salesroom in New York City, where their eggs are sold in the usual wholesale manner and also by daily auction. In the East the best-known cooperative egg-marketing association is the Atlantic Coast Poultry Producers' Association, which has members in New Jersey, New York, Pennsylvania, Delaware, Maryland, and some of the other near-by States. This association also maintains its headquarters and salesroom in New York City.

The cooperative marketing of poultry is much less common than with eggs. Some of the associations operating mainly in eggs also handle poultry for their members, but the quantity is usually comparatively small. Much of the poultry marketed cooperatively is shipped alive, few of the cooperatives being as yet equipped to dress poultry and handle it properly in that condition. In certain of the Southern States cooperative selling of live poultry in car lots has been undertaken without the formation of an association. In these cases arrangements are made to have a live-poultry car at a certain point or several at successive points on previously advertised dates. Bids are secured from poultry buyers several days in advance for the poultry to be delivered on that date. The successful bidder is notified to be on hand, and the poultry is brought in by the farmers, graded, and weighed up by the county agent or some other designated person, paid for, and turned over to the buyer. The necessity of securing bids some time in advance of the actual delivery

of the poultry undoubtedly often results in somewhat lower prices than could be obtained if the carload were shipped for sale to a dealer in a large market. Such a procedure, however, involves the sending of an experienced caretaker and feeder, often not available, with the car, and it also means that the owners of the poultry must wait a week or two for their money. As a result the present method, which has usually resulted in advances over the local prices, is more popular.

Prices

Prices received by producers for poultry and eggs vary widely in the different sections of the country, and may at times vary decidedly within comparatively narrow areas. The prices received for poultry

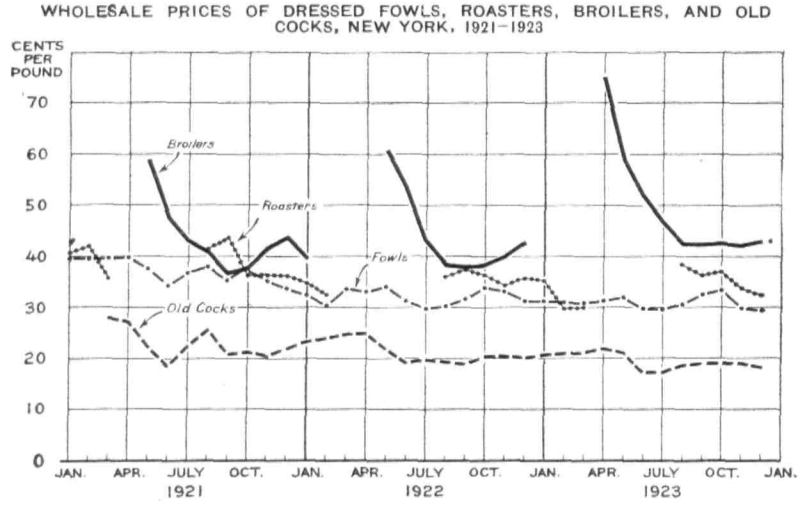


FIG. 48.—The wholesale price of dressed fowl remains fairly uniform throughout the year. The price of broilers is the highest of any class and varies widely, being highest in the spring when these chickens first become available, and declining rapidly as greater supplies reach the market. The prices of this class increase again to a limited extent toward the end of the year when supplies become scarce. The wholesale price of roasters is lower than that of broilers. The first roasters to appear usually bring the best prices, which are well above the prices of dressed fowl at that time. From this point they gradually decline below the price of fowl, reaching their lowest prices at the end of their season, about April, when many become "staggy" or hard meated. Old cocks are the lowest grade of dressed poultry. The wholesale price fluctuation of this class is relatively slight and ranges well below that of other classes

products in sections close to the large consuming markets, such as New Jersey, are consistently higher than prices in more remote sections, such as Kansas. The variation in price in a section is, as a rule, greater with eggs than with poultry, owing to the less uniform quality of the former. Prices paid to producers are based in the final analysis upon the wholesale price in the larger consuming markets, but are affected by a multitude of other factors. Aside from seasonal fluctuations in price, these factors may be mentioned as affecting producers' prices: Distance from market, quality of the product, reputation of a section with respect to the quality of its poultry product, outlets available, competition of buyers, available supplies, and special market demands.

Wholesale prices of poultry products (see figs. 35, 36, 45, 46, 47, and 48) are affected by the supply of the fresh product, by the consumptive and speculative demand, by the quantity in storage, by temporary shortages or unusually heavy receipts, and by reports or generally held opinions as to probable production. Wholesale price quotations as published for the larger markets represent the judgment of trained market reporters in summing up the actual market value of poultry products of the different grades after a careful study of trade transactions.

Retail prices, of course, bear a fairly close relationship to wholesale prices, although the actual advances charged by retailers vary with the retailer, the grade of the product, and the level of wholesale prices at different seasons. Minor fluctuations in the wholesale price may not always be reflected in corresponding changes in the

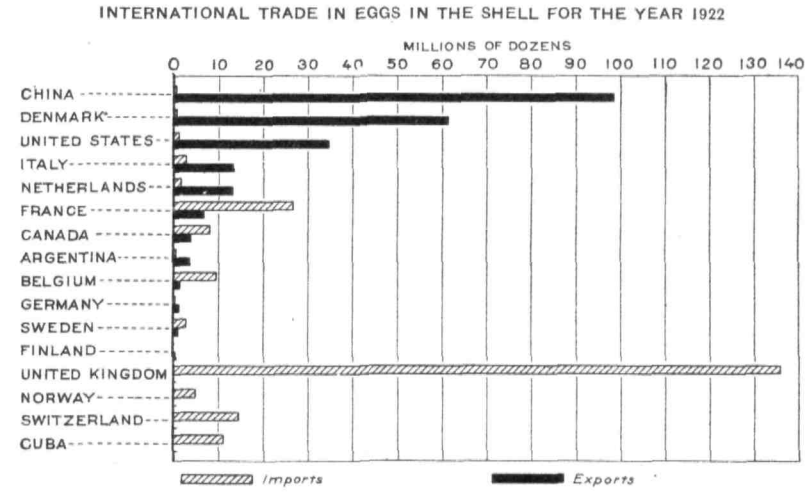


FIG. 49.—China is the leading exporter of eggs in the shell, but Denmark has also built up a remarkable export trade. The United States exports a considerable number of eggs, but her imports are negligible. The United Kingdom imports more eggs than all the other countries combined

retail price. According to the report of the Joint Congressional Commission of Agricultural Inquiry made in 1921, the retailer's margin on a dozen strictly fresh eggs in January and July from the years 1916 to 1921, inclusive, varied from 5.5 to 8.5 cents and constituted from 11.3 to 18.4 per cent of the retailer's selling price. Although the absolute margin was greater when the retailer's selling price was at the higher levels, the percentage which the retailer's margin constituted of the total selling price was higher in nearly every year when this price was at the lower levels.

In the case of eggs the spread which exists between the price received by the producer and the wholesale price in the terminal market represents the losses in spoiled and low-grade eggs, the cost of numerous marketing services, cost of packages, transportation, etc., and profits. In attempting to estimate the different costs involved in marketing, it must be remembered that any figures arrived at

here, at best, only approximations for average conditions, since the different factors involved vary considerably in different localities, at different seasons, and under different conditions.

For the sake of illustration, assume that a case of eggs has been purchased, case count, by shipper from a producer at a point in Missouri in July and is to be shipped by refrigerated freight to New York City. Let us say that the price paid was 17 cents per dozen, or $5.10 per case. Under average conditions at this time of year, this case will contain some eggs which, by reason of being held by the producer too long or under poor conditions, by being gathered from stolen nests, or by reason of fertility, are unfit for food and must be discarded. Assuming that this amounts to 1 dozen eggs in the case, the loss on these eggs, which must be covered in the selling price if a profit is to be made, would be 17 cents.

The actual labor cost of handling, candling, and grading a case of eggs would probably run from 15 to 30 cents, depending upon the uniformity or lack of it in the quality of the eggs, the care with which the grading is done, and the expertness and wages of the candler.

In the process of grading some of the eggs would be found to be of low grade, due to small size, dirtiness, or to deterioration in quality, and therefore of lower market value or usable only as breaking stock. Assume this proportion to be 25 per cent, of 7½ dozen, a conservative estimate for the season of the year, and that the difference in grade will result in a lowered market value of 2½

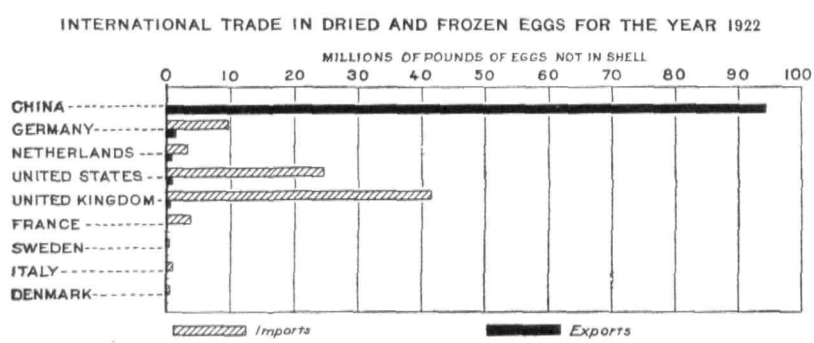


FIG. 50.—Eggs are produced at low cost in China and sold to the United Kingdom, United States, and Germany as frozen and dried eggs. These eggs are used by bakers, and very little of this product is sold directly to the consumers

cents per dozen, the loss from this source would amount to 18¾ cents per case.

As the result of handling by the producer and during grading and packing, some of the eggs are cracked. Assuming that one-half dozen eggs are injured in this manner and that their value is cut 2½ cents per dozen, the loss from this source would be 1¼ cents.

The cost of packing the eggs in new cases and with new fillers and other packing material will be about 45 cents per case. The freight rate in car lots from Missouri to New York, including icing charges, would be about 90 cents to $1 per case.

On arrival at the market usually there would be a drayage charge amounting to about 5 cents per case. Finally, there would be a commission charge made by the receiver for selling the eggs, which at that season would probably amount to from 35 to 50 cents per case.

The various ordinary costs which would be incurred from the time the eggs were bought from the producer until they were sold for the shipper's account by the wholesale receiver in the market would, therefore, be approximately as follows per case:

Loss in bad eggs	cents	17
Cost of candling and grading	do	15–30
Loss on low-grade eggs	do	18¾
Loss on cracked eggs	do	1¼
Cost of new case and packing	do	45
Freight and icing charges	do	90–100
Drayage	do	5
Wholesale's commission	do	35–50

Total: $2.27 to $2.67 per case, or 7½ to 9 cents per dozen.

If the eggs were placed in cold storage and held for a period of seven or eight months before they were sold, there would be an

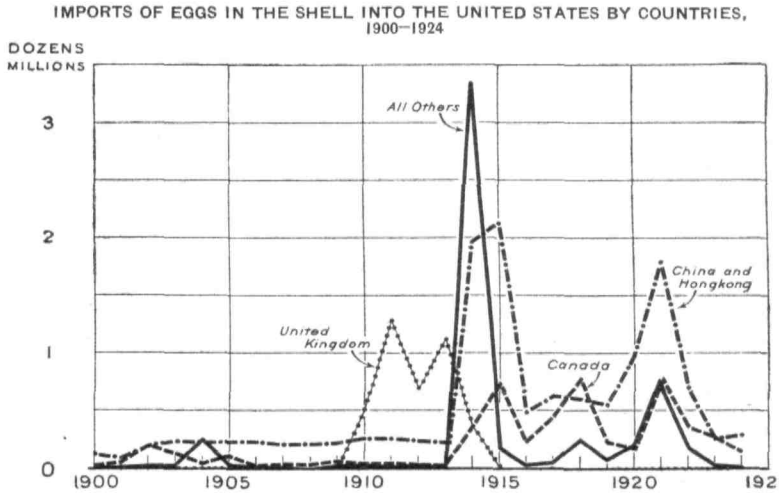


FIG. 51.—The imports of eggs in the shell into the United States have been of very minor importance except during the war period of 1913 to 1916. China has furnished most of these eggs. The fiscal year ending June 30 is used in this figure

additional charge for storage space, insurance, interest on advances, possible rehandling, losses, and additional cartage amounting to from 3 to 5 cents per dozen.

In this estimate of costs involved in marketing no allowance has been made for the overhead costs or for the profit of the shipper, both of which must be covered by the spread in price if the shipper is to continue in business. Other miscellaneous costs may occur, but ordinarily these would be small. Where eggs are marketed through the agency of the local egg buyer, the country storekeeper, or the

huckster, as a great majority of them are, the cost of the service which they render usually will range from ½ to 1½ cents per dozen.

Summaries of similar costs involved in the marketing of live and dressed poultry in car lots from Missouri points to New York City would be approximately as follows where the poultry was purchased directly from the producer by the shipper:

LIVE POULTRY

		Per pound
Cost of receiving, handling, feeding, and loading at shipping point	cents	1 to 1½
Freight, including live-car rental	do	2 to 2¼
Receiver's commission	do	1 to 2
Total	do	4 to 5¾

DRESSED POULTRY

Cost of handling poultry through the feeding station and dressing plant from the time it is received alive until it is loaded into the refrigerator car, ready to ship (This includes cost of handling, feeding [allowance being made for gains secured], killing and dressing [including dressing shrink], grading, packing [including cost of packages and supplies] and chilling.)	cents	4 to 8
Freight, including icing charges	do	1¾ to 2
Receiver's commission	do	1 to 1½
Total	do	6¾ to 11½

Most poultry is bought by hucksters or local buyers and delivered by them to the shipper. The cost of this service is from 1 to 2 cents per pound additional. Certain incidental costs, such as cartage, may also be incurred. In the estimate given no allowance has been made for overhead and profit. The spread between the price paid the producer and the wholesale price received in the terminal market must be sufficient to absorb the costs given above and to leave a margin over overhead costs if a profit is to be realized.

Exports and Imports of Eggs

Exports and imports of eggs are of relatively small importance in this country when compared with the total volume of domestic production. (See figs. 49 and 50.) During 1923 the total imports of shell eggs amounted to 412,149 dozen, with a value of $117,937, while the imports of preserved eggs and egg yolks amounted to 16,253,300 pounds, with a value of $3,925,165, and of egg albumen 7,046,299 pounds, with a value of $2,711,676. During the same year the estimated farm production of chicken eggs in the United States was 2,196,194,000 dozen, with a value of $598,961,000. China is the country from which the largest quantity of frozen and dried eggs came, while the greatest quantities of shell eggs were imported from Hongkong, Canada, and China. Aside from China, the only country from which dried eggs, frozen eggs, etc., were imported in important quantities was England.

Of the dried, frozen, and canned eggs imported, 652,703 pounds, with a value of $91,150, and of egg albumen 456,573 pounds, with a

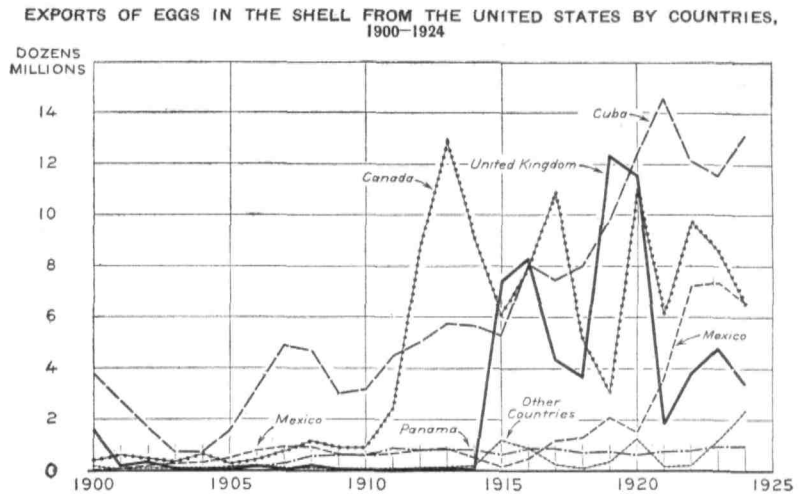


FIG. 52.—Exports of eggs in the shell from the United States, although greatly exceeding imports of similar eggs, represent a very small per cent of total production. The United Kingdom and Canada have received the bulk of these eggs, but the exports to Cuba and Mexico have increased very rapidly during the past 10 years. Many of the eggs exported into Canada are reshipped to the United Kingdom

value of $108,186, were again exported instead of being used in the United States. Exports of domestic eggs in the shell amounted to 30,659,262 dozen, with a value of $8,430,297. (Fig. 50.) These eggs went principally to Cuba, Mexico, and Canada, with smaller quantities to the United Kingdom, Panama, and to various other countries including several in South America. Exports of domestic eggs and yolks, frozen, dried, or canned amounted to 328,487 pounds, valued at $49,193.

Because of the different forms in which the exported and imported eggs are moved, and lack of information as to the quantity of each, it is impossible to compare the quantities exported and imported. A comparison of values, however, can be made. Deducting from the value of all forms of imported eggs the value of such of these as were again exported, we have a net value of imports amounting to $6,555,442, compared with a value of domestic exports amounting to $8,479,490, or an excess in value of exports over imports of $1,924,048.

The present tariff on imported eggs and egg products went into effect on September 22, 1922. On shell eggs the tariff is 8 cents per dozen; on frozen or liquid egg albumen, egg yolk, or whole egg, 6 cents per pound; and on dried egg albumen, egg yolk, or whole egg, 18 cents per pound. These rates are considerably in advance of those in effect under the previous tariff. The imports of shell eggs in 1923 decreased 607,021 dozen, or 59.6 per cent; and preserved eggs and egg yolks decreased 1,985,774 pounds, or 10.9 per cent; while imports of egg albumen increased 476,753 pounds, or 7.3 per cent over 1922. (See figs. 50 and 53.)

The Future of the Poultry Industry

In all probability the poultry industry of the United States will show a steady upward trend, because eggs and poultry meat are two of the most popular articles in the human diet, the per capita consumption of which is increasing annually, and because poultry raising has been demonstrated to be relatively as stable a branch of agricultural enterprise as any other. The United States imports very few eggs in the shell and exports only negligible quantities of frozen and dried eggs. The exports of eggs in the shell may be regarded as practically balancing the imports of frozen and dried eggs. In other words, the poultry industry of the United States is

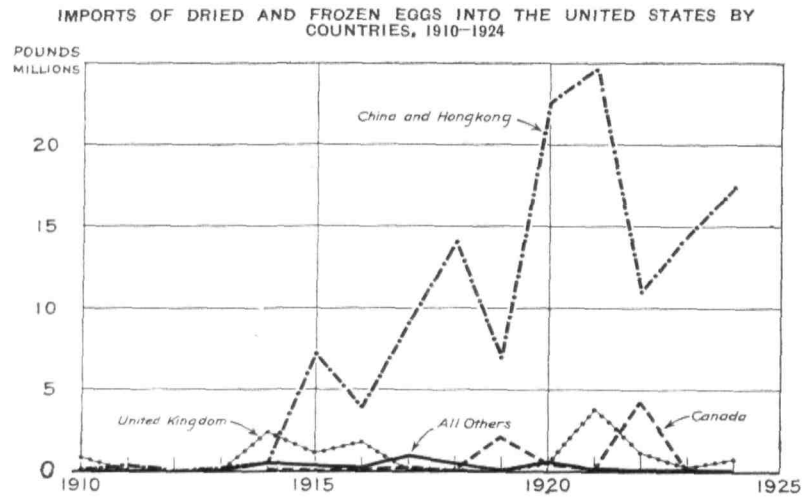


FIG. 53.—Imports of dried and frozen eggs during this period assumed appreciable proportions in 1914 and increased rapidly to 1921. These imports are materially affected both by the price of eggs and by the tariff. The present tariff went into effect in September, 1922. The fiscal year ending June 30 is used in this figure

largely independent of the poultry industry in foreign countries, and it does not seem that exports and imports will materially affect the future development of the industry unless tariffs are lowered to allow of greater imports from other countries.

The expansion of the industry must depend to some extent, therefore, upon increased demand resulting from the natural increase in human population and increased per capita consumption. The natural increase in human population will call for slightly increased production. Increased per capita consumption will depend almost entirely upon the quality of the product as it reaches the consumer's table. In this respect, more attention than ever is being given to insuring the maintenance of the highest possible quality in eggs from the time they are produced to the time they are consumed. The extent to which similar attention can be given to maintaining the highest possible quality in poultry meat should lead to its increased per capita consumption also.

However, increased demand for poultry products is not the only expansion factor. The economics of production and the costs of marketing also will always affect the trend of development.

It is important to bear in mind that as the question of food supply for human beings becomes more and more acute as the result of a steady increase in population, the relative efficiency of the various domestic animals in producing the necessary nitrogenous foods to balance the human diet will become of greater significance. As a result there is bound to be a turn more and more toward the smaller animal unit as a producer of food for humans. The chicken is the smallest economic unit of all our domestic animals used for the production of food, and to the extent to which eggs and poultry meat can be produced economically will the industry expand in response to increased demand for the products of the industry.

The economics of production are affected primarily by the price and amount of feed consumed by poultry, by the labor involved in caring for the animals, and by the equipment and overhead expenses involved in the operations. From year to year labor and equipment may be regarded as fairly stable factors, and the same may be said of the amount of feed consumed by different classes of poultry. Since poultry use staple grains which are also used by humans as well as by other classes of livestock, the price of grains is a very important factor affecting the economical production of eggs and poultry meat. Grain prices vary not only from year to year but also from time to time within any one year, and it is impossible to predict with any accuracy what grain prices may be for the next few years. It seems safe to say, however, that in the production of poultry meat and eggs costs of production must be kept down to the minimum.

Moreover, the economics of production can not be considered independently of prices of eggs and poultry meat and the cost of marketing these products. Prices of both eggs and poultry are affected by a variety of factors, such as the quality of produce, the available supply at any particular time, the price of other foods of animal origin, and other factors. The influence of these factors is so variable that no advance statement can be made. It is apparent, however, that the existing deterioration in quality, especially in eggs, constitutes a heavy burden upon the poultry industry, and to the extent that superior quality is maintained in marketing eggs will prices be maintained at a good level.

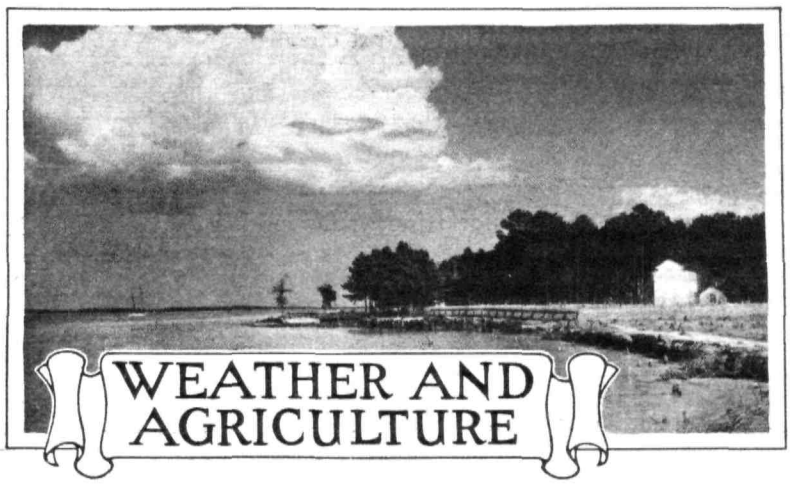
The costs of marketing include the cost of equipment used in marketing poultry products, the cost of collecting, the cost of shipping, and the cost of distributing the products in the markets. To the extent to which any of these items can be reduced will the poultry industry become stabilized and made more profitable.

Finally, in order to appreciate fully the trend of the poultry industry in the United States in the years to come, the consumers of its products must receive first consideration. Poultry producers must enjoy the confidence of consumers if poultry products are to be sold to advantage and serve a necessary purpose in the human diet.

Poultry Bulletins

Farmers' Bulletins for Distribution by the United States Department of Agriculture

287. Poultry Management.
684. Squab Raising.
697. Duck Raising.
767. Goose Raising.
801. Lice and Mites on Poultry.
849. Capons and Caponizing.
898. Standard Varieties of Chickens (Mediterranean Class).
1052. Standard Varieties of Chickens (English, Asiatic, and French Classes).
1067. Feeding Hens for Egg Production.
1112. Culling for Eggs and Market.
1221. Ornamental Breeds and Varieties.
1251. Standard Varieties of Chickens (Bantam Breeds and Varieties).
1331. Backyard Poultry Keeping.
1337. Poultry Diseases.
1347. Standard Varieties of Chickens (American Class).
1363. Natural and Artificial Incubation of Hens' Eggs.
1376. Natural and Artificial Brooding of Chickens.
1373. Homing Pigeons.
1377. Marketing Poultry.
1378. Marketing Eggs.
1391. Guinea Fowl.
1409. Turkey Raising.
1413. Poultry House Construction.
1427. Poultry Accounts.



WEATHER AND AGRICULTURE

By A. J. Henry, J. B. Kincer, H. C. Frankenfield, W. R. Gregg, *Weather Bureau*, B. B. Smith, *Bureau of Agricultural Economics, and* E. N. Munns, *Forest Service*

LITTLE IS KNOWN of the agriculture of primitive man, but it may be assumed for all primitive peoples that the dominating impulse was that of self-preservation, and in the struggle toward that end protection from savage beasts and the inclemency of the weather was of less importance than the effort to wrest from the soil as he found it subsistence for himself and his flocks, for man was a herdsman before he was a farmer.

The rainfall to-day in that part of the globe supposed to have been the cradle of the race is not sufficient for the needs of agriculture; from this fact, together with the remains of irrigating canals in that region, we are led to the opinion that the dependence of crops upon rainfall was recognized at the very dawn of human history. It seems certain that as early as 3,000 years B. C., if not earlier, man was a tiller of the soil and gathered a harvest. From that remote date up to the beginning of the Nineteenth century the history of agriculture and the weather is contemporaneous with that of civilization itself.

Profound changes in agriculture began to be felt in Europe about the beginning of the Nineteenth century and at a little later date in North America. These changes, which typify the new as contrasted with the old agriculture, have been brought about by several causes, chief of which is indicated in the following paragraph:

The Development of Agricultural Education

Following the establishment of agricultural colleges and experiment stations in the United States a general plan of agricultural education was outlined with the object of preparing students for farming which should be scientific in theory as well as in practice. The far-reaching benefits of investigations made by these colleges and stations in the course of systematic instruction have been given to the world in general, and to the farmer in particular, in a series

of papers largely upon agricultural chemistry and physiology. It is probably not too much to say that studies of the structure, composition, and physiology of farm crops and their environment—climate, soil, and fertilizers—have been the one outstanding contribution of science to the very great progress of agriculture throughout the world. Other factors, of course, have been influential, as, for example, the invention of improved farm machinery, the revolution in methods of transportation, the opening to settlement of new agricultural lands, etc.

The place occupied by climate and weather [1] in the general progress is that both have contributed to make agriculture more econonomically profitable than it was a century ago.

The Weather

Any discussion of the weather that fails to take account of the atmosphere as a whole, as it functions on a rotating globe, is unsatisfactory.

In attempting to visualize the operations of the atmosphere it is sometimes helpful to refer to the points of similarity between a great steam engine and the atmosphere, as has been done by Sir Napier Shaw,[2] formerly director of the British Meteorological Office. In several respects the analogy is rather striking, but in others we should not press it too close.

The power of a steam engine, as everyone knows, is furnished by the heat energy of the fuel in the form of steam drawn from the boiler. This energy is transformed into mechanical work by the mechanism of the engine. In nature the heat of the Tropics corresponds to the boiler and it is largely this heat that supplies not only the driving force of the winds but also serves to promote evaporation of water from the tropical seas, and this water in the form of vapor passes into the atmosphere, is carried to great distances by the winds, and is later condensed as rain or snow in all parts of the globe. The cold of the upper atmosphere, elevated plateaus, and the polar regions serves as the condenser of the engine. Last, but not least, the winds may be considered as the flywheel. It is largely through them that the unending changes in the weather are brought about.

Hence it is apparent that the ultimate cause of the weather may be referred to the radiant energy of the sun, or, strictly speaking, to that fraction, about 60 per cent, of the earth's share of it, which is effective in maintaining the temperature of the earth. The latter is largely responsible for the heating and cooling of the atmosphere.

The familiar day-to-day changes in the weather, however, are the result, not of a single, simple factor, such as the intensity of solar radiation, but rather to a complex of several closely related factors which has been aptly stated by Marvin [3] as follows:

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[1] The terms "weather" and "climate" are not interchangeable, as might be supposed. By weather is meant the condition of the atmosphere with reference to its pressure, temperature, moisture, the prsence of cloud, and the direction and velocity of the wind at any given moment. Climate, on the other hand, connotes both a geographical and a seasonal relation and is not concerned with an explanation of the physical processes of *the weather*; in *short, climate is the average of the weather conditions for a considerable* period of time—the climatic conditions of a place are best determined by at least 20 years of observation.

[2] Sir Napier Shaw, The Air and Its Ways, pp. 150. London, 1923.

[3] Marvin, Charles F. Terrestrial weather and solar activities, Monthly Weather Review. 47 : 3.

The daily sequence of sunshine and darkness; the varied distribution of clear and cloudy skies; diversities of surface cover added to contrasts of land and water areas, including the phenomena of evaporation, condensation, and precipitation; the cycle of the seasons and, above all, the fluctuating but nevertheless perpetual contrasts of surface temperature, ranging from the heat of the Tropics to the intense cold of the polar zones, constitute a complex series of varied and changeable influences seemingly adequate to cause and explain every feature of the weather, however changeable the latter may be.

While for all practical purposes the radiant energy emitted by the sun may be considered as constant, yet by reason of the movement of the earth in its annual course around the sun and of the further fact that the axis of the earth is not vertical to the plane of its orbit, but stands at an angle of 23½° from the vertical, the intensity and amount of *insolation*—a convenient term for the radiant energy emitted by the sun—received by any portion of the earth's surface, must depend upon the angle of incidence of the sun's rays, or the sun's altitude, and upon the duration of the insolation or the length of the day. (See fig. 17.)

Thus as from day to day the sun at noon reaches higher and higher altitudes in the sky and the rays become more and more nearly vertical we have the familiar change from the cold to the warm season.

From the distribution of insolation roughly sketched above it follows that there must be strong contrasts in temperature between equatorial and polar regions, as observations show to be the case. As a result of this temperature difference a circulation is set up in the atmosphere, equatorial air moving poleward and polar air moving equatorward. The circulation thus initiated is modified, of course, by surface friction, local heating and cooling, and the rotation of the earth on its axis.

The effect of the last-named factor that will naturally occur to most persons is that of the change from day to night, and vice versa, but reference is here made to what is commonly called "the deflective force of the earth's rotation." Crudely stated, this force, or influence, as it is preferred to call it, is as follows: Any body moving without friction on the level surface of the rotating earth continually changes its geographic direction—strictly, the earth rotates under it—deviating to the right in the Northern Hemisphere and to the left in the Southern. The rate of this change of direction depends upon the latitude, but is independent of direction of movement. Hence, winds starting from the Equator and moving poleward in the Northern Hemisphere soon become southwest and west winds, and, conversely, north polar winds starting toward the Equator soon become northeast and east winds. In connection with this exchange of air between the Equator and the poles great whirls or vortices are set up in the atmosphere, known to meteorologists as cyclones [4] and anticyclones, or, in the notation of the weather map, simply as LOWS and HIGHS.

[4] The reader should not confuse the term "cyclone" with the violent windstorm of small diameter properly known as a tornado. The term cyclone has been in use for more than half a century to describe those great atmospheric disturbances, 500 to 1,000 miles or more in diameter, that occur daily over some part of the earth's surface. In these disturbances the winds blow spirally inward, counterclockwise, toward a central region of low barometric pressure, hence the name cyclone.

When a farmer wishes to compare the yield of corn, let us say for two different seasons, he first reduces the yield to bushels per acre as a convenient unit of comparison. Likewise, when a meteorologist is asked to compare the weather of two different seasons he is first concerned with the number and distribution of cyclones and anticyclones that occurred during the respective seasons.

The details of the formation of these great whirls are not yet clearly understood, but when once formed the influence of each upon the weather is well known. Broadly speaking, they are twin phenomena in the sense that one seems to be the complement of the other, just as a valley on the earth's surface is associated with hills on either side, and, further, that they originate at about the same time and travel in closely related paths. In other respects the one is the antithesis of the other, as may be seen in the scheme below:

Cyclones		Anticyclones	
Southeast half	Northwest half	Southeast half	Northwest half
Warm. S. to E. winds.	Cold. N. to W. winds.	Cold. N. to E. winds.	Warm. S. to W. winds.
Winds at the earth's surface blow spirally inward.		Winds at the earth's surface blow spirally outward.	

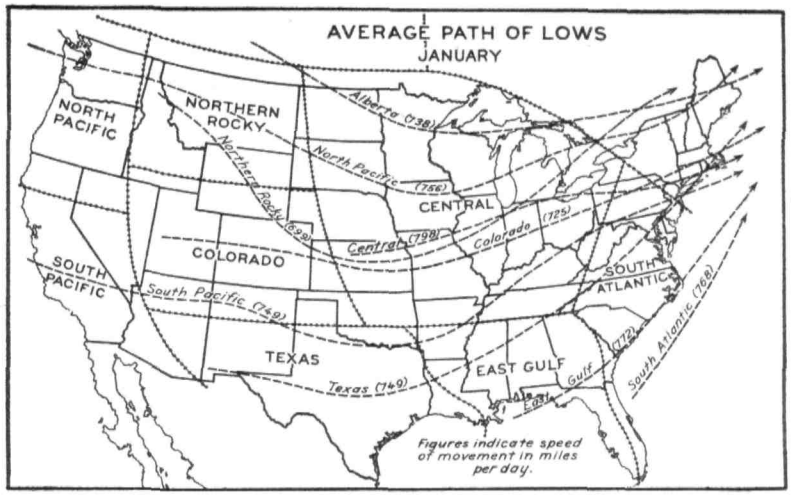
The cyclone, or low, progresses across the country at an average rate of about 25 miles per hour in winter and somewhat less in summer. The direction of movement varies with the season, but in general these disturbances gain distance toward the pole when over oceans and the eastern part of continents. Those approaching the North American Continent in winter move at first in a southeasterly direction until they reach either of two regions, first the Canadian Northwest or, specifically, the Province of Alberta, and, second, the Pacific off the coast of Washington and Oregon. A very small number may reach the coast south of the mouth of the Columbia River. The course followed after reaching the two principal points above mentioned is not absolute and fixed, but is conditioned very largely upon the distribution of atmospheric pressure over the continental interior at the moment, and since the latter changes from day to day the path taken by the cyclones which arrive at the northwestern frontier is likewise changeable.

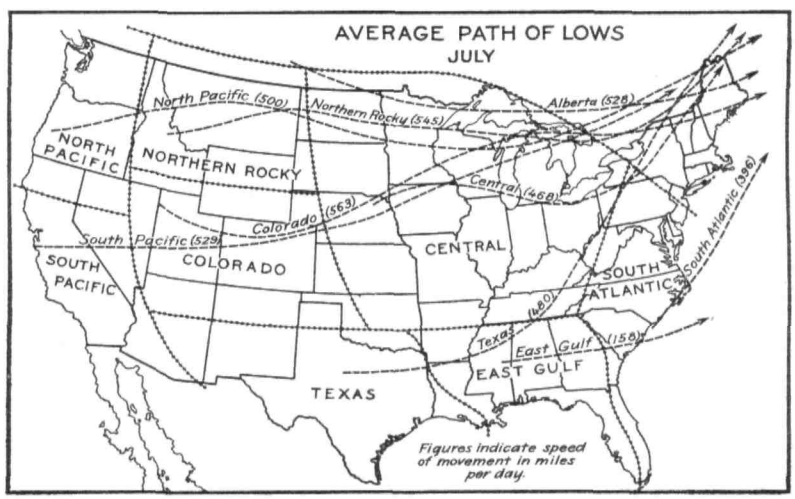
To summarize: The characteristics of the cyclone, or low, are southerly winds, warm and moist air, much cloudiness, and rain or snow. The anticyclone, on the contrary, is characterized by northerly winds, cold dry air, clear skies, and as a rule no precipitation.

Obviously, then, the character of the weather for any given region depends largely upon the frequency with which that region is visited by cyclones and anticyclones and the sequence in which they occur.

The average paths followed by cyclones in the United States in January are shown in Figure 1 and for July in Figure 2.

How variable are the actual paths followed by cyclones in individual months, as in January and July, 1923, is shown in Figures 3 and 4.

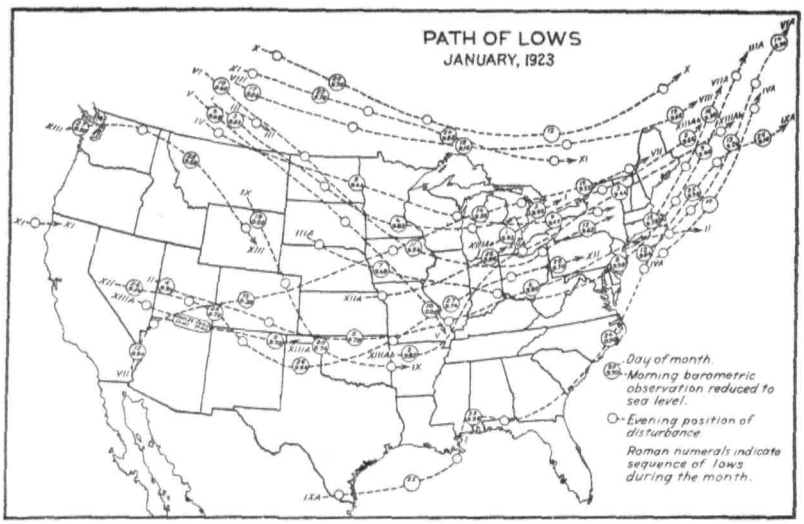


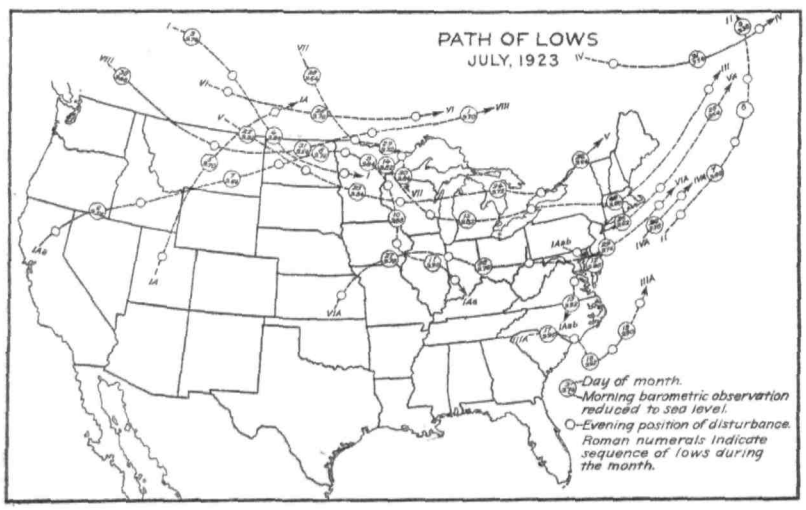


FIGS. 1 and 2.—Average path of cyclones (lows), (top), January; (bottom) July. Cyclones are classed according to the geographical district in which they are first noted on the daily weather charts, thus "Alberta" signifies that all of the cyclones that followed the path so indicated were first noted in the Province of Alberta, Canada, although their actual point of origin may have been over the Pacific far to the northwest. The average width of cyclones is close to 500 miles; their speed of movement is shown in miles per day by the figures on the several paths

Control of Weather by Cyclones and Anticyclones

If it were possible for an observer to visualize either hemisphere from a great elevation he would see in winter great cyclonic cloud sheets circling around the pole in mid-latitudes. As winter merges into spring and spring into summer these sheets which form an almost continuous procession in winter would gradually thin out until in summer they would appear in the form of discontinuous





FIGS. 3 and 4.—Paths of individual cyclones, (top) January, 1923; (bottom) July, 1923. The paths of cyclones for any individual month depart widely from the average; compare Figures 1 and 3, 2 and 4. Large circles in the respective paths mark the position of the disturbance at the morning observation on the day of the month given by figures on inside of the large circle. Figures in the inside are first, date and second readings of the barometer reduced to sea level. Small circles indicate evening position of the disturbance

patches. The patchy character of the cloud sheets on both sides of the Equator in the warm season would also be in evidence, the patch frequently being the locus of thunderstorms and showers.

Occasionally there would come into view over the tropical seas, about 10° to the north and south of the Equator, respectively, but never on or close to it, a very extensive layer of thin white clouds radiating from a center 500 to 1,000 miles distant. As this central area approaches a land observer the cloud sheet becomes much

denser and the lower and intermediate clouds are seen to be in violent commotion, sometimes being punctured here and there by vivid electrical displays, and thus is indicated the approach of a tropical cyclone—the hurricane of the West Indies, the typhoon of the China Sea, both of which, though bearing different names, are one and the same phenomenon. Destructive storms of this nature sometimes pass inland over the United States from the Gulf of Mexico or the waters to the southeast of the continent, but their destructive character rapidly deminishes after they leave the ocean.

Tropical cyclones that invade extra-tropical latitudes soon take on the character of extra-tropical cyclones; we are therefore not justified in considering them as a major weather control in continental United States.

In what has preceded the reader will find a suggestion as to the cause of the warm winds that spring up in the winter, late fall, and early spring, prevail for a day or so, and then quickly shift to northerly. In many cases these winds do not greatly disturb the regular diurnal and seasonal change in temperature, but a season rarely passes in which one or two thrusts of northerly winds do not carry freezing temperature to the Gulf coast and Florida. On these occasions a foreknowledge of the impending change is of great value. Aside from the temperature hazard, strong winds may cause fruit to drop or grain to lodge. Fortunately, however, the season of strong winds is in early spring, winter, and late fall, when crops are either dormant or nonexistent.

Local squall winds of the warm season occurring in connection with thunderstorms are at times destructive over restricted areas.

The hail hazard also is confined to the warm season and is also a local rather than a general hazard.

Hitherto the discussion has referred to the weather experienced in continental United States as a part of the great Temperate Zone of the Northern Hemisphere. For the sake of completeness it may be helpful to sketch very briefly the general weather characteristics of tropical regions, chief of which are uniformity and simplicity, as compared with the weather of the Temperate Zones. Most of the tropical regions is a water surface and the weather control is oceanic rather than continental. Weather and climate in the Tropics are practically synonymous terms; the seasons, in the sense that the term is used in the Temperate Zones, do not exist. There are two maxima of temperature during the year, corresponding to the two zenithal positions of the sun; there are also two minima, corresponding roughly with the time of the solstices. In many tropical regions there are two rainy and two dry seasons, likewise corresponding roughly with "vertical" sun.

The control of the weather by the wind systems is nowhere on the Globe so pronounced as in the Tropics; accordingly the following climatic subdivisions have been made: (1) The equatorial belt with its light variable winds and frequent showers—the doldrums; (2) the trade-wind belts, characterized by fair weather, steady winds, and little rainfall, except on the windward slopes of mountains; and (3) the monsoon belts of India and the Far East, the winds of which depend largely upon great temperature contrasts between land and water areas.

After the products of the farm have been gathered and are ready for market the weather is one of several factors which must be taken into account if the farmer would reap the greatest returns for his labors.

As a rule little attention is paid to the orderly sequence of weather that makes good crops possible; if the average farmer were to be suddenly asked about the relation of the weather to the growth of crops he would more often than not recall the adverse conditions that deprived him of the returns his efforts demanded, and so it happens that our present knowledge of the weather best suited to each crop is not as complete and satisfying as it might be. Some will say that the farmer must take the weather as it comes; nevertheless, progress has been and is being made in adapting farming operations to the exceptional as well as the ordinary weather.

In what follows the attempt will be made to outline as fully as possible the effect of weather upon agriculture and to point out specific instances where an intelligent use of the information distributed by the Weather Bureau of the Department of Agriculture should aid the farmer in his efforts to improve American agriculture.

The Adjustment of Agriculture to Climate, Soil Condition, and Topography

Climate affects man in many ways—his housing, clothing, food, occupation, migrations, forms of government, and manner of living are all more or less influenced by the climate in which he dwells. Much the greater part of man's food is derived either directly or indirectly from the products of the soil, and these are likewise markedly affected by climatic conditions. The principal factors that influence the segregation of crops into restricted areas or zones in different parts of the world are topography, character of soil, climate, and distance from market. Among these, climate is the most fundamental, unalterable, and important, not only in influencing the geographic distribution of the crops that are grown but also in determining the suitability of the land for agricultural purposes in general. In the adjustment of agriculture to prevailing physical conditions, soil fertility, and suitability for cultivation are important factors, but they are of secondary importance, since fertility and smoothness would avail little were the climate unfavorable. Moreover, the fertility of the soil is largely dependent on climate, operating indirectly through vegetative growth and otherwise.

Some plants grow best in warm, humid climates, and others prefer warmth and dryness, but most staple crops reach their highest stage of development and are produced most profitably in regions where the climate is moderate, especially as to temperature and rainfall. In such regions we find practically all of the world's production of such important crops as wheat, rye, corn, oats, barley, buckwheat, potatoes, and most vegetables and fruits.

In view of these facts there can be little doubt that climate is the major factor in determining the settlement of the various regions of the earth. It largely controls agriculture and grazing, and these, in turn, have an important bearing on manufacturing, commerce, and other things which go to make up the varied activities of the

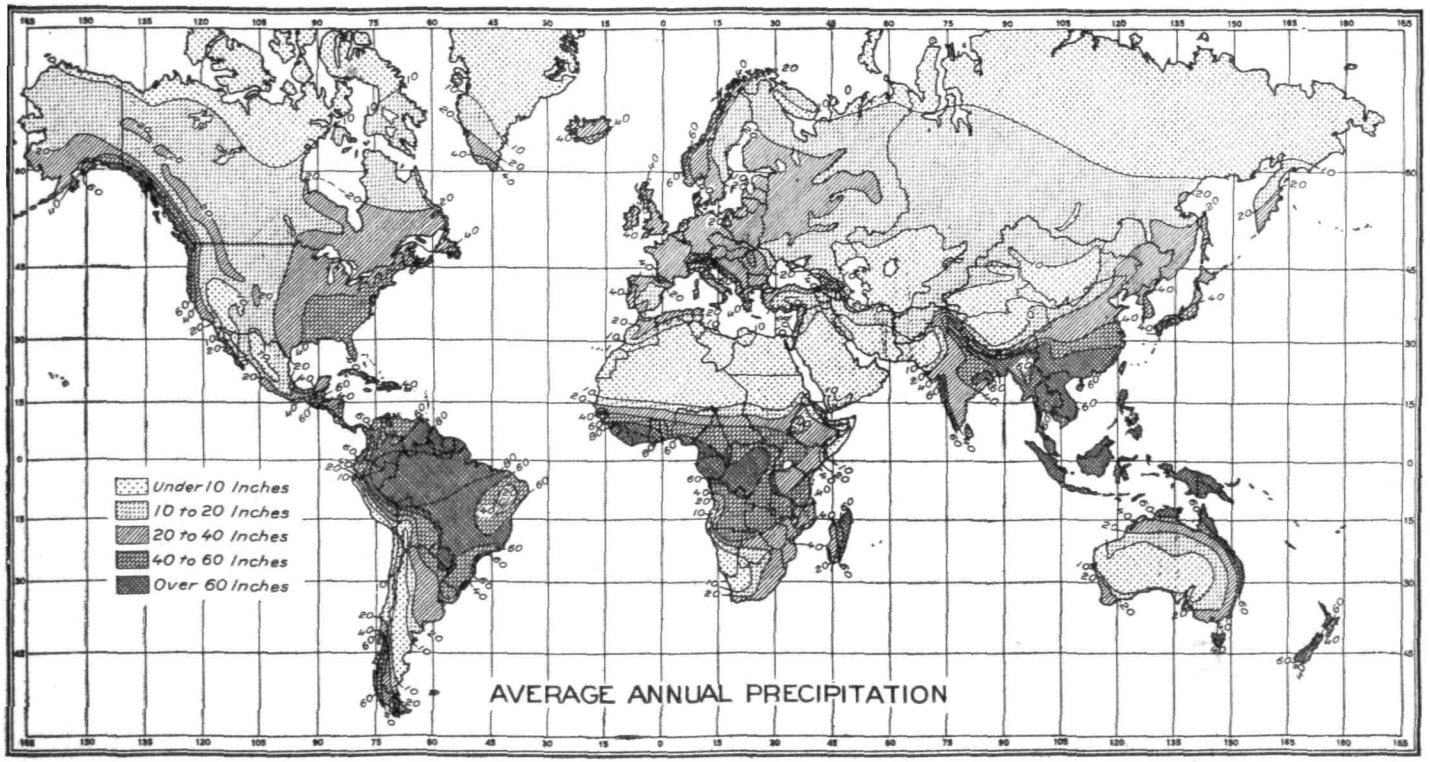


FIG. 5.—This map shows in a very generalized way the world distribution of annual precipitation which correlates broadly with the natural vegetation shown in Figure 6. In general, there are deserts where the precipitation is less than 10 inches and primarily grasslands where it is between 10 and 20 inches. Most of the important cereal-producing areas have between 20 and 40 inches

human race. The natural vegetation of the earth's surface is the best index to the suitability of land for agriculture, and it depends primarily on the climate, especially on the amount and seasonal distribution of rainfall.

Because of the reciprocal and interacting influence of the several climatic elements on the geographic distribution of vegetation in general, and of food crops in particular, and of the great variety of climates in different parts of the world, especially in the Temperate Zones, it is difficult to consider the question of plant distribution according to any rigid scheme of climatic influence. There are certain broad relations, however, that are quite definitely fixed.

Two general divisions of climatic influence may be made in studying the relation of climate to agriculture: (1) The influence of moisture alone, and (2) that of temperature and moisture combined. The available moisture determines potential agriculture. That is, it determines the suitability of the land for growing crops of any kind without the artificial application of water by irrigation. The prevailing temperature influences the segregation of the several crops where the moisture is sufficient into more or less definite regions, such as corn-growing areas, cotton-producing sections, and other similar groupings.

Moisture and Vegetation

Based on conditions of moisture, there are three general types of natural vegetation—forest, steppe, and desert. Forests are confined to the better watered portions of the earth's surface or to those regions of moderate rainfall where it is cool and where evaporation is consequently small. Steppes, or open grasslands, are characteristic of regions of light rainfall and warm summers. Deserts, with their scanty vegetation, are the results of extreme dryness. By reason of these climatic and vegetative relations we find zones of different kinds of vegetation, tending to extend around the world, ranging successively from Tropical and Temperate Zone deserts of sand, through steppes, to forests and farming lands, and gradually shading off again, by reason of low temperatures, into deserts of snow.

Figure 5 shows the distribution of average annual precipitation over the world. That portion of the land within the Tropics, between latitudes 15° N. and 15° S. is the most abundantly watered region on the earth's surface, but the ultimate value of this for utilization by the white race is uncertain. To the north and the south of this belt lie the great trade-wind deserts, which can never be made productive without irrigation, and at the same time the potential water supply in most cases is very limited. It will be noted also that much of the vast area of land in the Northern Hemisphere is restricted in potential agricultural use by reason of scanty moisture, particularly in the interior and northern portions of the continents. It should be borne in mind, however, that the Mercator projection used on this map very largely exaggerates the areas in higher latitudes. For example, a square mile at latitude 60° covers four times as much space on the map as a similar area at the Equator.

Figure 6 shows in a very generalized way the vegetation of the world. Within the Tropics this ranges from the dense tropical forests, through a more or less open grass or savanna country, to

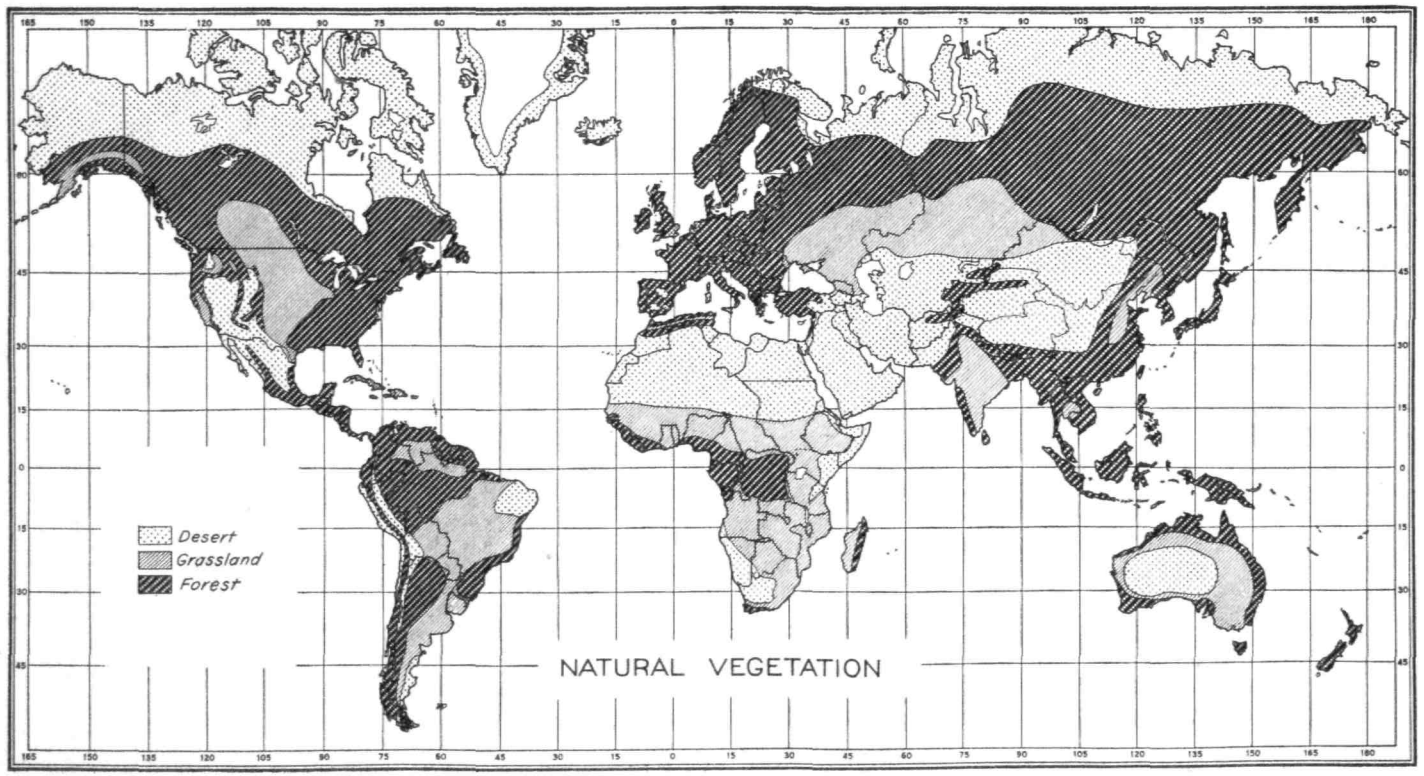


FIG. 6.—A very generalized map of the natural vegetation of the world showing its broader relations to climate. Only three major divisions of vegetation have been attempted, including forests of all kinds, grasslands, and deserts. The principal forests are found in the well-watered areas, the grasslands in regions of scanty precipitation, and deserts where rainfall is very light or the temperature too low for vegetative growth

the barren deserts. A somewhat similar range is found in the Temperate Zones, from forests, through the open plains, or steppe lands to the arid interior deserts. A comparison of the vegetation and rainfall maps shows a striking correlation.

Outside the Tropics there are only four extensive areas that receive sufficient rainfall to support a large population—southeastern and extreme eastern Asia, Europe, southeastern North American, and southeastern South America. The great agricultural sections of the earth are found within the moderately humid portions of the Northern Hemisphere, outside the Tropics, yet in this vast area approximately only 10 per cent of the land surface has an annual rainfall of as much as 20 inches. The large areas of deficient precipitation and scanty vegetation include all of Asia, except the southeastern and eastern parts, much of eastern Europe, and most of North America north of latitude 50° and west of longitude 100°.

Moisture and Types of Farming

As in the case of natural vegetation, so in agriculture there are three types in relation to moisture. The amount of precipitation that determines the successive types varies by reason of different temperature conditions, but in general they are close to 10 and 20 inches of annual rainfall. Except where the soil texture and the temperature are especially favorable for conserving moisture, by lessening evaporation, regions with less than 10 inches of rainfall are wholly unsuited for growth of crops without irrigation. The more favorable of these may be utilized for grazing purposes, but often 75 acres or more are required to sustain one head of stock, and the land is better suited to sheep, as a rule, than to cattle.

In the second division are included lands having from 10 to 20 inches of rainfall, which may be designated crop-grazing areas. Crop growing is practised rather extensively under these conditions, especially in the moister portions in cool climates, but where the rainfall is less than 15 inches success is usually precarious, especially in the warmer regions. In temperate climates more of the small grains, particularly wheat, are grown than any other crops. One of the most serious detriments in regions having from 10 to 20 inches of rainfall is the frequency of droughts, especially within the Tropics and in the warmer sections of the Temperate Zones. Although cultivated crops may be grown, such regions are mostly best suited to grazing.

The third division includes those areas having more than 20 inches of annual rainfall. In these, where temperatures are favorable, crops are grown with ordinary farming practices, and here the bulk of the world's food is produced. The great cereal lands, as a rule, have an annual rainfall between 20 and 40 inches.

Man must sustain himself from a very small portion of the earth's surface. Three-fourths of it is water, and of the remaining land a very large percentage is unsuited for profitable agriculture, either by roughness of topography, infertile soil, or unfavorable climate. In the western half of the United States, southern Russia, western China, and over vast areas within the Tropics limitations to intensive crop production are imposed by scanty moisture, while in the northern portions of the Northern Hemisphere, and in the higher

elevations of middle latitudes the limiting factors are low temperatures and the short growing season. Whereas climatic conditions are the chief concern in the transition zones between agricultural and nonagricultural areas, smoothness of topography and soil fertility are of primary importance in other sections where the climate is more favorable.

Temperature and Vegetation

Based on temperature requirements, the geographic distribution of different plants where the moisture is sufficient may be grouped broadly in latitudinal zones around the world, the several belts in which individual crops dominate being susceptible of more or less definite delineation on a quantitative temperature basis.

Figures 7 and 8 show the mean temperature for January and July, respectively, for the different portions of the world. In the Southern Hemisphere the warm season of the year corresponds to the cold season in the Northern Hemisphere, and farming operations, with respect to calendar time, have a corresponding difference. January in nearly the whole of central and southern Africa, in Australia, and in much of South America has a mean temperature in excess of 80° F., whereas at the same time portions of Siberia have a mean monthly temperature of 50° below zero. In July the regions having monthly means in excess of 80° lie mostly in the neighborhood of the Tropic of Cancer, though they extend to latitude 40° N. in southern Asia, as well as locally in southern Europe and the United States.

Two significant values of daily mean temperature for agriculture may be mentioned, those of 50° and 68° F., and the duration of these for 1, 4, and 12 months has been made a basis of certain classifications. The polar limit of trees and the more hardy food crops is fairly well outlined by the isotherm of 50° F. for the warmest month of the year. (See Fig. 8.) Near this line are found the last groups of trees in the tundras. A temperature of 50° for four months closely coincides with the polar limit of the oak and of wheat cultivation.

In general the following classification of temperature in relation to plant life may be made:

(1) Tropical belt, with all months warm; that is, the temperature averaging over 68° F.;
(2) Subtropical belts, with 4 to 11 months warm, averaging over 68° F.;
(3) Temperate belts, with 4 to 12 months of moderate temperature 50° to 68° F.;
(4) Cold belt, with 1 to 4 months temperate, and the rest cold, below 50° F., and
(5) Polar belt, with all months averaging below 50° F.

The Tropical Zone

The first, or tropical belt, lies near the Equator, reaching broadly from latitude 20° N. to 16° S., with a rainy and a dry season, or two rainy and two dry seasons during the year, depending in part on nearness to the Equator. Rainfall is mostly heavy, although the belt extends into more or less desert regions in places, especially in north-central and eastern Africa, central Australia, and along the

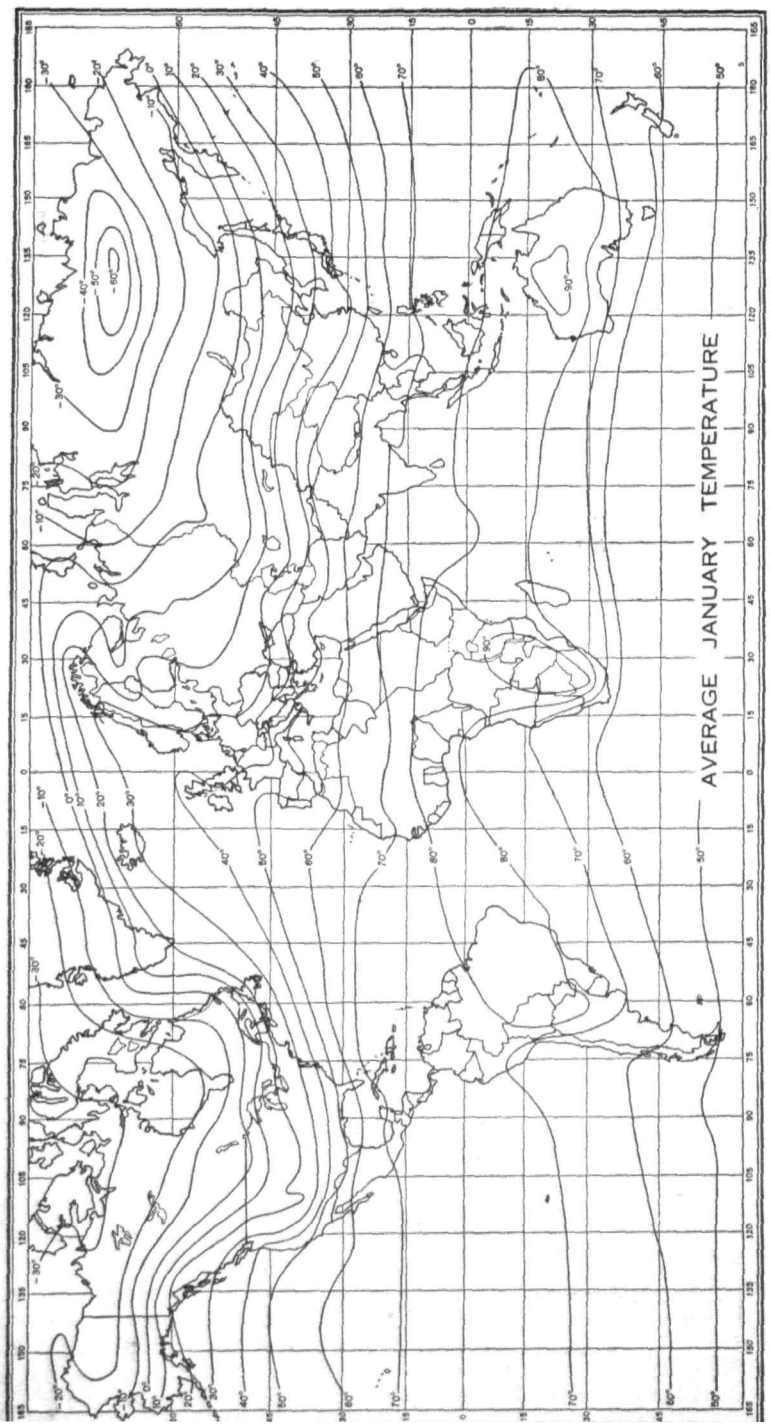


FIG. 7.—Mean temperature in degrees Fahrenheit, for the month of January in different parts of the world. In the Northern Hemisphere January is normally the coldest month of the year, but in the Southern Hemisphere July is the coldest. In winter the continents are colder than the oceans, but this condition is reversed in the summer

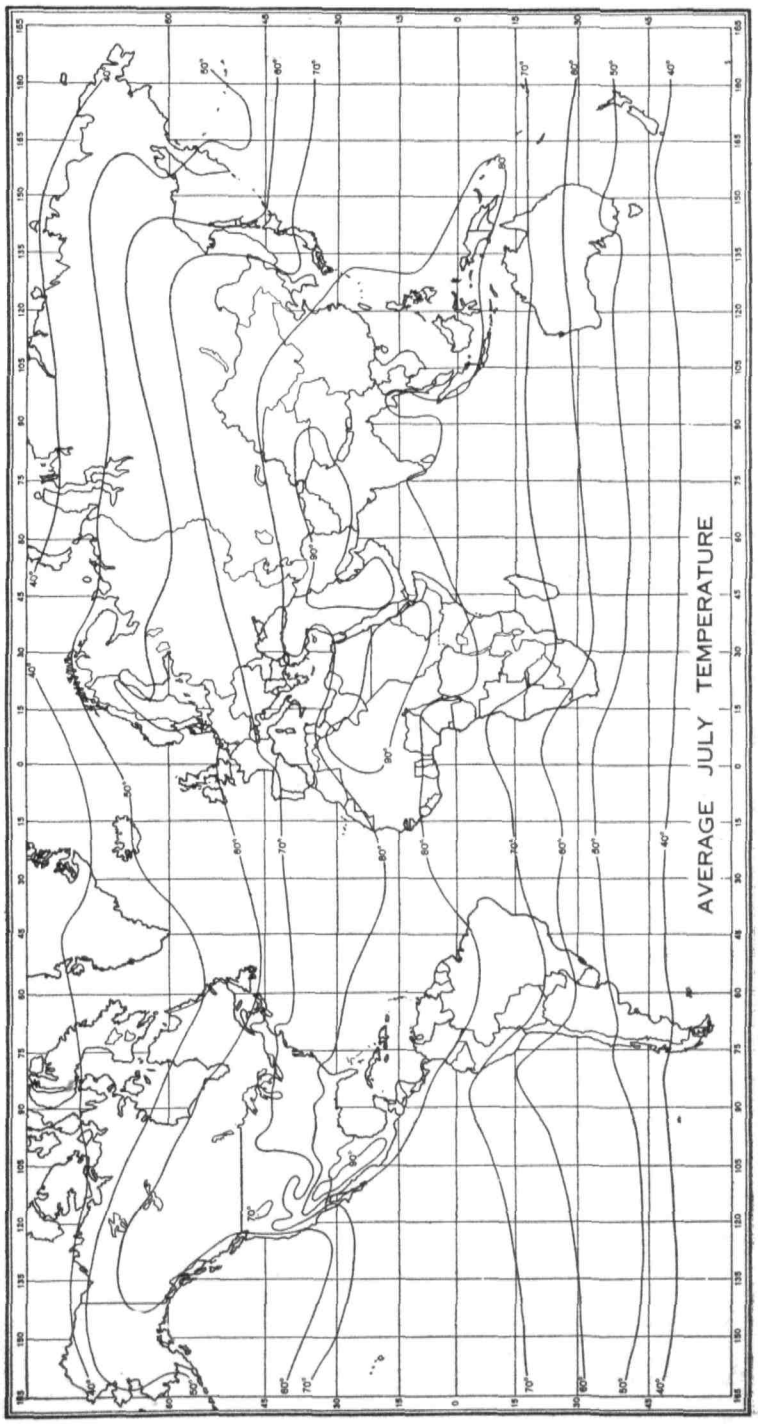


FIG. 8.—The mean July temperature is highest, as a rule, within a belt between 10° and 30° north latitude. In the Southern Hemisphere the summers are somewhat cooler and the winters warmer than in the Northern, due to more water in the Southern Hemisphere. *Summer temperatures have* an important bearing on the geographic distribution of crops

central-west coast of South America. (See fig. 5.) The annual range in temperature is very small and seasons in the Temperate-Zone sense do not exist. (See figs. 7 and 8.) The daily temperature range, however, especially over land surfaces, is comparatively large.

Within this zone are found most of the megatherms of the plant family, or those plants which need continuously high temperatures and abundant moisture, including breadfruit, ginger, sago, coffee, sugarcane, and cotton where rainfall is not too continuous. Here also are found dense tropical forests. (See fig. 6.) These latter with their superabundance of vegetation, together with the general unhealthful climate, are not favorable for human habitation. The largest of these forests are found in the Amazon Valley of South America and in the Congo Basin of Africa. The few inhabitants are generally at a low stage of civilization and live mainly by hunting and fishing. Although some planting is done in forest clearings, little attention is paid to the crops, as a general rule, after they are planted. The food supply in some of the river valleys, particularly the Amazon, is closely related to the rise and fall of the waters. When the river is in flood the fish and birds migrate to the outlying tributaries and, consequently, the best hunting and fishing period is during the dry season. This explains the origin of the native prayer for "a good dry season."

While these dense forests, in their present state, are generally unsuited for agriculture, when the land is cleared it becomes most productive. In the upper Congo Valley the natives cut down all but a few of the largest trees and with fire and hoe prepare the soil for planting crops. These consist first of bananas, planted at wide intervals, and manioc. After these maize is put in, and a little later upland rice is sown, the maize being harvested just before the rice begins to head. Thus two perennial and two annual crops are grown together. The area becomes a manioc thicket, yielding a constant supply up to about the fourth year, when it is dug out. Later the same area becomes a dense banana field. Many other tropical crops can be grown in these regions, though at present they are cultivated on a very small scale.

In the tropical rainy zone, where food may be obtained throughout the year with but little effort on man's part, where frost and drought need not be feared, where shelter and clothing are easily prepared, it has been well said that "Nature has done too much." Under such conditions agriculture does not usually reach a high state of development and the probability of material future progress does not appear to be encouraging. In the parts of these regions where the natural conditions are not so lenient a more aggressive agricultural policy is found.

Subtropical Zones

The zones lying immediately north and south of the equatorial rain belt are the habitat of the xerphytes, or those plants which like dryness and need high temperatures, at least for part of the year. In these the trade winds dominate and rainfall conditions vary from a dry season of moderate length on the margin of the equatorial rain belt, through a long dry and short rainy season in

the typical steppe regions, into the great trade-wind deserts. In these zones are found the extensive savanna lands of the Tropics, consisting of more or less open, grass country and lying between the forests on the one side and the deserts on the other. (See fig. 6.) Here vegetation has but a brief season for growth during the short, moist summer. Savannas are found in Africa and South America both north and south of the Equator. In Africa they include the Sudan, in South America the llanos of Venezuela and the campos of Brazil, and in Australia the downs. These lands are best suited and mostly used for grazing purposes, the grass cover forming natural hay during the long dry period of the year. The rainfall from year to year varies considerably and there are consequent variations in the amount of grass and water supply, and the inhabitants are more or less nomadic. Frequent droughts and consequent famine are sometimes experienced, during which occasionally many natives die of starvation. During times of drought they move their tents and household goods great distances, stopping where grass and water are available. Food is supplied chiefly from their flocks and herds.

Agriculture is of a primitive kind. The seed is sown at the beginning of the rains. Where moisture is sufficient growth is very rapid because of the prevailing high temperatures. Where rainfall permits the growth of crops the population becomes more sedentary. In the Sudan there is a region of agriculture near the Equator where rainfall is heavier than in the pastoral zone to the north.

The savannas are the most promising agricultural lands within the Tropics and are by far the most healthful. As time goes on they doubtless will be more thickly populated, owing to the suitability of considerable portions of them for agriculture, especially where water is available for irrigation. In the more favorable sections they are already being utilized to a considerable extent, through dry-farming practice, for grain production, especially in South America and Australia. In the semiarid sections of Australia it is the custom to grow one crop of wheat every three years, the ground being left fallow, for conserving moisture, during the other two.

Because of the decrease in temperature with altitude (about 3° F. for each 1,000 feet) elevation within the Tropics has a marked influence on the climate. This is reflected in the vegetation, the higher mountains showing a vertical succession of plants, ranging from tropical, through temperate, to cold-climate species. A very striking illustration of this may be seen by a traveler on the famous Oroya Railroad in Peru. On leaving sea level this road passes through fields of sugarcane and cotton; at about 5,000 feet a region of fruit trees is encountered, and at 10,500 feet there is a district where little else but potatoes is grown. At the highest elevation reached, 15,665 feet, the low temperature precludes the growth of anything except some forms of grass, but at the lower elevations of the interior valley farming lands are again encountered. This succession may be passed through in a 10-hour ride.

The dominant characteristic of climate within the Tropics, an area embracing approximately half of the earth's surface, is a striking uniformity in weather conditions from day to day. The uncer-

tainty and changeableness of conditions characterizing the Temperate Zones are lacking, and climate and weather are essentially synonymous. In view of these facts, it has been thought that local variations of weather and climate in this region are not so agriculturally important as in other portions of the world. This, however, is not the case, as here the dominating influence of the position of the sun and its effect on cloudiness, precipitation, and wind movement, constituting the seasonal changes in the weather, make a careful study of the relation of climate to plant development of much importance.

Both animals and plants are subjected to constantly high temperatures and consequently are much more sensitive to slight temperature changes than in cooler regions; thus variations which are relatively small have an important significance. Investigations at the College of Agriculture of the Philippines show that the average temperature for the year, and for each month, is about 2° F. lower at the college, located at Los Baños, than at Manila, and that this small difference in temperature makes the former place better suited for several crops which thrive well in regions with cooler weather. Other seemingly insignificant variations in rainfall, cloudiness, humidity, or wind may cause equally important differences in plant growth. The amount of cloudiness is especially important, as the heating and drying power of the direct, vertical rays of the sun is much greater than in temperate regions. Consequently many tropical plants regularly wilt during hot, sunny days and recover normal vigor after sunset. Moreover, many plants introduced into the Tropics from temperate climates require shade during the heat of the day. Tests conducted by the Philippine College of Agriculture on the photosynthesis of even such a sun-resisting plant as the coconut showed that its rate was reduced more than half during the hours from 10 a. m. to 2 p. m. on sunny days in May.

Rainfall is fully as important as intensity of sunlight, and even more important in its effect on plants. The two are closely linked in their influence, since the intensity of sunshine and high rate of evaporation make large amounts of water necessary during sunny weather. In the Philippines any month with less than 2.5 inches of rainfall is distinctly and harmfully dry, whereas this amount of moisture is usually sufficient for most crops in temperate regions.

In agricultural practices within the Tropics it is important to study the moisture requirements of each crop as well as the monthly and in some cases even weekly distribution of rainfall. An annual cycle in rice has clearly been demonstrated in some Philippine investigations, the best yields resulting from plantings in April, May, and June, when growth coincides with the most favorable moisture conditions.

Another factor of tremendous importance is the prevalence of wind. The effect of the long-continued and steadily blowing trade winds on evaporation and, consequently, on growth is very marked. This system of winds shifts northward and southward, following the apparent motions of the sun, and, therefore, different areas are under its influence in different seasons of the year. These winds frequently retard the growth of many tropical plants. This is in some cases more beneficial than harmful, however, because it favors the setting of flowers and fruit in more abundance than would be the case under

the warm, humid conditions of the doldrums, which conditions are more favorable for vegetative growth than for fruiting.

The Temperate Zones

In the third division, or Temperate Zones, are found mostly the mesotherms, or those plants requiring moderate warmth—59° to 68° F.—and a moderate amount of moisture. In these zones the winters are short and cool, the coldest month being below 64°, and the summers warm, the warmest month averaging over 72°. Some of the mesotherms require high summer temperatures, others do not survive cold winters, and still others need abundant moisture. Wherever rainfall is sufficient, within these zones are found such important crops as wheat, corn, cotton, figs, and grapes, as well as hickory, hemlock, and other Temperate-Zone forest trees. Most grain crops, however, especially the hardier grains, extend into the zone classed as cold. The mesotherms inhabit, as a rule, latitudes between 22° and 45° N. and to 40° S.; but large areas of these zones, especially near the Tropics, are barren trade-wind deserts with a rainfall insufficient for crop growth.

The Cold Zones

In the zones classed as cold are found principally those plants which need less heat and will develop with shorter and cooler summers, or the microtherms. In this area the average temperature of the warmest month is between 50° and 72° F., and the coldest is below 43° F. Evergreens, deciduous forests, small grains, and in the warmer portions fruit and corn are found. Over the northern part of the cold zone of the Northern Hemisphere the ground at short distances below the surface is permanently frozen, thawing only in the top stratum during the summer, but in many of these colder sections trees grow and hardy cereals may be produced. The staple grain crops overlap in this and the Temperate Zone, partly because their different varieties permit a rather wide range of temperature and length of growing season. Quick-maturing varieties of corn, for example, are planted in the cooler regions, with their short growing seasons, whereas spring wheat is cultivated considerably farther poleward than is the winter variety.

Within the zones classified as "temperate" and "cold" there are wide variations in climate and topography, often within short distances, and consequently it is not possible to delineate broad zones on a basis of specific crop production. A general classification may be made, however, based on the climatic requirements of various crops in relation to certain combinations of prevailing conditions of temperature, moisture, and sunshine. In these zones we find, as in the Tropics, the natural vegetation ranging from the better-watered forest and agricultural lands, through the steppes, to the desert. (See fig. 6.)

The forests of these zones are chiefly coniferous in the higher altitudes and latitudes, or the colder portions, and deciduous where temperatures are higher. Forests flourish as a rule where the mean summer temperature is over 50° F., with comparatively abundant rainfall. They are found largely along the rainy west coasts of the continents and in much of the interior land areas of the Northern

Hemisphere. On the north the great forest belts merge into the tundras and on the south into the open prairie or steppe country.

Because of their more favorable climates the southern portions of the original forest belts are the lands best suited for agriculture, and here nearly all the great cereal crops of the world are grown. Most of this agricultural land was originally forested, but it has been gradually cleared, and the woodlands have given way to modern farms. At present the most advanced civilizations of the world occupy the originally forested areas. Not all of the present open lands, however, were forest covered, as in many places the conditions of moisture are unfavorable for tree growth. This is especially true in subtropical sections with their long dry seasons and light rainfall, and also in some interior continental areas where precipitation is not sufficient and other elements, such as high winds, are unfavorable for forest production.

Between the areas of heavier rainfall which comprise the forest lands of the Temporate Zones, and the interior continental deserts, come regions of scanty precipitation. Here are broad expanses of treeless plains, or grasslands, called "steppes." In these the general severity of the climate, the small rainfall, low relative humidity, rapid evaporation, and other factors favor grass rather than tree growth. The Asiatic Plateau and southern Siberia comprise the most extensive steppe regions of the world. Other well-known steppe lands in the Eastern Hemisphere include southern Russia and Hungary, parts of Arabia, Persia, and Asia Minor. In the Western Hemisphere extensive steppe lands are found in southeastern and south-central South America and over the Great Plains of North America lying just east of the Rocky Mountains, including the prairie lands. The steppe regions of both North and South America are most valuable for grazing purposes, though many cultivated crops are grown, particularly those crops known to be drought resisting, such as grain sorghums. The Asiatic steppes are extremely unfavorable for plant life. These occupy the center of an immense overgrown continent, far removed from marine influence. Consequently severe temperatures prevail, as well as extremely unfavorable dryness. The American grasslands have the advantage of occupying a narrow belt, with a well-watered and fertile region near by. Where farming operations are conducted in the drier regions larger farms are necessary. In Nebraska it has been found that on some of the table-lands in the western portion of the State, where the rainfall is less than 20 inches, about six times as much land is required, under natural conditions, to produce a given amount of plant matter as is needed in the southeastern portion, where the rainfall exceeds 30 inches.

The polar zones are, in general, outside of the limits of tree and cereal growth. Here are found only the hekistotherms of the plant family, such as Arctic mosses and lichens, which require less heat than any other form of vegetation. These are found where the average temperature for the warmest month of the year is less than 50° F.

Mountain climates of the Temperate Zones.—The mountain climates of the Temperate Zones are characterized by lower temperatures, increase in precipitation up to a certain limit, and by a greater

intensity of sunshine than on the lowlands. Even when they rise from dry plains the mountains are often forest-covered on their upper slopes, with agricultural lands in the lower altitudes and grazing lands at the intermediate elevations. The value of mountain land is often determined by its exposure, according to whether the slope is northern or southern. Southern slopes in the Northern Hemisphere are usually more desirable than northern exposures.

An important consideration of mountain climate in relation to agriculture is found in the low night temperatures in the valleys as compared with the surrounding hillsides, which usually results in the earlier frosting of the valley crops. In the Alps this is well recognized, and farmhouses and villages are often built on the hillsides instead of in the valleys. During the calm, clear weather in the late fall there may be seen green fields decked with flowers and sheep grazing on these slopes: whereas, in the valley below the trees may be leafless, all activity of plant life having long since ceased by reason of killing frost. In North Carolina and Virginia there are rather poorly defined zones along the mountain sides called "thermal belts" that may escape killing frost when crops below are destroyed. Slopes, even though moderate, are also of much importance in fruit production, especially in the western United States, since they permit the draining away of cold air at night and hence delay the occurrence of frost.

Mountain influence on vegetation is clearly shown in the southwestern portion of this country. From the dry lowlands of southern California, covered with orange groves maintained by irrigation, one may pass up the slopes of the Sierra Nevada into the forests. These at first are deciduous, but coniferous trees increase in number as the higher elevations are reached until finally the tree line is passed and deserts of perpetual snow are attained. The lofty plateaus of Arizona and southern Utah rise from the desert valleys into regions of sufficient rainfall to support forest growth. In many places summer grazing is practised in the higher elevations, the winter range being on the lower levels. This is especially the custom in the Alps and the Himalayas, the Urals, in Norway and Sweden, and in the western United States.

The World's Future Food Supply

In recent centuries the population of the world has increased rapidly. The question of sustenance for the multiplied millions has been taken care of by migrations to less densely populated countries, principally the Americas, and by importation from foreign lands of plenty. By this process the unoccupied arable land of the world has been gradually occupied until to-day very little remains in regions with healthful climates. North America now leads in production of many food crops, yet but yesterday, as world history goes, it supplied food for only a handful of the red men of the forest. To-day the United States, with only about 5 per cent of the world's population, produces about one-seventh of its cattle, one-fifth of its wheat, one-fourth of its oats, one-third of its hogs, and three-fourths of its corn.

It is true that our production, by the utilization of all available resources, such as irrigation in the West, and intensive culture in the

East, comparable to that practised in the older and more densely populated countries, could be greatly increased. It has been estimated that we could feed between three and four hundred millions of people, but with the millions knocking at our door for admission and our own natural increase in population it is easy to vision the time, especially with unrestricted immigraton, when this country itself would have to look elsewhere for food. The Americas are the world's last food frontier. When they shall have reached their maximum production, if populations continue to increase as in the recent past, a serious situation as to food will likely arise.

In the United States, up to the present time, as population has increased, the problem of food has been met by extending agriculture from the original narrow strip along the Atlantic seaboard farther and farther westward into virgin and fertile soils. We now have occupied all of these, however, and further increases must be obtained either by fertilization or reclamation of relatively unproductive eastern lands or by irrigation in the semiarid West. Any of these methods will present problems far more difficult than our former method of expansion has required.

The United States and other countries have been experimenting in the last few years with crop production on the semiarid steppe lands. Various beliefs have been prevalent as to the possibility of permanently changing the climate in these regions through the influence of cultivation and otherwise, but it is well known that the fundamental, physical conditions of air and earth that control the geographic distribution of rainfall can be materially changed only through the slow processes of Nature herself operating through the centuries in her usual deliberate way. The climatic limitations to agriculture in the vast steppe lands of the globe are now clearly recognized. Where irrigation can not be practised, by far the greater portion of these must remain primarily grazing lands, and attempts to grow crops by ordinary methods of farming, especially in the drier and warmer sections, will continue, as in the past, to be fraught with uncertainty.

Climate and Agriculture in the United States

With regard to climate favorable for agriculture, the United States is very fortunate in comparison with most other countries of the world. The vast expanse of comparatively level and fertile country, extending from the Great Plains on the west to the Atlantic Ocean on the east, and from the Canadian border to the Gulf of Mexico, receives, as a rule, adequate rainfall, and the temperatures are mostly favorable for crop growth. Moreover, the latitudinal range of the country is such, extending from the cold zone in the extreme north through the subtropical zone in the south, as to permit of the growth of a great variety of plants having a wide range in temperature requirements.

There are, however, large areas in the western half of the country which, because of unfavorable climatic conditions, or rough topography, are unsuited for intensive crop growth unless irrigated. There are also smaller areas in the extreme northern portion of the country and in the high elevations of the West, where moisture conditions are comparatively favorable, in which crop production is

restricted by the cool weather and the short growing season. About 40 per cent of the land area of this country receives on the average less than 20 inches of precipitation annually; one-third has from 20 to 40 inches and one-fourth from 40 to 60 inches.

Rainfall in the United States

Figure 9 shows the average annual precipitation in the different sections of the United States. East of the one hundredth meridian this ranges from 20 to 60 inches, with a more or less uniform increase from northwest to southeast, and in the Southern States from west to east at least to the ninetieth meridian. Over the Great Plains the amounts range from about 12 to 20 inches, whereas in many of the valleys and lower elevations of the Rocky Mountain-Plateau States there is usually less than 10 inches of precipitation

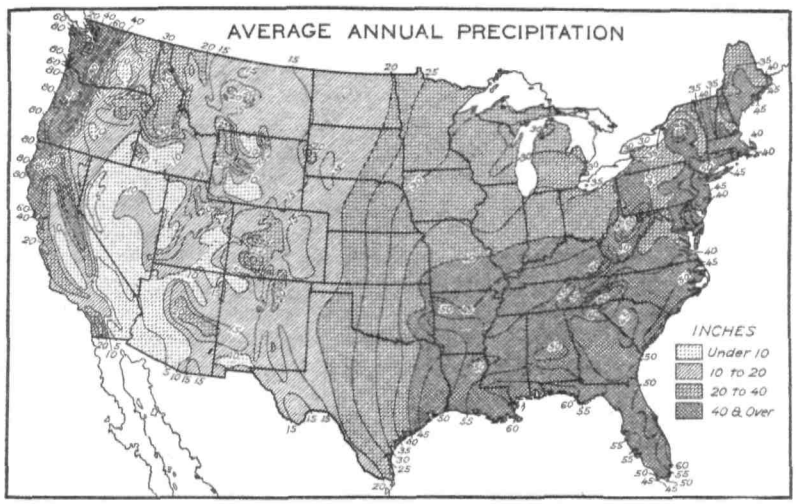


FIG. 9.—On a basis of the average annual precipitation as related to crop growth, the United States may be divided into an eastern and a western part. The dividing line roughly coincides with the one hundredth meridian, in the vicinity of which the annual rainfall is about 20 inches. In general east of this, precipitation is sufficient for crop production by ordinary methods, but in the West large areas have deficient rainfall, necessitating, for crop growth, special methods for artificially supplying moisture, or conserving it in the soil. Much of the West is primarily best suited for grazing purposes instead of for growing crops

during the year, but the amounts are considerably greater than this in the higher elevations. In the Pacific Coast States precipitation ranges from more than 120 inches on the west side of the Olympic Mountains to less than 5 inches in parts of southeastern California.

Figure 10 shows, for the different sections of the country, the percentage of the annual precipitation that occurs during the warm season, April to September, inclusive, often designated the "crop-growing season." In the eastern two-thirds of the United States it is the rainfall of this period with which the farmer is mostly concerned, but from the Rocky Mountains westward the precipitation occurring in the winter months is of great importance. In fact, for

some western localities the amount of snow stored in the mountains during the winter, as a reserve water supply for irrigation purposes during the following growing season, largely determines the degree of success of many farming operations.

Again, in most of the Pacific coast region fall-sown grains, under the influence of comparatively mild temperatures and ample moisture, grow steadily during the winter season and mature after the cessation of rains, using the moisture stored in the soil during the wet winter months. East of the Rocky Mountains these conditions are largely reversed. Here grain makes practically no growth after winter sets in, but with the advent of spring growth is rapid under the influence of favorable conditions of temperature and moisture.

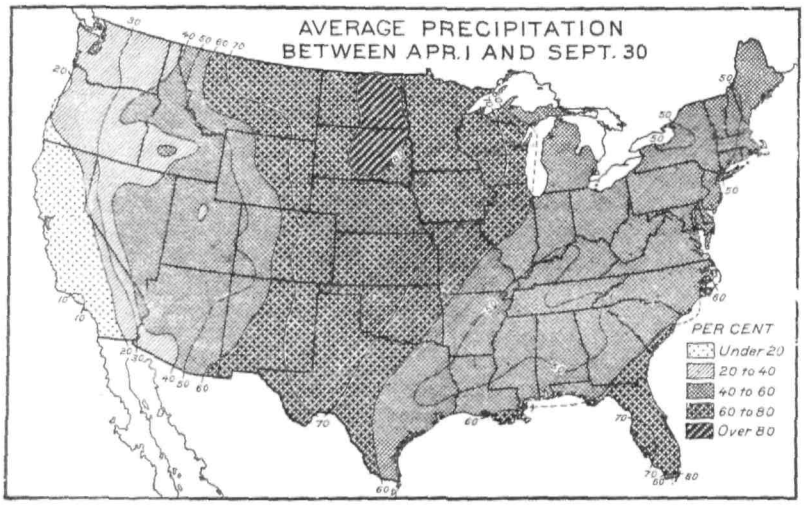


FIG. 10.—Percentage of the annual precipitation that occurs during the six warmer months of the year. There are three principal types of seasonal distribution of precipitation in the United States. Distribution is rather uniform in the East, but in the Great Plains much the greater part of the annual amount falls in the summer season, while in the far West there is a marked winter concentration. Wherever the total rainfall for the year is scanty the seasonal distribution is of much importance, and this is very favorable in the Central-Northern States. In fact, throughout the Great Plains region from 70 to more than 80 per cent of the annual precipitation occurs during the period of the year when rainfall is of most benefit to crops

Rainfall and Crop Growth

The amount of moisture required by crops for their best development varies for different localities and for different crops. The minimum amount of rainfall needed for ordinary farming, under favorable seasonal distribution, is usually considered to be between 15 and 20 inches of annual precipitation, but several modifying influences, which have wide geographic variations, must be taken into account. Among these are soil texture as affecting its moisture-retaining qualities, temperature, and the rate of evaporation. Broadly speaking, about 15 inches of annual rainfall may be considered as about the minimum amount necessary in the relatively cool climates, where the mean summer temperature ranges around

65° F. and 20 to 25 inches in warmer areas, where the summer mean is 75° to 80° F.

In considering the relation of rainfall to crop production the question of loss of moisture by evaporation from the soil and by transpiration from the plants themselves is of much importance, especially in regions like the western half of the United States, where the moisture supply through rainfall is small. The rate of this loss depends largely on the temperature, soil texture, wind movement, and relative humidity of the atmosphere. Over the Great Plains region the amount of evaporation from a free-water surface is much greater in the south than in the north, ranging from about 30 inches in North Dakota to 50 inches in southwestern Kansas and to about 60 inches in the southern portion of the area. The agricultural importance of these differences, stated in terms of actual equivalent rainfall, can be determined only approximately, but some investigators have shown that for effectiveness in plant growth 20 inches of annual rainfall in North Dakota are equivalent to about 30 inches in southern Texas.

For these reasons the decrease in rainfall from south to north does not have the same significance as a similar decrease from east to west. The gradual decrease in moisture westward over the Plains correlates with the gradual change in the natural vegetation, but the greater quantity of rainfall in the South, as compared with the North, does not show such a correlation. This is due to the more rapid evaporation in the South and to the greater water requirements of plants with the higher prevailing temperatures. For example, it has been found that to produce a ton of dry matter, alfalfa, at Dalhart, Tex., required 1,005 tons of water; at Akron, Colo., 853 tons; at Huron, S. Dak., 630 tons; and at Williston, N. Dak., 518 tons.

Another factor of importance for plant growth, particularly in regions of scanty rainfall, is the length of droughty periods. Over the Great Plains this is normally greater in the south than in the north. The rapid-growing plants and grasses utilize the short growing period, when moisture is present, in vegetative and seed production, and have drought-resisting qualities that usually carry them through the dry season. Thus, drought-resisting plants, such as grain sorghums, are more common in the southern Plains region. One cause for the frequency of damaging droughts in semiarid sections is the dryness of the subsoil, which causes harmful effects to vegetation more quickly after the cessation of rains than is experienced in regions where rainfall is heavier with a greater reserve supply of subsoil moisture. When rain falls in moderate quantities it moistens only the surface soil and is quickly used by the plants or lost by evaporation, but little passing to the soil below for emergency use.

The rapidity with which soil dries out depends largely on its texture and water-holding capacity. A heavy soil will hold 1 inch of rainfall in the surface 6 or 8 inches, in which the soil moisture is readily available to roots of plants. The same amount of rainfall will penetrate a foot or more in sand, but at the same time loss by evaporation is more rapid in the latter; consequently damaging droughts are more frequent in light sandy soils than in those of heavier texture.

Still another matter of importance is the seasonal distribution of rainfall. Wherever the annual amount borders on the minimum requirement for successful crop growth it is important that the maximum rainfalls occur during the season in which the moisture can be best utilized by growing crops. Over the semiarid Plains region the seasonal distribution is very favorable. (See fig. 10.) Winter precipitation is very light, less than 10 per cent of the annual amount occurring during the three months from December to February, inclusive, in the central and northern portions. In Montana and the Dakotas May and June are usually the months of greatest rainfall. Elsewhere over this region May, June, and July are about equal, except in western Texas and eastern New Mexico, where July has the maximum.

Rainfall Variability

The variations in rainfall from year to year are also important. In general, there is less than the normal amount of rainfall in slightly more than half the years, with a well-recognized tendency for several successive years of comparatively heavy rainfall to be followed by another group of years with deficient amounts. This tendency renders farming by ordinary methods precarious in many of the drier western portions of the country. Abundant crops in years of ample moisture may encourage the extension of the cultivated areas into normally drier regions, but the records show that these are only temporary conditions which are likely to be followed by years of drought, with rainfall entirely insufficient to mature crops. Because of these facts, unless a wise system of farming practice is followed, with provisions for tiding over droughty periods, ordinary farming in the drier portions of the Western States will continue to be hazardous.

Temperature Influence on Periods of Plant Growth and Rest

Of the three climatic elements that dominate plant growth—precipitation, temperature, and sunshine—temperature is the most important in determining, on the one hand, the geographic boundaries within which certain plants thrive best, or, on the other, fail entirely to develop. The temperature of a region establishes also the seasonal limitations of growth.

In most sections of the United States there are periods during the year, varying in length in different localities, with temperature too low for active plant growth: these are known as rest periods. When the temperature in its annual march rises to the vegetative or active value, growth, in general, begins. The rate is slow at first, but is accelerated with the rise in temperature, provided sufficient soil moisture be present, until the optimum is reached, after which growth is slowly retarded until the winter rest period is again entered. The rest, vegetative, and optimum temperature values differ for different plants and localities, but, in general, most cultivated plants remain more or less dormant in temperate climates during the months when the mean monthly temperature remains below 49° F.

Figure 11 shows the general rest periods for most plants in different sections of the United States, as determined by the average time in months between the first month in fall and the last in spring, inclusive, with a mean temperature below 49° F. The vegetative period is represented by the months of the year other than those shown for the several areas on the chart.

In portions of the Northeastern States, in the western upper Lake region, most of Wisconsin and Minnesota, and also in the Dakotas, Montana, and the central and northern portions of the Rocky Mountain region, the rest period extends from October to April, or is of seven months' duration. Immediately to the south of this area there

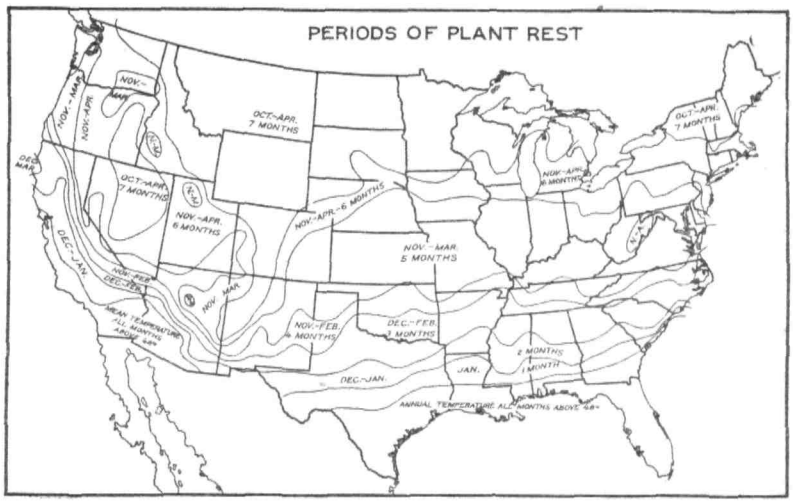


FIG. 11.—General rest period for most plants in different sections of the country, as determined by the average time in months between the first month in fall and the last in spring, inclusive, with a mean temperature below 49° F. The growth periods are the months other than those shown. In most temperate climates there are periods during the year, usually increasing in length with the latitude, when the temperature is too low for active plant growth. These are known as winter rest periods. In general cultivated plants are more or less dormant during the months when the mean temperature is below 49°. Broadly speaking, those months with mean temperatures between 49° and 72° may be considered periods of vegetative growth for most crops. When the average temperature is above 72° and moisture is sufficient, tropical and subtropical plants will continue to grow and fruit will ripen, but when moisture is lacking this becomes a period of summer rest

is a belt, of limited width, in which the mean temperature does not fall below 49° F. until November, but remains below that value in spring for the month of April, thus covering a period of six months. Throughout a wide belt, extending from Kansas and Nebraska eastward to the middle Atlantic coast and reaching as far south as the northern portions of North Carolina, Tennessee, Arkansas, and Oklahoma, the rest period extends from November to March, five months. From this area it decreases southward to the central portion of the Gulf States, where only one month, January, has a mean temperature below 49°, and the Gulf coast, including the whole of Florida, has a mean monthly temperature of 48° or higher in every month. Owing to the diversity of topography from the Rocky Mountains westward, very little detail has been attempted in

drawing the chart and, consequently, the areas shown for these regions are broadly generalized. However, the dormant period is mostly from six to seven months in length, except in portions of the Pacific Coast States and in the lower Colorado River Valley, where in some sections the monthly means do not fall as low as 49°.

Temperature Influence on Crop Distribution

The agricultural regions of the United States in which the several crops dominate have more or less definite boundaries, extending, in a general way, in an east-west direction conforming to the isothermal trend. Broadly speaking, we may divide crops into two classes, those known as cool-climate crops, more intensively grown in the central and northern sections of the country, and warm-climate crops, grown chiefly in the Central and Southern States. Among the former may be included potatoes, wheat, oats, buckwheat, flax, and most grasses; among the latter we find cotton, corn, rice, sugarcane, and peanuts. While the most intensive production of both winter wheat and corn is found in the same area, one classed as a cool and the other as a warm-climate crop, the former matures early in the season, before the warmer weather of summer comes, whereas the most critical period of growth of the latter is the warm, midsummer season.

In that portion of the country lying east of the Rocky Mountains we find five more or less distinctive climatic provinces which correspond to definite crop groupings. These have been designated the subtropical coast, the Cotton Belt, the corn and winter-wheat region, the Spring Wheat Belt, and the hay and pasture province.

Subtropical coast.—This section has a warm and comparatively equable climate, with an average winter temperature ranging from about 55° F. along the central Gulf coast to 70° in extreme southern Florida, and an average summer temperature of 80° or slightly higher. The principal crops in this province are winter truck, citrus fruits, sugarcane, and rice. The winters are usually mild, although an occasional cold wave, with freezing temperatures, may be expected; in fact, temperatures as low as 0° F. have been recorded as far south as the Alabama coast. The summer temperatures are appreciably tempered by proximity to the Gulf.

Cotton Belt.—The northern limit of successful commercial production of cotton is determined largely by temperature conditions. A mean summer temperature of about 77° F. is the limiting value, which corresponds to a frostless season of about 200 days. Along the northern margin of the belt the last killing frost in spring occurs on the average about April 10 and the first in fall about October 25. The mean summer temperature in the southern portion is about 82° F. The cotton plant grows successfully under a much wider range of precipitation than of temperature. In the cotton-growing States the average annual rainfall varies from little more than 20 inches in the extreme western portion to 55 or 60 inches in some eastern sections of the belt.

Corn and Winter-Wheat Belt.—The principal Corn and Winter-Wheat Belt extends roughly from the Ohio Valley States westward to the Rocky Mountains. The average winter temperature in this

northern, and the average summer temperature from about 78° in the south to 70° in the north. The average frostless season ranges from about 140 days in the north to about 200 in the south.

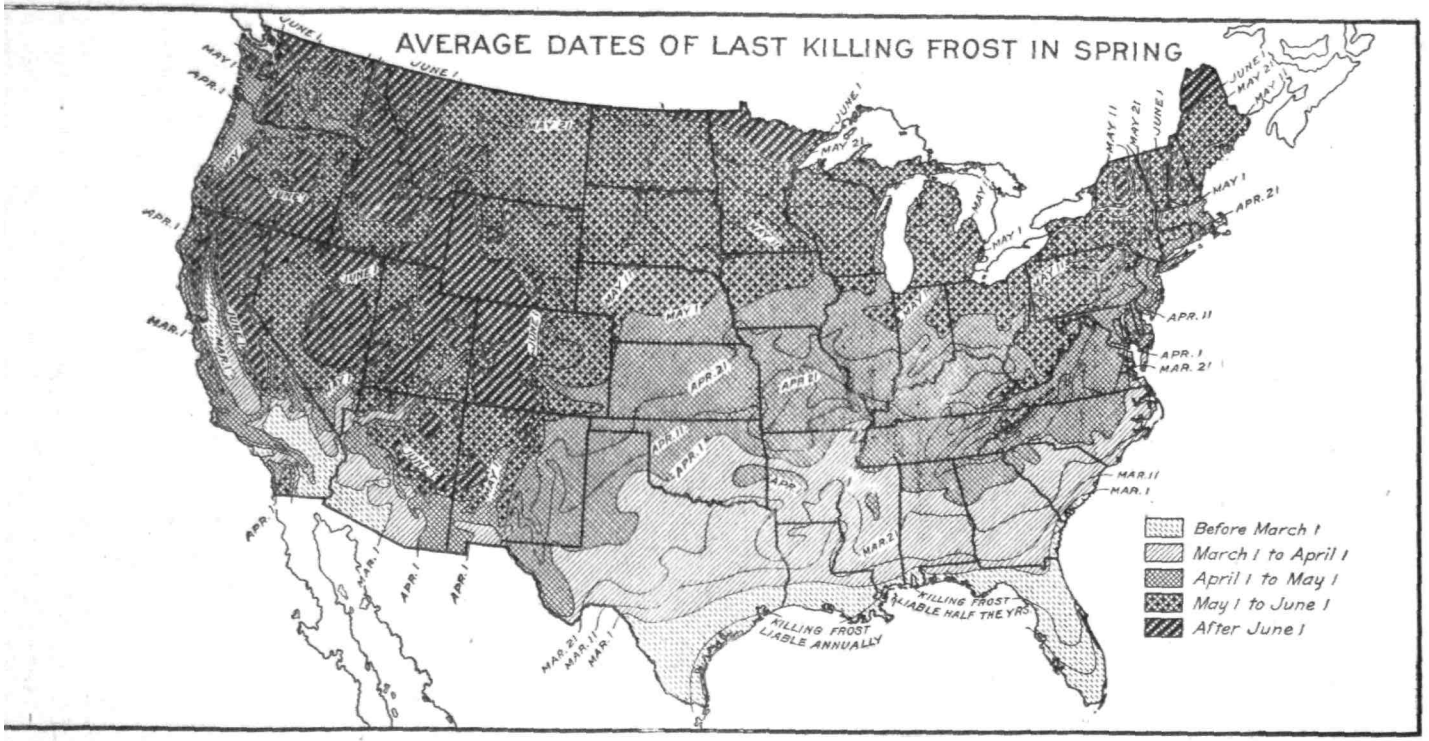
The thermal constant for corn in the principal producing areas, represented by the accumulated day degrees of temperature in excess of the normal daily temperature at the average date of planting, to the date of maturity, ranges from 1,600° to 1,800° F. Along the northern limit of successful commercial production it is about 1,400°, but in some Southern States, where slower-maturing varieties are planted, it runs as high as 2,800°. It is interesting to note that in the more southern States there is a large excess of heat during the growing season over that required for maturing corn. For example, in southern Georgia the potential thermal constant for this crop, when computed from the accumulated day degrees of temperature above the average at the time of beginning of planting to the average date of first killing frost in fall, is over 4,000° as against 1,600° in central Iowa. This permits successive plantings in the South covering a considerably longer period in the spring. That is to say, early, intermediate, and late crops can be grown.

Spring-Wheat Belt.—This belt lies mostly in the central-northern section of the country, principally in the States of Minnesota and the Dakotas. The average summer temperature along the Canadian border is about 65° F., whereas the southern boundary of the belt conforms approximately to the mean summer isotherm of 70° and a mean winter temperature of 20°. This is by no means the northern limit of spring-wheat production, however, as much is grown in the Canadian Provinces farther north. In the United States the average frostless season of the belt varies from about 100 days in the north to 140 days in the south. As in the Corn and Winter-Wheat Belt, farming is rather diversified, but spring wheat forms a large percentage of the crop production.

Hay and pasture province.—This province is less well defined than the others mentioned and is, as a rule, a region of varied agricultural conditions. It includes mostly the northern border States from Minnesota eastward and extends southward over the Middle Atlantic States and Appalachian Mountain districts. The average summer temperature ranges from about 62° to 70° F. and the average winter temperature from 10° to 25° F. Climatic conditions in this province are favorable for the production of potatoes, buckwheat, and other cool-climate crops, but dairy products predominate. They amount to about one-half of the total for the United States.

The Frost Hazard

The limiting factor in the successful cultivation of many spring-planted crops in the temperate and cold zones is the usual time of the occurrence of the last killing frost in spring and the first in autumn, or the length of the frost-free season. In most farming operations there is, from time to time, more or less loss occasioned by frost. It is important, therefore, that the frost situation, which varies greatly in different sections of the country, be carefully studied in connection with farming operations. Under ordinary conditions fairly big frost risks can be taken in early planting for some crops where high prices are usually realized for products



IG. 12.—Average date of last killing frost in spring. In half the years it will occur earlier than the dates shown and in half the years later than these dates. It follows that spring crops which are advanced sufficiently to be harmed by frost on the average date of its last occurrence will be killed in 50 per cent of the years. Killing frost usually occurs each year to the Gulf coast and to the central portion of the Florida peninsula, but in extreme southern Florida it occurs, as a rule, in less than half the years. In some extreme northern districts and in the higher elevations of the Western States the average date of last killing frost is later than June 1, but in the Gulf coast sections it is infrequent after March 1

which are marketed early, but large risks are not, as a rule, advisable for general crops. The simplest of all frost summaries is the average date of its last occurrence in spring and the first in fall. The intervening period is usually called the frost-free season.

Figure 12 shows the average date of the last killing frost in spring. Killing frost does not occur, as a rule, along the south Atlantic coast from central South Carolina southward and in the southern portions of the Gulf States after March 1. To the northward the average date of the last killing frost in spring becomes progressively later, as shown by the chart.

From the Rocky Mountains westward, owing to diversity of topography, wide variations obtain in the average dates of the last killing frost in spring and of the first in the fall, and, consequently, no general statement applicable to this region can be made. The

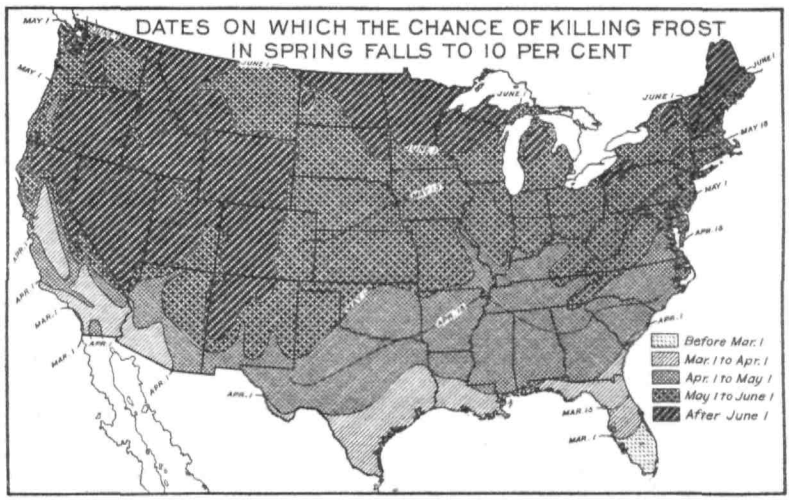


FIG. 13.—Dates in spring after which the chance of killing frost is less than 10 per cent; that is, killing frost will occur in the long run after the dates shown for different sections less frequently than 10 years in a century

average spring dates range from before April 1 along the central and southern California coast to after June 1 in the higher elevations of the Plateau and Rocky Mountain districts. Killing frost may be expected, as a rule, in half the years as late as the average date of occurrence. That is, in the long run, the time of occurrence in half the years is earlier than the average date and in the other half later.

Figure 13 shows, for the country east of the Rocky Mountains, the dates after which killing frost is likely to occur only 1 year in 10 on the average. After April 1 the chance of killing frost along the south Atlantic coast and in the southern portion of the Gulf States is only 10 per cent. The line for May 1 extends as shown by the illustration. In much of North Dakota and in the northern portions of Minnesota, Wisconsin, and Michigan, as well as in parts of New York and in northern New England, killing frost may be expected at least 1 year in 10 after June 1. This is the case also in the central and western Rocky-Mountain Plateau States, except in a few favored localities.

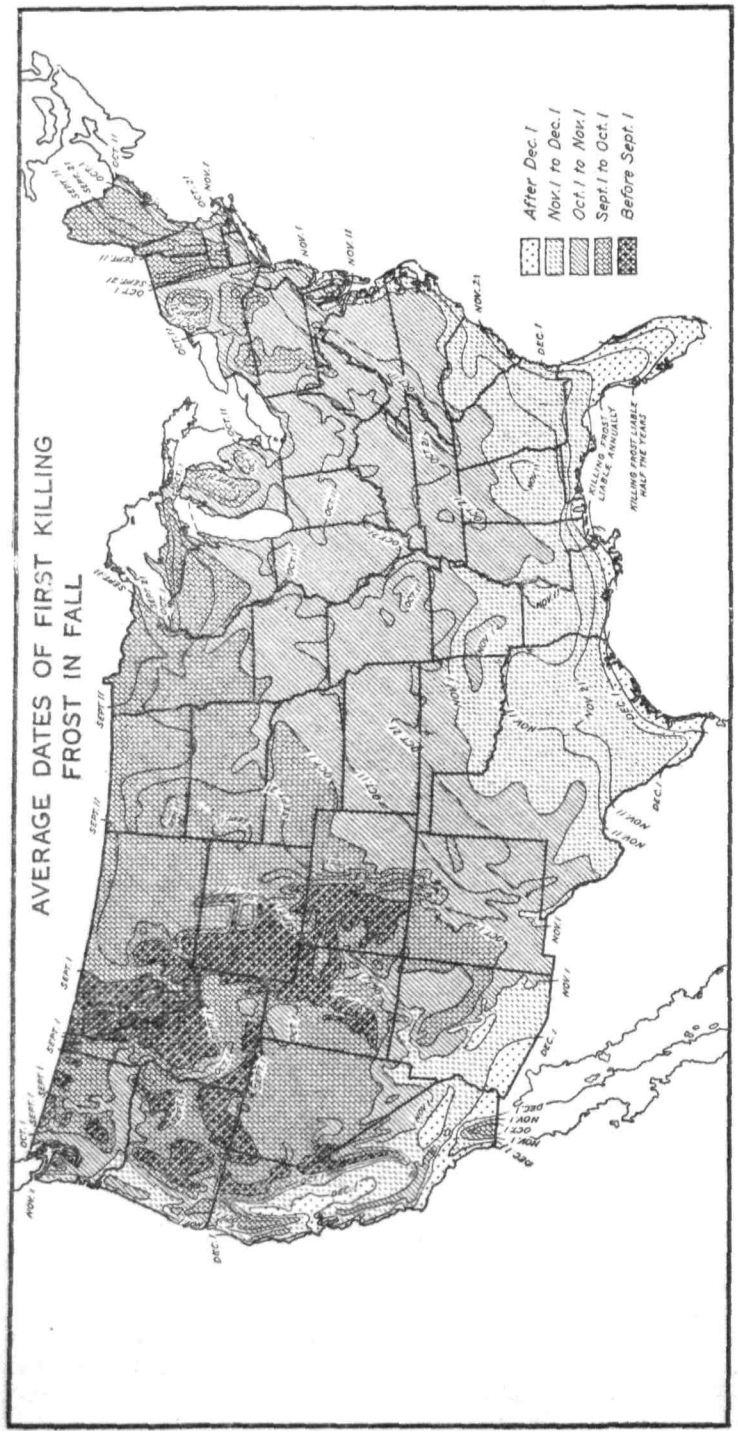


FIG. 14.—Average date of first killing frost in fall, by which time it may be expected to occur in half the years. Many summer crops are subjected to frost damage before maturity in fall, especially when growing conditions during the summer are such as to retard development. The average first fall frost dates range from before September 1 in some of the colder sections of the country to December 1 on the east Gulf coast. In much of the northern portion of the Corn Belt the growing season usually is terminated by killing frost during the first 10 days of October, whereas in the northern Cotton Belt the average time of first killing frost is near the end of that month. Killing frost has occurred at every point on the mainland of the United States where records have been kept, Key West, Fla., being the only station with no record of killing frost

Much damage is occasionally done to immature crops by killing frost in fall, particularly when the summer season has been unfavorable for rapid maturity and crops are, consequently, late. Figure 14 shows for the United States the average dates of first killing frost in fall, by which time it may be expected to occur in half the years. It follows that crops susceptible to frost damage and crops which do not mature earlier than the dates indicated for the several localities will probably be damaged by frost in half the years. This does not mean that killing frost will be experienced every other year on these dates, but that, in the long run, there is an even chance that it will occur as early as the dates mentioned.

This chart shows that along the northern border of the country killing frost may be expected in half the years as early as September

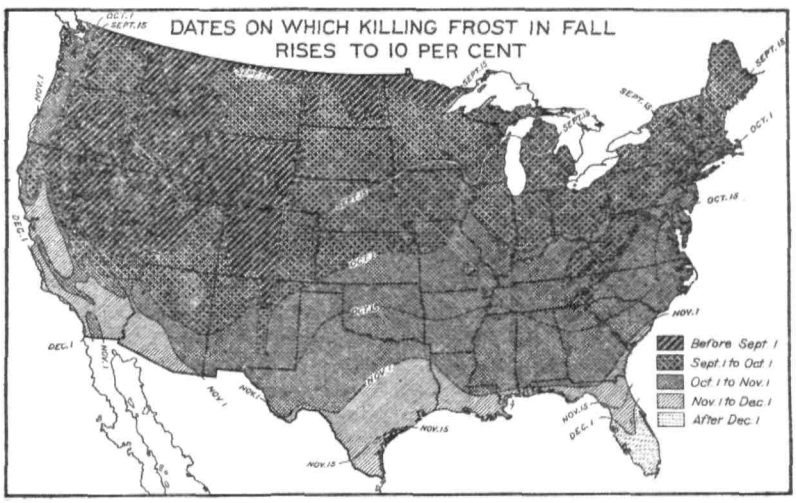


FIG. 15.—Dates in fall prior to which the chance of killing frost is less than 10 per cent. There is very little risk of damage to crops that mature before the dates shown on the chart for the several localities

20. To the southward the dates become progressively later until, in the immediate Gulf region, it does not occur, as a rule, until the end of November, and in much of Florida and along the west Gulf coast until after December 1. Killing frost has been experienced in every section of the United States where records have been kept, except on some of the Florida Keys. It may be expected in less than half the years, however, in the extreme southern portion of the Florida Peninsula.

Figure 15 indicates the dates in fall before which killing frost occurs, in general, less frequently than 1 year in 10. Crops that mature by the dates indicated on this chart, for the various sections of the country, are in very little danger of damage by frost. In the northern portion of the Corn Belt—that is, from eastern South Dakota to southern Wisconsin—killing frost may be expected 1 year in 10 as early as September 11, and in the southern portions from Tennessee to northern Oklahoma about October 11. The latter localities

coincide with the northern portion of the Cotton Belt. In eastern Gulf sections and in central Texas it does not occur with this frequency until about the 1st of November.

The frost-free season.—The potential frost-free season is the average period between the last killing frost in spring and the first in fall. No type of crop production can be successfully maintained where the risk of frost damage is not more than overbalanced by profits at other times. If spring crops that may be killed by frost are planted early enough to be in condition susceptible to harm on the average date of the last killing frost, the risk of loss is 50 per cent, and likewise crops that require the entire frostless period for maturity are subjected to damage in fall in 50 per cent of the years. When both of these conditions prevail, the chance of growth and maturity without damage is only 25 per cent, or one year in four. Such risks are too big to carry and, consequently, planting operations, wherever possible, should be so timed as to allow a reasonably safe margin from frost danger in spring and for maturity in fall before the risk becomes too great.

Figure 16 shows, for different parts of the United States, the average length of the frost-free season. This period is about 100 days in some localities along the central-northern border of the country, about 140 days in the northern portion of the Corn Belt, 200 days along the northern border of the Cotton Belt, and about 280 days in most of the Gulf coast sections. It will be noted that the frost-free season increases rapidly in length from the northern border of the country to the southern.

Spring planting and frost-free dates.—The best dates for planting tender spring crops in different parts of the country depends mostly on the average date of last killing frost in spring, as shown in Figure 12. In general, spring wheat may be seeded about 5 or 6 weeks before the average date of last killing frost, spring oats 4 or 5 weeks, and early potatoes 2 or 3 weeks before the killing-frost date. Corn requires more warmth for successful germination and should not be planted, as a rule, until near the average date of the last spring frost, while cotton planting should be delayed until about a month after that time, the latter corresponding very well to the latest date in spring on which a killing frost has occurred.

Such truck crops as early cabbage plants from seed beds, radishes, collards, onion sets, early smooth peas, kale, turnips, and mustard may be planted two weeks or more before the average date of last killing frost. Beets, parsnips, carrots, lettuce, spinach, wrinkled peas, cauliflower plants, celery seed, and Chinese cabbage may be planted about the average date, but the planting of snap beans, okra, and tomato plants should be deferred until about two weeks after that time, and such plants as Lima beans, melons, eggplants, cucumbers, squash, and sweet potatoes should not be planted till the soil is well warmed up, or about three or four weeks after the average date of last killing frost.

Sunshine and Light

Sunshine is a very important climatic element, not only from the standpoint of agriculture but also from its physical effect on man

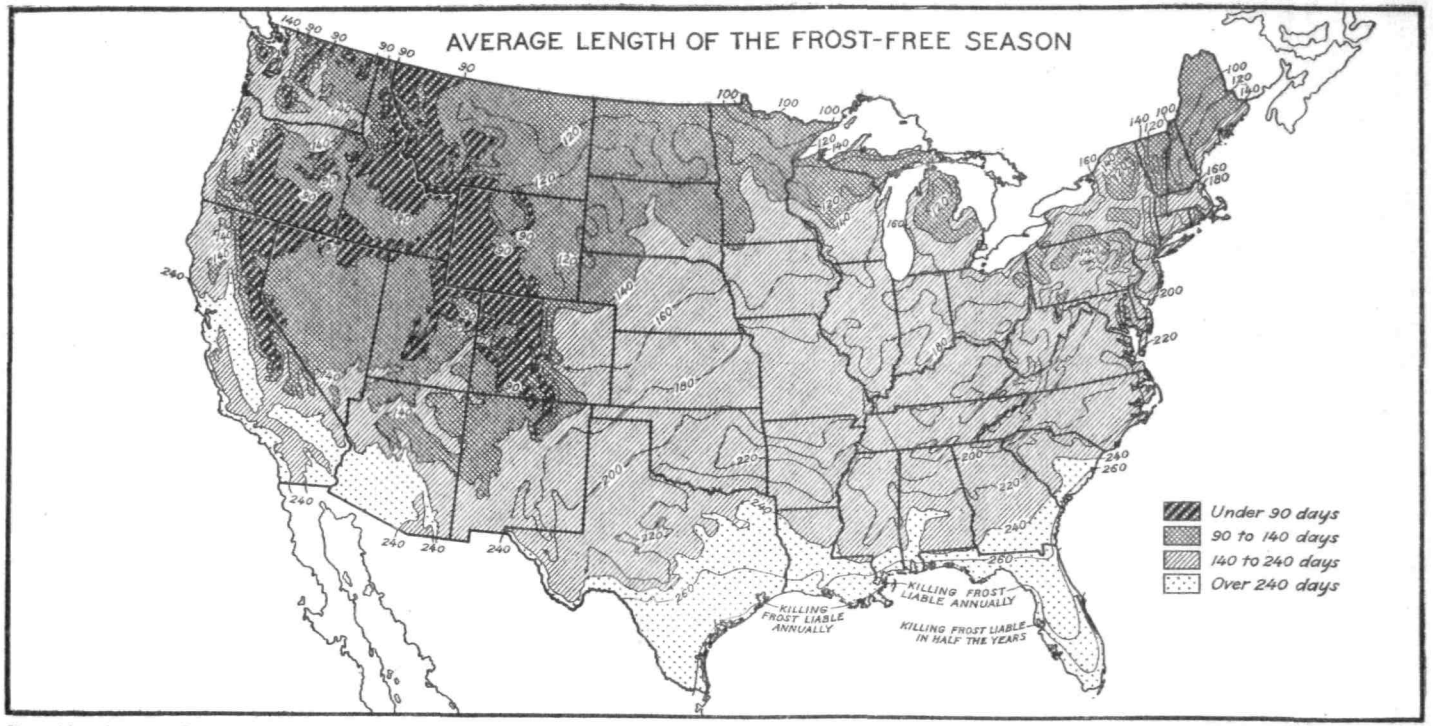


FIG. 16.—Average length of the frost-free season, or the number of days between the average date of last killing frost in spring and the first in fall. This period is sometimes referred to as the growing season. It ranges from less than 90 days in some higher western districts to more than 260 days along the immediate Gulf Coast. It is about 140 days in length along the northern margin of the principal Corn Belt and 200 days in the northern portion of the Cotton Belt. In some higher elevations of the Western States killing frost usually occurs in every month of the year. About one-fourth of the area comprised in the United States has a frost-free season of less than four months, and somewhat more than one-third from four to six months, while about one-tenth of the co intry has more than eight months, on the average, without killing frost

and other animals. Light plays an important part in controlling the plant structure, and the depressing influence on human beings of long periods of cloudy and damp weather is noticeable, even to the casual observer. On the other hand, long periods of successive days with continuous sunshine and high temperature are trying on all animal and most plant life. Long, hot periods are usually characterized by few clouds and much sunshine, when, day after day, the amount of insolation received during the daytime results in an accumulation of heat in excess of that lost at night by radiation.

With an ideal sea level horizon, the amount of sunshine received in any locality, for the year as a whole, would be determined by the prevailing state of the sky as to presence or absence of clouds and fog, although there is a slight increase with latitude in the possible

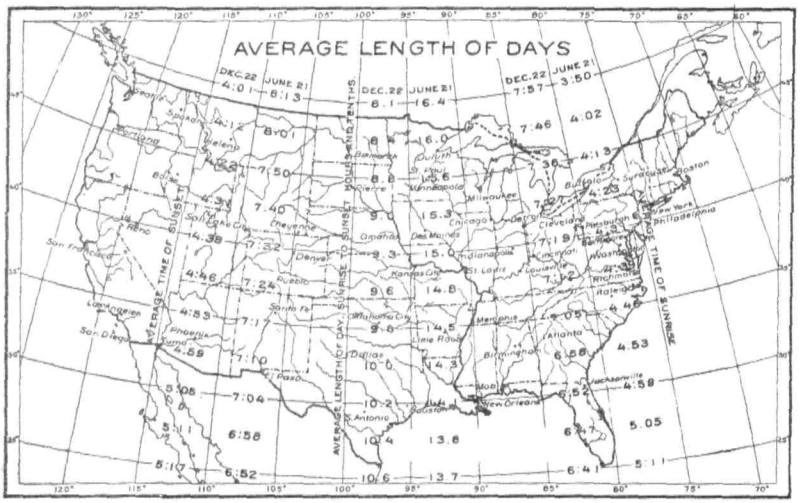


FIG. 17.—For each 2½° of latitude the average mean solar time of sunrise and sunset and the average length of the day, sunrise to sunset, during the longest and shortest days of the year, June 21 and December 22, respectively. In the extreme southern portion of the country the longest day is about 14 hours in length and the shortest about 10½ hours, whereas in the extreme northern portion the longest is about 16 and the shortest about 8 hours. During clear weather in summer the sun shines in the extreme northern portion of the country about two hours longer during the day than in the extreme South. This is an important factor in crop growth in these northern localities, as the greater amount of sunshine compensates somewhat for the lower temperature. For the year as a whole the possible amount of sunshine is approximately the same throughout the world, or an average of about 12 hours a day

amount of yearly sunshine. This variation is unimportant, however, amounting in the course of a year to a total of only about 35½ hours between latitudes 25° and 49° N., representing the extreme southern and extreme northern portions of the United States; the average possible yearly amount at latitude 25° is 4,437.2 hours, and, at latitude 49°, 4,472.6 hours for a 365-day year. The possible amount of sunshine, however, has wide seasonal variations in middle and high latitudes, the variations increasing rapidly with the latitude.

Figure 17 affords a comparison of the possible amount of sunshine that could occur in different portions of the United States during the longest and the shortest day of the year. It shows for each 2.5°

of latitude the average mean solar time of sunrise and sunset and the average length of the day, from sunrise to sunset, on December 22 and June 21, or the time of the winter and summer solstices. At the time of the equinoxes, about March 21 and September 22, the days and nights are substantially of equal length throughout the world. The longest day of the year at latitude 25°, extreme southern Florida, is only about three hours longer than the shortest day, but at latitude 49°, representing the northwestern boundary of the country, the longest day is eight hours longer than the shortest.

Geographic distribution of sunshine.—Figure 18 shows the geographic distribution of sunshine for the year as a whole, expressed in percentage of possible amount, the latter being essentially the same for all sections of the country, or an average of approximately 12 hours a day. This chart indicates that the least is received along

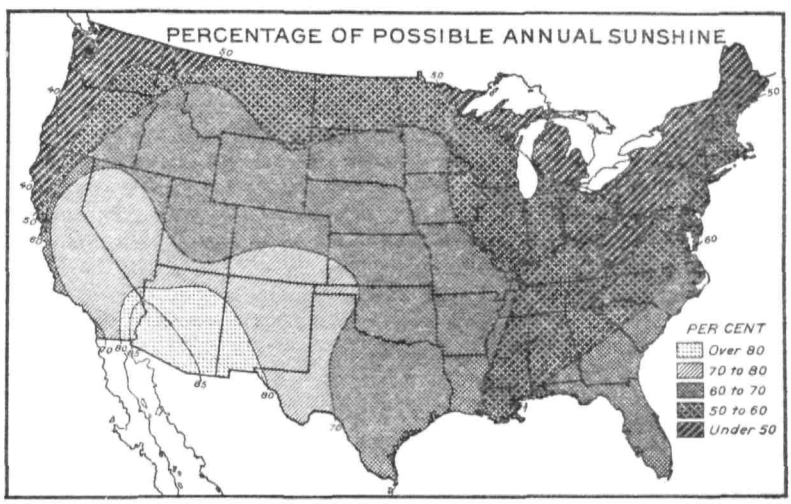


FIG. 18.—Percentage of the possible amount of sunshine that occurs on the average in different portions of the country for the year as a whole and indicates the effect of cloudiness on the amount received. The possible amount for the year is approximately the same in all sections. In the far Northwest and from the Lake region eastward the sun shines on the average for the year less than half the daylight hours, but in some far southwestern districts more than 85 per cent of the possible amount occurs. In the interior of California the summers are practically cloudless, but considerable cloudy weather prevails in the winter. The fall and winter months are especially cloudy in the more northwestern States and in the Northeast. The principal agricultural sections of the country receive between 50 and 70 per cent of the possible amount of sunshine

the north Pacific coast, where the sun shines on the average for the year during only about 40 per cent of the daylight hours, whereas in the Lake region, the central and northern portions of the Appalachian Mountain area, and the Northeast, the percentages are only slightly higher—45 to 50. The maximum amount of sunshine in the United States is received in the far Southwest, including extreme western Texas, New Mexico, Arizona, southern Nevada, and the adjoining portions of California. In the lower Colorado River Valley the sun shines on the average for the year nearly 90 per cent of the total number of hours from sunrise to sunset.

The Intensity of Sunshine

Although the importance of sunshine as a climatic factor is well known and considerable data are available showing its duration in different parts of the country, records of the equally important *intensity* of sunshine are available for only a few places because of the delicacy of the apparatus required in the measurements. In measurements of any kind a *unit of measure* is required. Two units are employed in measuring the intensity of sunshine, one a heat and the other a light unit. The heat unit is called a gram-calorie, and is the quantity of heat required to raise the temperature of a gram, or cubic centimeter, of water through 1° C. It is usually employed when we wish to measure the total radiant energy, or the energy of all wave lengths, received from the sun. If we wish to confine our measurements to the energy of such wave lengths as are capable of producing in the human eye the sensation that we call light, then we compare the illumination produced by sunlight on a diffusely reflecting surface with the illumination produced on a similar surface by a standard candle 1 foot from it. Under these circumstances the intensity of the illumination produced by the candle is called a foot-candle. The intensity of solar or daylight illumination on a horizontal surface at noon in midsummer if the sky is clear is about 10,000 foot-candles. Even if the sky is completely covered with clouds the intensity may be 2,500 to 3,000 foot-candles. An intensity of from 10 to 15 foot-candles is considered good indoor illumination.

Meteorologists are particularly interested in the intensity of the total radiation received from the sun. The instrument with which this intensity is measured is called the pyrheliometer (solar-heat measurer). The solar radiation to be measured is usually received upon a surface at right angles to the incoming rays, and the heating effect upon a unit of surface, as a square centimeter, in a unit of time, as one minute, is determined.

It has been computed that if the earth had no atmosphere the intensity of the solar radiation should average about 1.94 gram-calories per minute per square centimeter of normal surface. The effect of the atmosphere is greatly to reduce this intensity by absorbing some of the heat rays and scattering others. The least loss, other things being equal, occurs when the sun is nearest the zenith, or at noon. The absorption and scattering of the rays increases as the sun approaches the horizon.

In the first line of table 1 is given the highest intensity of solar radiation that has been measured at Washington during each month of the year. Since the sun approaches much nearer the zenith in summer than in winter, one might expect that midday summer intensities would be higher than midday winter intensities. Although this is true at stations in high latitudes, there are two reasons why it is not the case for the latitude of Washington: (1) The earth is nearer the sun in winter than in summer, and this variation in solar distance is sufficient to cause a difference of 7 per cent in favor of midwinter intensities. (2) Water vapor is an active absorber of solar radiation. The atmosphere contains more water vapor in summer than in winter and also more dust.

TABLE 1.—*Maximum solar radiation intensities measured at Washington, D. C.*

(Gram-calories per minute per square centimeter)

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Normal surface	1.43	1.50	1.48	1.51	1.45	1.43	1.47	1.43	1.49	1.45	1.48	1.48
Horizontal surface	.74	.98	1.16	1.35	1.37	1.38	1.40	1.27	1.17	.96	.77	.69

If, as shown in Table 1, sunshine is as intense at midday in winter as in summer, why are the summer days so much the warmer? Partly because there are more hours of sunshine in summer than in winter, but principally because the atmosphere is heated not so much by absorbing the solar rays as they come in through it as by the heat it receives from the surface of the earth. The temperature of the surface of the earth depends not upon solar radiation intensity measured at normal incidence, but upon the vertical component of that intensity, or the intensity upon a horizontal surface.

In the second line of Table 1 are given the vertical components of the intensities of the first line, computed for the 21st day of each month. It is to be noted that although the figures of the first line show no annual variation, in the second line the December intensity is only half that for the 21st of the months May, June, and July.

Besides direct sunlight, the surface of the earth also receives from the sky some of the rays that were diffused or scattered by the gases and dust of the atmosphere. At noon on a summer day with a clear sky this diffuse radiation may equal one-fifth the direct solar radiation. When the sky is covered with clouds all the radiation received is diffuse. The ratio of the diffuse to the direct radiation increases as the sun's zenith distance increases.

In Table 2 is given the average amount of radiant heat received from the sun and sky on a horizontal surface at Washington, D. C., on the 21st day of each month. It will be seen that the amount received in midsummer is about 3.5 times that received in midwinter, while the hours of possible sunshine on June 21 are 14.9, and on December 21, 9.4, or the ratio is 1.6 to 1.

TABLE 2.—*Average radiant heat received on a horizontal surface from the sun and sky on the 21st day of each month*

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Radiation	172	254	355	428	479	501	464	421	364	275	181	144

Perhaps it will be easier to appreciate the magnitude of these measurements if we express them in units of energy. On a clear day the total heat received may exceed the averages of Table 2 by 50 per cent. From March 21 to September 21 it may therefore amount to 600, and in June to 750 gram-calories per square centimeter. These daily amounts are equivalent to 7 and 8.7 kilowatt-hours of energy per square meter of surface, respectively. Therefore, in the vicinity of Washington on a clear day between March 21 and September 21, the heat energy received on a square meter of surface

is equivalent to the energy required to operate twenty-five 40-watt electric lamps for at least 7 hours, and in June for 8.7 hours.

Measurements of direct solar radiation and of the diffuse radiation from the sky have been made for a number of years at Madison, Wis., Lincoln, Nebr., and Sante Fe, N. Mex.

Measurements of direct solar radiation have also been made by the Smithsonian Institution on Mount Wilson and Mount Whitney, Calif., and on Hump Mountain in North Carolina, and short series have been made by the Weather Bureau at several points in the Southwest and on the Pacific coast.

From these readings we find, as we would expect, that solar radiation intensities increase with elevation above sea level, and also, regardless of elevation, as we go west from the Mississippi River on account of the diminution in the amount of water vapor contained in the atmosphere in the arid and semiarid regions of the Great Plains and the Rocky Mountains.

Figure 19 shows the average amount of radiation received on a horizontal surface on the 21st day of February, April, June, August, October, and December, respectively.

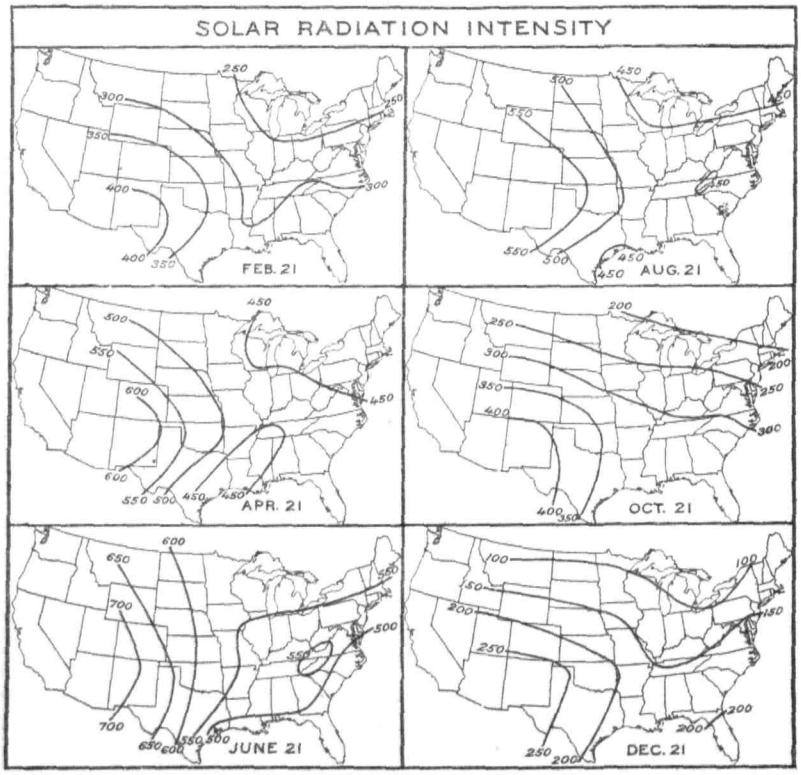


FIG. 19.—Average daily totals of solar radiation on a horizontal surface, in gram-calories per square centimeter (a gram-calorie is the quantity of heat required to raise the temperature of 1 gram of water 1° C.), on the 21st of February, April, June, August, October, and December. It shows marked variations in radiation intensity between the winter and summer seasons, especially in the central, north-central, and northeastern portions of the country

Certain features of the data on these charts are of interest. For example, it will be noted that on December 21 Florida receives twice as much solar radiation per day as is received along the northern border of the United States, and western Texas two and one-half times as much. The Lake region receives less than the average for its latitude on account of the excessive cloudiness. The difference between high and low latitudes grows less with the approach of warm weather, and by April 21 has practically disappeared. In June there is actually an increase in the daily amount of radiation with latitude in the Atlantic coast districts, and the increase from east to west reaches a maximum of 40 per cent from the Gulf coast to the Rocky Mountain Plateau. In general, the spring months receive slightly more radiation than the fall months. Compare, for instance, February and October, and April and August (fig. 19). This is due principally to the less water vapor and dust content of the atmosphere in the spring than in the fall months.

These charts of sunshine intensity (fig. 19) present contrasts between the different sections of the United States that are not shown by charts of the percentage of possible (duration of) sunshine. Sunshine intensity data are useful in studies relative to climate and crops. Unfortunately data are not available to permit the extension of the lines on these charts to the Pacific coast.

Some Sunshine Effects

Sunshine is important in plant growth because the heat and the light required by all growing plants are supplied by solar radiation. While heat can not replace light in the plant-building process, light can, in some measure, replace heat. Bright sunshine not only raises the temperature of the air but also promotes the evaporation of moisture from the soil. Other factors remaining the same, bright sunshine, as compared with diffuse light, accelerates photosynthesis and transpiration. In general, a plant receiving less than its optimum in light intensity becomes pale, elongated, and weaker than it otherwise would.

Evidently a plant can not maintain itself in a region or extend its habitat in any direction unless conditions are favorable not only for vegetative growth but for reproduction as well. The amount of sunshine and length of day have an important bearing on seed reproduction.

In summer, places in higher latitudes have a much longer period of daylight; and this greater duration of daylight, even with a lower temperature, may produce as great an effect on plants as a shorter period of light with a higher temperature in places lying considerably lower in latitude. This is an important factor in the promotion of rapid development and early maturity of crops in the more northern agricultural sections of the United States. It greatly reduces the frost hazard in these regions where the frostless or growing season is normally short because of the prevailing low temperatures. In some places where the rainfall is sufficient but the temperature too low for the best growth of plants, as in Alaska, sunshine is a most important climatic factor.

Sunshine, however, may be favorable or unfavorable for plants, depending on other prevailing conditions. During a drought in the

summer season it is decidedly harmful, as the soil becomes highly heated and evaporation of the scanty moisture is accelerated. Again, fruit buds may become unseasonably advanced under the influence of continued warm sunshine, and frequently maturing fruit, such as apples, oranges, and lemons, are harmed by sun scald. The temperature of the leaves of plants in sunshine is higher than that of the surrounding air, some experiments showing that this difference may be as much as 20° to 30° F. on clear days.

The sun curing of fruit in some of the more western States, particularly in California, is a very important industry. The continuous sunshine in the interior of that State, with an absence of rain, during July, August, and September makes possible the sun curing of large quantities of fruit every year, principally raisins, prunes, peaches, apricots, pears, and apples.

Grapes that do not contain at least 22 per cent of sugar are not considered valuable for raisins, and sunshine is important in increasing the sugar content both before picking and during the drying period. The sun curing is a physical as well as a chemical process. The intense sunshine during curing promotes the evaporation of superfluous water and converts the juices into sugar and other solids of great nutritive value.

The importance of sunshine is well illustrated also in orange growing. Primarily because of the greater amount of sunshine received during the summer growing season, the northern California groves usually produce the first ripe fruit. Prune growing is also an important industry in California. The bright, sunny summers are unusually favorable for this fruit, which requires for proper maturity a long season of clear, warm weather.

Influence of Weather on Farm Work and Crop Yields

Much of the greater part of all farm operations must necessarily be conducted in the open field. Consequently, aside from its direct influence on plant growth, the weather plays an important rôle in the farmer's activities. Rainfall is essential in his work, but at the same time its frequency and duration may be such as to materially retard field operations, either in planting, cultivating, or harvesting. Continued wet weather, if prevailing during the season of preparation of soil and planting, may result in a material reduction in acreage; it may prevent proper cultivation or may be damaging to crops during or after harvesting. Drought may also unfavorably affect the preparation of soil. Thus, either too much or too little rain may be harmful in interfering with farm work as well as to growing crops. In general, warm and moderately dry weather is needed during the planting and cultivating seasons—a plentiful supply of moisture when crops are at the critical maturing stage and fair weather during harvesting and housing.

In preparing a schedule for farm operations there should be taken into account the degree of risk from unfavorable weather in producing the crop. These risks include possible losses from wet weather or drought, low temperatures, hot periods in summer, hail and wind storms, and frost in both spring and fall. For example, in growing a crop the value of which is largely determined by the earliness with which it can be put on the market, which in turn depends more

or less on the time of seeding, the grower must consider whether the higher prices to be realized for early maturity will justify a spring frost risk of, say, 75 per cent, 50 per cent, or less. The average percentage of frost risk at any time can be readily determined from weather records.

Weather and Crop Yields

For the successful production of a given crop in a particular region primary consideration is the conformity of the climate to the requirements of the plant. Soil and other conditions may be favorable, but congruence of climate and plant is essential to success. When this agreement is had, however, there are often large variations in the yield from year to year, due mostly to varying weather conditions. For best development and maximum production, crops require a favorable combination of heat, moisture, and sunshine during growth, and a deficiency or excess of any of these usually results in a lessened yield.

Varying yields from year to year, when the soil or other more or less permanent conditions are substantially the same, are the result of the sum total of all the environmental influences from the time of planting until harvesting, including the condition of the soil at planting, the weather during germination and growth, and insect activity and disease. Of these the weather factor is the most important, both directly through its agency in supplying food to the plant from the soil and indirectly through its influence on plant diseases and insect activity.

The weather influence begins with the preparation of the soil for planting and does not terminate until the crop is safely garnered. During this entire time the farmer is, so to speak, at the mercy of the weather elements. He carefully prepares the soil and puts in the seed, but with the full realization that some unwelcome weather vagary is liable to be ushered in at any time, taking with it the fruits of his labor perhaps for an entire year. Fortunately, adverse weather conditions, such as drought, destructive hail, damaging frosts, devastating floods, and others, are always more or less limited in geographic extent, and thus the Nation's food supply has never been menaced. While this is true from the national consuming viewpoint, the story is quite different from that of the farmer in the region affected. His harvest may represent his entire year's work, and when this is cut short or, as in some cases, entirely destroyed by unfavorable weather, disaster may stare him in the face.

Where climate and other conditions permit of diversified farming, and this is practiced, the weather hazard is very much reduced, as the failure of one crop may, to some extent at least, be offset by the success of others whose critical periods of growth did not coincide with the unfavorable weather. Localities with comparatively long-growing seasons also have their advantages, as a substitute crop may be put in when the failure of one is imminent.

The plight of farmers in the Northwestern States in recent years affords a good example of the risk assumed when dependence is largely placed, either from necessity or choice, in a single crop. Beginning with 1917, the severest drought for many years prevailed in that section. In fact, for a period of four or five consecutive years

there was in some localities the greatest deficiency in moisture that had been recorded since rainfall records began, more than 50 years ago. This series of droughts, occurring year after year, during the season when wheat, the principal crop, most needed moisture, proved disastrous to many farmers, and following this the prevailing low prices of wheat added to their difficulties.

Temperature and Crop Growth

A certain amount of warmth is necessary for the germination of seeds, the amount required varying for seeds of different plants. Wheat and oats germinate at a much lower temperature than does corn, and corn, in turn, requires less warmth for successful germination than does cotton. Thus, some crops may be planted earlier in spring than others. In addition a certain amount of heat is required after planting to bring a crop to maturity. As a rough measure of this, there may be used what is known as the "thermal constant," which refers to the total or accumulated day degrees of temperature in excess of some significant temperature taken as a starting point. The thermal constant of a particular plant and the temperature at which planting may be accomplished determine whether or not conditions in a given locality are favorable for its maturity.

When the normal daily temperatures are considered there is a more or less regular cycle through the year, the lowest or minimum, occuring about midwinter, and the highest, or maximum, about midsummer. With the advent of spring and attendant warming up, naturally, in this country, the farther south a location may be the earlier in spring is the rise in temperature to the point where planting may be accomplished. The planting of a given spring crop usually begins in the southern portion of the area in which it is grown and proceeds northward as the season progresses.

There are certain restricted limits of time within which crops must be planted for best results, defined by the temperature of the locality, and this period of time decreases in general with increase in latitude. While the normal daily temperature at which planting usually may begin differs for different plants, it is quite uniform for the same plant in all sections of the country. The following summary indicates for the country east of the Rocky Moutains the normal daily temperatures at which planting of the more important crops may usually begin in spring:

Spring wheat may be seeded with a lower mean temperature than any other major spring crop. Seeding usually begins in the Dakotas and in Nebraska when the normal daily temperature rises to 37° F., and in Minnesota and Wisconsin at 40°. Next in thermal order comes spring oats, the seeding of which usually begins when the normal daily temperature rises to 43°. Early potato planting begins, as a rule, at 45°, and corn at 55°. The date on which the latter temperature is reached in any locality corresponds closely to the average date of last killing frost in spring. Cotton planting should not begin until the normal daily temperature rises to about 63°. The date on which this temperature is reached corresponds closely to the latest date in spring on which killing frost has occurred.

Whether a farmer lives in the South or in the North he has, unknowingly, adopted these temperatures as the proper ones at

which planting should begin. Thus the planting of early potatoes, for example, usually begins in northern Mississippi about February 15 and in northern Wisconsin two and one-half months later, but in each locality when the normal daily temperatures rise to 45° F.

In any temperature summation for cultivated crops, especially for those planted in spring, it is usually best that the mean daily temperature at which planting begins be taken as a starting point instead of a general base for all crops, such as the usual 6° C. (42.8° F.) base. As thus computed there is not much difference in the accumulated temperature required to mature most staple spring-planted crops, provided in the case of corn an intermediate-maturing variety is considered.

Cotton and corn are warm-weather crops, and the areas favorable for successful production on a commercial scale are limited principally by the general temperature conditions, which include the length of the frost-free season and the temperature at planting. These limits are defined by an available thermal constant of about 1,600° F. for corn and about 2,000° for cotton, computed from the normal temperature when planting usually begins. It follows that if cotton could be planted with as low temperatures as corn the cotton area would be materially increased.

Owing to the relatively large thermal requirements of warm-weather crops, a comparatively warm spring is necessary for best results in germination and for early growth. Thus there is a close relation between the spring temperatures and the growth of such crops during the early stages of development.

Rainfall and Crop Growth

Growing plants need a large amount of moisture, much more than is usually thought, and it is not often that nature supplies just the amount required for best development throughout the growing season. Several hundred pounds of water are necessary during the life of a cultivated plant to produce 1 pound of mature matter, which means that a plant such as wheat or corn requires each day an amount equal to several times its own weight. There is, however, a much greater quantity of water supplied to the soil in a moderately heavy rain than is usually supposed. With a rainfall of 1 inch, without loss by run-off, more than 100 tons of water is supplied to 1 acre of land.

On the other hand, there is no direct relation between the percentage of water content of the soil and the amount available for plant use. A sandy soil with 15 per cent of saturation may carry a large amount of available moisture, whereas a stiff clay with 15 per cent of moisture may have so little available that plants will wilt in it.

The wilting coefficient of a soil is defined as the moisture content (expressed as a percentage of the dry weight) at a time when the leaves of a plant growing in it first undergo a permanent reduction in their moisture content as a result of the deficiency in the soil moisture supply. The water available for growth is the difference between the amount of moisture present in the soil and the wilting coefficient. There is a wide difference in the wilting coefficients of different soils, as those of fine texture are much more retentive of

moisture than coarser soils, but the wilting coefficient for a particular soil is substantially the same for all crops.

The loss of soil moisture by evaporation is an important factor, especially in normally dry regions. The amount of evaporation during the growing season determines, to a considerable extent, the amount of rain that is needed to produce a crop. The rate of evaporation from a saturated soil is in most cases substantially the same as that from a freely exposed water surface and, consequently, in regions such as the drier western portions of the United States, where the free-water-surface evaporation is much greater than the rainfall, careful cultivation must be practised in order that water sufficient for plant growth may be retained. The effectiveness of proper cultivation is shown by the fact that in some experimental tests where the free-water-surface evaporation for the six summer months is more than five times as much as the rainfall for that period, the water evaporation from the soil has been kept down, by proper tillage, to approximately half the rainfall, thus conserving the other half for the use of the crop. A soil dust mulch is very effective in reducing evaporation, but at the same time it is necessary to sacrifice all of the moisture in the surface strata that is used to form the mulch. A rainfall that wets the surface only is of little or no value, since it evaporates quickly, and preferably so, as the mulch cover must again become dry before the effectiveness is reestablished.

Summer fallowing and careful tilth are practiced in drier sections in a type of agriculture known as "dry farming." This is usually confined to those regions in which the annual rainfall is between 10 and 20 inches. Where the rainfall is small the question of seasonal distribution is important, and this varies greatly in different parts of the drier western half of the country. In most sections west of the Rocky Mountains much of the precipitation comes in winter or early spring, while immediately east of the Rockies the bulk of it is received during the warmer season of the year. This, for example, makes the northern portion of the Great Plains better suited for spring wheat than for winter wheat, so far as moisture is concerned. In the West where fall-sown grain can take advantage of the winter and early spring precipitation and mature before the driest part of the season sets in, conditions are more favorable for winter wheat.

The intensity of rainfall is also of great importance. Summer-fallow methods are not adapted to regions in which the rain falls in light showers, as in such cases the moisture penetrates only a few inches and the necessary reserve supply in the deeper layers is not provided. On the other hand, where the yearly total usually includes several torrential falls a large part of it is entirely lost through run-off. In the latter case it is important that cultivation be so handled as to retain as much as possible of the heavier rainfalls. There is usually a greater run-off on fine dust mulch than on coarser soil, because a hard, driving rain may pack the surface of the mulch and largely prevent the absorption of moisture. Observations have been made in Utah where only 0.5 inch of water was absorbed on practically level, summer-tilled land during a heavy rain of 2.5 inches, but at the same time 1.5 inches were absorbed by a near-by stubble field.

Weather and Corn

Corn, or maize, is a sun-loving crop of tropical origin, probably first cultivated on the plateaus of Central and South America. Although it is essentially a warm-weather plant, a number of varieties have been developed which permit production over a wide climatic range. It can not be grown successfully, however, north of the fiftieth parallel of latitude, except for green fodder. In general, the most suitable climate for corn is found in the interior of the continents where warm-season rains are ample and where summer nights as well as the days are warm.

The early missionaries in the Central-Northern States (outside our present Corn Belt) found the Indians in that region to be very good corn farmers, as farming went with these primitive people. In fact, archæological records indicate that the Indians of Wisconsin and Minnesota were quite as efficient corn growers as their brothers farther south. In these northern, colder regions, with their short growing season, it was the Indian custom to sprout the seed before planting, which, in effect, added several days to the usual growing season. Corn was grown in Wisconsin northward to the Lake Superior shore.

Records in North Dakota indicate also that some Indian tribes along the Missouri River in that State were successfully growing corn some three or four hundred years ago, and that these upper Missouri Valley Indians, living under semiarid, and in what to-day are considered regions of unfavorable temperature conditions for this crop, had developed corn growing to a point that was not surpassed by any other tribe in America. It appears that these Indians had several varieties of corn (in one instance 13 is claimed), and that the several varieties were always kept separate and planted in different fields to prevent mixing. Some very quick-maturing varieties appear to have been grown.

Climatic requirements.—The United States is by far the most important corn-producing country of the world, contributing about 70 per cent of the world's total production; it is followed in importance by Argentina and Mexico. Corn is preeminently an American crop; it is grown on three-fourths of all the farms of the United States. Although it is thus grown extensively in many sections of the country, the climatic boundaries of the region of intensive production are a mean summer temperature of 70° to 80° F., an average daily minimum summer temperature exceeding 58°, a frostless season of more than 140 days in length, and an annual precipitation of between 25 and 50 inches, of which at least 7 inches should occur in July and August.

The temperature requirements of different varieties of corn vary widely. Some southern varieties require an average frostless season of 180 days in length and a mean summer temperature of about 80° F. Practically no corn is grown where the summer temperature averages less than 66°, or where the night temperature falls below 55°; consequently, the production of corn along the northern border of the United States and in the higher altitudes of the western mountainous districts is negligible. The optimum climatic conditions for the development of corn are found in only a few regions

of the word, and more extensively in the United States than in any other country. The leading States in corn production in 1923, given in the order of their importance, are as follows: Iowa, Illinois, Nebraska, Missouri, Indiana, Ohio, Minnesota, South Dakota, and Kansas. About two-thirds of the total production in this country in 1923 was grown in these nine States.

The critical period in the growth of corn, during which favorable weather usually assures a good crop and unfavorable weather causes a small yield, is comparatively brief. The most important factor affecting yield in the great corn-producing areas of the United States is rainfall, and July, in most sections, is the critical calendar month. The period from about the middle of July to the middle of August, however, has a greater effect on production than any other period of similar length. The available moisture for the 10 days following the blossoming stage is especially important, the yield varying more or less directly with the amount of moisture in the soil during this period, provided the latter is not excessive. High temperature and dry soil during the 10 days after blossoming have a very unfavorable effect upon the yield.

A comparison of the July rainfall with the yield of corn in the States of Ohio, Indiana, Illinois, and Iowa for the 30 years from 1891 to 1920 shows that for the 6 years in which the July rainfall was less than 2.5 inches the yield of corn averaged 29.5 bushels per acre, and for the 6 years with rainfall between 2.5 and 3.5 inches the yield averaged 35.6 bushels per acre. This 6.1 bushels production increase was due principally to the effect of the additional 1 inch of July rainfall during the years of larger yields.

Germination and early growth.—The length of time required for corn to germinate and come up depends primarily on the temperature. It has been shown that with a temperature of 49° F. it requires from 10 to 12 days for corn grains to germinate, but germination will take place in two days with a temperature of 80°. The optimum temperature for germination appears to be about 90° and the maximum beyond which it will not occur somewhat above 115°.

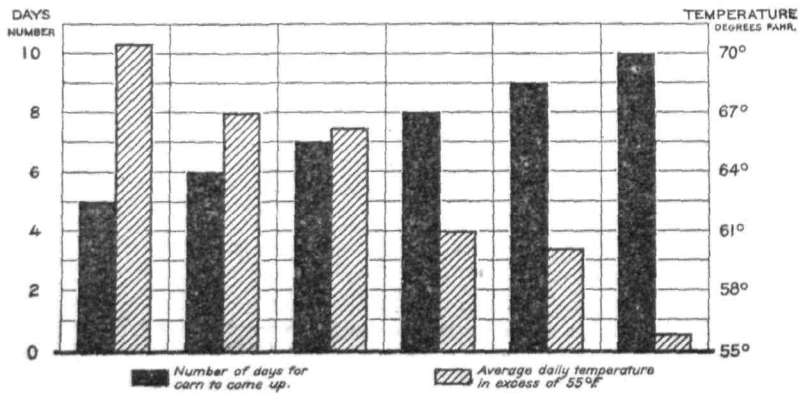


FIG. 20.—The number of days required for corn to come up at Wauseon, Ohio, and the average daily excess of temperature above 55° F. during the respective periods

At Wauseon, Ohio, records for a period of 27 years, kept by the late Thomas Mikesell, show that corn came up, on the average, in 5 days with a mean daily temperature of 71° F., in 6 days with 67°, 7 days with 66°, 8 days with 61°, 9 days at 60°, and that when the mean daily temperature averaged 55° it required 10 days or more for the plants to appear above ground. Figure 20 shows graphically the relation between the temperature at Wauseon and the time required for corn to come up.

Cool, wet weather, immediately following planting is especially unfavorable, for with such conditions the seed may not germinate at all, or many of the young seedlings, after germination, may not have sufficient vitality to push themselves through the heavy, wet soil, resulting in a poor stand and requiring much replanting. On the other hand, warm weather with a moderate amount of moisture usually insures a good stand. There are several things to take into account in choosing a good planting date for corn. It is desirable to

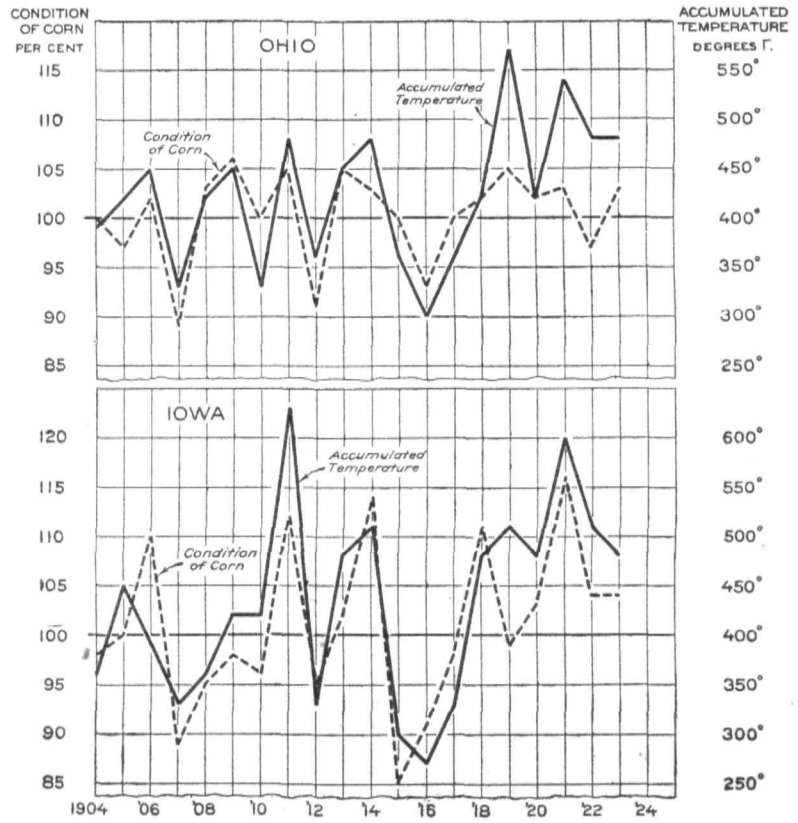


FIG. 21.—For Iowa and Ohio the relation of the accumulated temperature above 55° F. (the normal daily temperature at which planting is usually begun) during the month of June, and the condition of corn in percentage of average on July 1, as reported by the Department of Agriculture. The records cover the 20-year period from 1904 to 1923

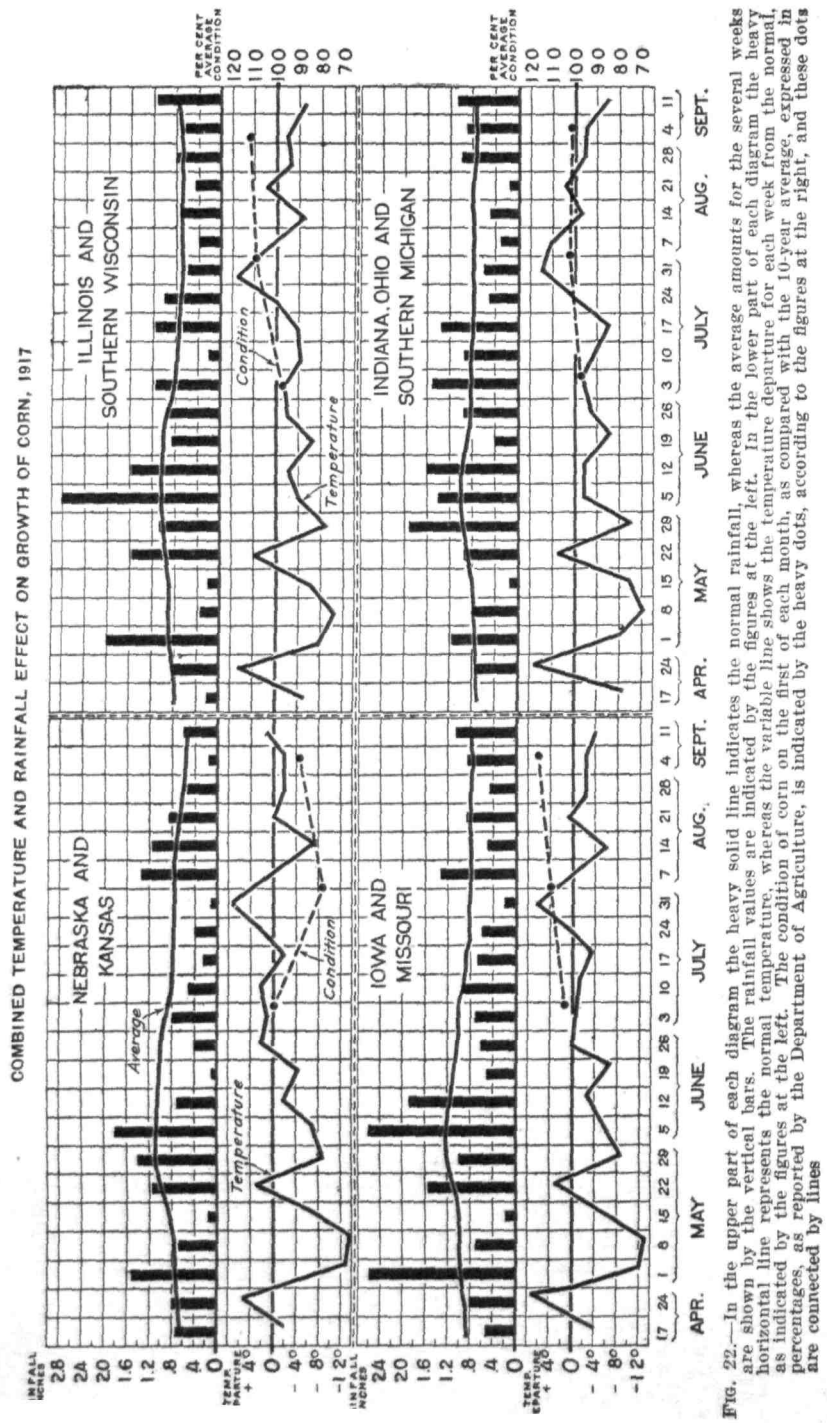


FIG. 22.—In the upper part of each diagram the heavy solid line indicates the normal rainfall, whereas the average amounts for the several weeks are shown by the vertical bars. The rainfall values are indicated by the figures at the left. In the lower part of each diagram the heavy horizontal line represents the normal temperature, whereas the variable line shows the temperature departure for each week from the normal, as indicated by the figures at the left. The condition of corn on the first of each month, as compared with the 10-year average, expressed in percentages, as reported by the Department of Agriculture, is indicated by the heavy dots, according to the figures at the right, and these dots are connected by lines

have the crop get as early a start and develop as rapidly as possible that the danger from fall frost may be lessened. This is especially important in regions where the growing season is comparatively short, but at the same time too early planting greatly increases the danger of unfavorable temperature conditions for germination and for coming up. Further, in case the very young plants do not have sufficient warmth they become stunted and yellow and, thereafter, require an appreciable time to regain vigorous growth when favorable weather sets in.

Very young corn may be frosted in spring without serious permanent injury, so, in general, early fall frosts are more to be feared than late spring frosts. Light frost in fall, however, may hasten maturity without material damage. The best date to begin planting on the more favorable soils is about the time the normal daily temperature rises to 55° F.

Temperature is usually more important in corn growth during the spring and early summer, but thereafter rainfall is of greater importance. There is a close relation between the physical condition of corn at the beginiug of July and the temperature during June. Figure 21 shows in a graphic manner the relation of the June temperature to the condition of corn on July 1, as reported by the United States Department of Agriculture, for the States of Iowa and Ohio. The correlation coefficient[5] between the June temperature and corn condition, as shown in this graph, for Ohio is + 0.65 and for Iowa + 0.82. June temperatures in Iowa are relatively of greater importance in early growth of corn than in Ohio, partly because the temperature in Iowa is normally lower for this month. There is, however, a much closer relation between the June temperature and July 1 condition than between the June temperature and the yield, as the latter depends more, in most cases, on the weather during July and August.

Figures 22 and 23 show the combined temperature and rainfall effect on the growth of corn for selected States during the years 1917 and 1918, the first, in general, a favorable and the second an unfavorable year. These graphs show, for the States indicated, for each week during the growing season, the amount of rainfall, the departure of temperature from the normal, and the condition of corn, as reported by the United States Department of Agriculture, on the first of July, August, and September, respectively.

Figure 22 shows that in 1917 rainfall in general was sufficient during the critical months of July and August, and that in most cases a general improvement in the condition of corn is indicated. The hot, dry weather in Nebraska and Kansas, the drought extending from early in June throughout July, however, caused a marked falling off, but considerable of this loss was regained as a result of the generous rains beginning the first of August. In general, high temperatures are not harmful to corn when moisture is sufficient. There was also a moderate deficiency in rainfall in Indiana and

[5] The term "correlation coefficient" is used by statisticians to express the degree of relationship between two variables; it is usually a dcimal lying between plus 1 and minus 1. When plus 1 it signifies strict proportionality between the two variables; when minus 1 the relationship is the same but the variation is in the opposite sense. In the example given the coefficient between June temperature and the condition of corn in Iowa is quite large, + 0.82, thus showing the large influence of temperature in that State as compared with Ohio.

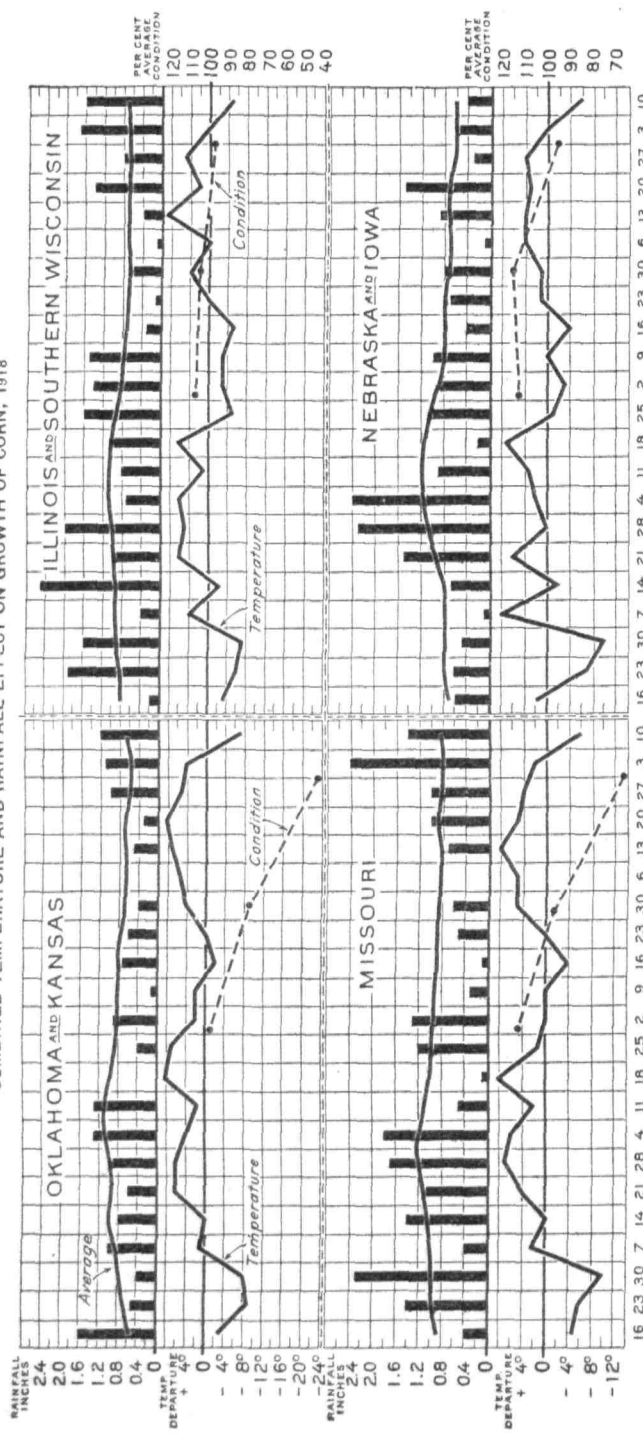


FIG. 23.—In the upper part of each diagram the heavy solid line indicates the normal rainfall, whereas the average amounts for the several weeks are shown by the vertical bars. The rainfall values are indicated by the figures at the left. In the lower part of each diagram the heavy horizontal line represents the normal temperature, whereas the variable line shows the temperature departure for each week from the normal, as indicated by the figures at the left. The condition of corn on the first of each month, as compared with the 10-year average, expressed in percentages, as reported by the Department of Agriculture, is indicated by the heavy dots, according to the figures at the right, and these dots are connected by lines

Ohio in much of July, under which condition the crop barely held its own, with little or no improvement. In the other cases, where rainfall was ample and well distributed from week to week, continued improvement in condition is shown.

Figure 23 tells for the following year, 1918, a different story. Droughts, severe in some sections, and accompanied by high temperatures, were widespread during the critical period of corn growth, with resultant marked deterioration in the crop, as indicated by the graph. This is shown most pronouncedly in the cases of Oklahoma and Missouri. The yield of corn in Oklahoma that year was only about half the normal and it was much below normal in Missouri.

Corn possesses certain characteristics which, in some respects, would appear to make it adaptable to droughty conditions. The plants are deep rooted, which enables them to draw moisture from the subsoil; in hot, dry weather the rolling of the blades reduces the loss of water from the plant, and the water requirements to produce a given quantity of dry matter is less than for most other

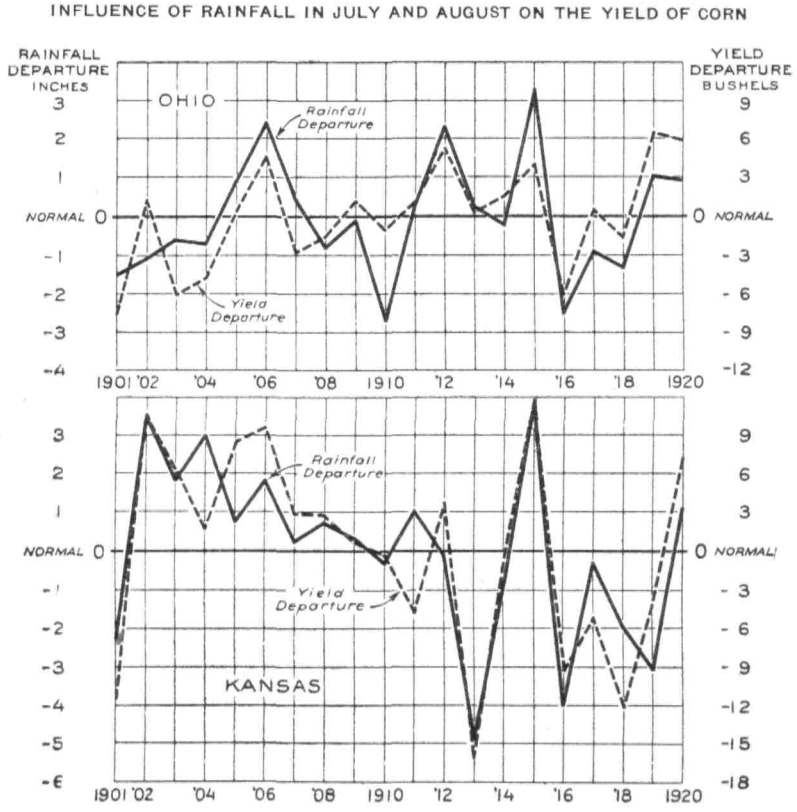


FIG. 24.—Regions with abundant and uniform summer rains are the most favorable for corn production, as rainfall usually is the most important weather element for this crop. Where there are wide variations from year to year in rainfall, as in Kansas, there are also wide variations in corn yield, compared with regions where summer rains are more uniform, as in Ohio

crops. It has other requirements not found in dry climates, however, which more than offset these advantages and make it unsuited to semiarid conditions. Principal among these is the characteristic short, critical period of growth immediately after blooming, during which a plentiful supply of moisture is required for a good yield; dry periods, in semiarid sections, are likely to occur about the time of year when the crop most needs moisture. Again, semiarid sections have a large daily temperature range, with cool nights, whereas the crop requires warm nights as well as warm days. In addition to the unfavorable effect of deficient moisture during the period of ear development drought often hastens the shedding of pollen from the tassel and at the same time delays the appearance of silk, in which case the pollen may be largely wasted before the silk appears.

In regions where summer rainfall is normally light and drought comparatively frequent corn is an uncertain crop and the yields from year to year vary greatly. Figure 24 affords a comparison between the rainfall for July and August for a period of 20 years and the per acre yield of corn in Kansas and Ohio. In Kansas, where the variations in summer rainfall are large, there are also large differences in yields from year to year, whereas in Ohio both the rainfall and yield are comparatively uniform.

Effective rainfall.—Although summer rains are very important in corn growth, light falls during a drought may be harmful rather than beneficial, because by merely wetting the surface of the ground an effective dust mulch may be destroyed, resulting in more moisture being lost from the soil by evaporation. Frequent light showers during the early growth of corn may also cause the plants to root near the surface, which would be unfavorable if a drought should follow later in the season. When July is dry the reduction in yield has been found to be less when the previous June was also moderately dry.

With respect to rainfall intensity as related to corn growth, it appears that for equal quantities of rain its value increases as the number of rainy days diminishes unless the rain comes in too heavy amounts. Rainfall of half an inch or more is much more effective than an equal amount of water in smaller falls.

Freezing injury to seed corn.—When corn contains a large amount of moisture its germinating quality is much more liable to be affected by low winter temperatures than when the kernels are dry. With 10 to 14 per cent of moisture it is usually safe from injury, even by severely cold weather, but when it contain as much as 60 per cent the germ may be killed by a prolonged exposure to a temperature only slightly below freezing. In fact, a very close relation exists between the moisture content of the kernel and the degree of cold required to kill the germ. Seed corn may be seemingly mature and show fairly good germination in early winter but so full of moisture that cold weather later may greatly reduce its germinating qualities.

Weather and Wheat

Wheat may be successfully grown over a wide area of the earth's surface and in a variety of soils. The crop is best suited, however, to temperature regions having a growing season of at least 90 days in length and moderate rainfall. It is most extensively cultivated

at present where the average annual rainfall is less than 30 inches. Most of the famous wheat soils of the world are of high fertility and fine texture, such as silts or silt and clay loam. There are, in general, two main classes of wheat—one seeded in the fall and the other in the spring. The spring variety is usually sown where the winters are dry and cold and the winter variety where it is warmer with more snow protection. In the colder wheat-growing regions the amount of winter snowfall depends more on the geographic location, with respect to the supply of moisture than on the temperature conditions.

The more important winter-wheat producing countries are the United States, India, Russia, Argentina, and France. Other than in Russia, the United States, and Canada, the world's spring-wheat production is unimportant.

Climatic requirements.—The quality and chemical composition of wheat depend largely on the climate of the region in which it is grown. Wheat of the more humid areas has a tendency to be of soft and starchy composition, whereas that grown in less humid climates is hard and darker in color. Owing to the alternation of the seasons in the Northern and Southern Hemispheres and the varying altitudes and latitudes in which wheat is grown, harvest is in progress each month of the year in some part of the world.

The ideal climate for wheat is one with a long and rather wet winter, prolonged into a cool and rather moist spring, which gradually merges into a warmer summer, the weather growing progressively drier as it grows warmer, with only comparatively light rains after the blossoming of the crop—just enough to bring the grain to maturity. Wheat should have abundant sunshine and rather dry air, but without dry and scorching winds toward harvest, until the grain is fully ripe, and then warm, dry, rainless weather until the harvest is gathered.

In the early stages of wheat production in Australia it was thought that abundant moisture was essential, and cultivation was confined to the wetter, coastal country, with an annual rainfall of 30 to 40 inches, but the results were disappointing. Later it was found that the drier, interior districts were more favorable for this crop, and thereafter Australia became more prominent as a wheat-producing country. The bulk of the crop in that country is now grown where the annual rainfall is less than 25 inches, and in some sections wheat is produced where the rainfall is very light.

In the great wheat-producing Plains region of the United States there is heavy grain production where the annual amount of precipitation is comparatively small. This has been made possible only by the favorable seasonal distribution of the rainfall. There are a number of distinctive types of precipitation in the United States, and in this particular area the rainfall is characterized by generous amounts in the spring and early summer months at a time when the moisture can best be utilized by the growing plants and by very light fall and winter precipitation. To this fortunate provision of nature the large farming sections in this area owe their prominence. There are also important grain sections in the more Northwestern States which receive on the average less than 15 inches of precipitation. In fact, in some localities wheat is grown where the normal annual precipitation is only about 10 inches, but in such

cases special methods for conserving the soil moisture must be practiced.

Winter wheat.—In the United States central Kansas is the most important center of winter wheat growth, and this area of heavy production extends southward into west-central Oklahoma and northward into southeastern Nebraska. Other important centers are found in the States bordering on the north bank of the Ohio River, in southeastern Pennsylvania, western Maryland, and in southeastern Washington.

Winter wheat yields very well in the more humid and warmer sections of the country, but it is in competition with other better paying crops, which are preferred. The danger of damage by rust is greater also. In the eastern part of the United States the southern boundary of extensive winter wheat culture follows closely the isotherm of average temperature of 68° F. for the two months preceding harvest. The northern boundary of winter wheat follows, in a general way, the mean winter temperature line of 20° F. north of which the climate is better suited to spring wheat.

Winter killing.—Winter damage to wheat is usually grouped under four main heads: Heaving, smothering, direct effect of low temperature and drought. Heaving is one of the most common causes of damage, especially on poorly drained soil. It occurs usually in spring and is due to alternate freezing and thawing, which lifts the plants from the soil and leaves the roots exposed to the air. This is a common cause of winter killing in the eastern United States.

Smothering of the plants occurs when the ground is covered with an ice sheet. This more frequently results from the freezing of melted snow, although it is sometimes caused by sleet or glaze covering the plants. Plants are sometimes killed by the direct effect of cold on the tissues when snow protection is absent. This kind of injury usually increases with the degree and duration of the cold, but the effect of a sudden freeze of short duration following a warm period, especially in spring, may be very harmful. Winter drought may also cause injury, but this is not so frequent as the other causes mentioned.

Weather and growth.—The season of winter-wheat growth from the time of planting to harvest is so long that it is difficult to determine satisfactorily the weather influence on the final yield during different periods of growth. It is important that moisture be sufficient to enable the preparation of a good seed bed and for germination of seed, and that the early period of growth be moderately warm and moist. When favorable weather prevails during the fall months the plants usually establish a good root system and are less liable to winter injury than when unfavorable growing weather prevails during that period.

Statistical studies, however, indicate that conditions during the fall months do not bear, in general, any material relation to the yield of wheat the following summer, but that the weather during the winter, spring, and early summer months, especially from March to June, has a much greater influence on the final output. Consequently, wheat may be in poor condition at the beginning of winter, and with favorable weather later the improvement may be such as to produce satisfactory yields. On the other hand, good growing conditions may prevail throughout the season until near harvest time,

when a short period of unfavorable weather may prove disastrous. Hot, dry weather during the ripening period, especially following a spring and early summer season of warm weather and abundant moisture, is especially harmful. Figures 25 and 26, based on conditions in several important wheat States during the crop seasons of 1917–18 and 1918–19, afford good illustrations of the two opposite cases named.

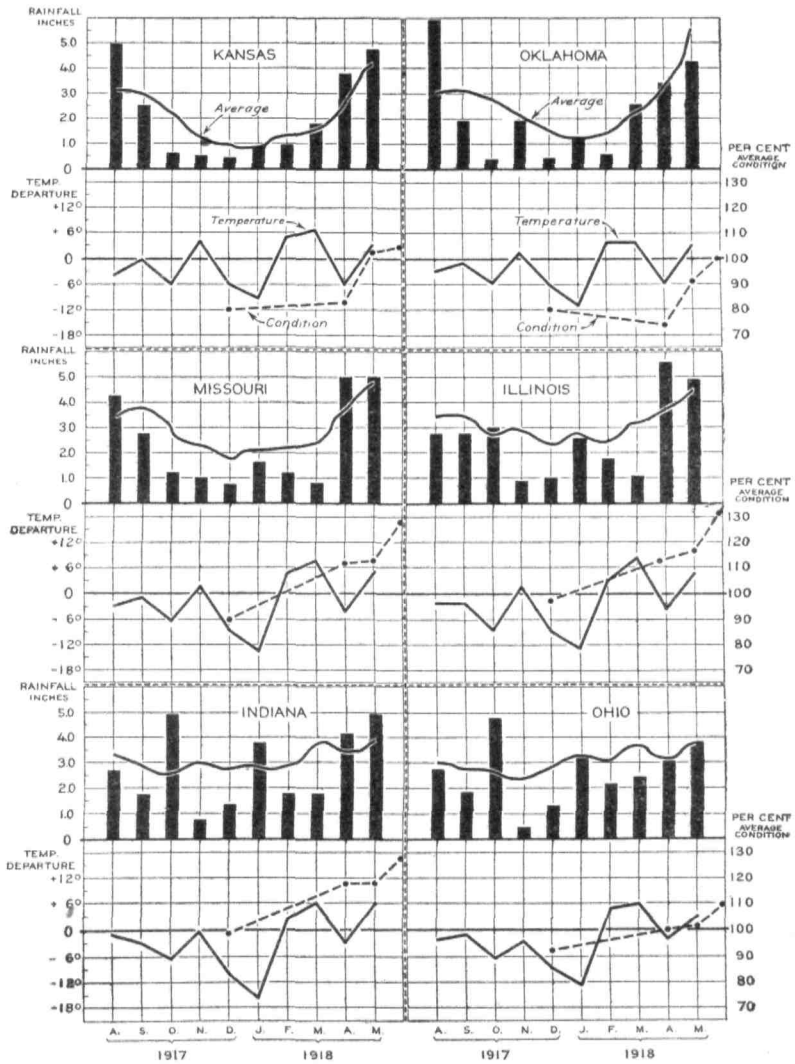


FIG. 25.—In the upper part of each diagram the heavy solid line indicates the normal monthly rainfall, whereas the average falls for the several months are shown by the vertical bars. The rainfall values are indicated by the figures at the left. In the lower part of each diagram the heavy horizontal line represents the normal temperature, whereas the variable line shows the temperature departure for each month from the normal, as indicated by the figures at the left. The condition of winter wheat on the first of December, April, May, and June, as compared with the 10-year average, expressed in percentages, as reported by the Department of Agriculture, is indicated by the heavy dots, according to the figures at the right, and these dots are connected by lines

light hours, which is also true for the frequency and duration of rain. This means much to the farmers of that section, as otherwise it is probable that great difficulty would often be experienced in gathering the immense crops grown.

Spring wheat.—The principal area devoted to spring wheat comprises the central-northern portion of the country. North Dakota is the most important spring-wheat State, although the area of intensive production extends into western and southern Minnesota and eastern South Dakota. Another important center is in the Palouse and Big Bend district of eastern Washington. The southern boundary of spring wheat conforms more or less closely to the northern boundary of corn and winter wheat, whereas the northern limit corresponds approximately to the mean summer temperature line of 58° F., which is mostly in Canada.

In connection with the southern boundary of the present spring-wheat culture, it is important to note that there are considerable areas in the upper Appalachian Mountains where the climatic conditions are favorable for the growth of this crop. In Virginia these favorable areas are located north of the thirty-eighth parallel of latitude and at elevations above 2,000 to 3,000 feet; in western Maryland, southern Pennsylvania, and northern West Virginia above 1,800 feet, and in northern Pennsylvania above 600 feet. At even lower elevations in these States and in northern and central Indiana and Ohio, as well as above 1,400 feet in North Carolina, northwestern Georgia, and eastern Tennessee and Kentucky, the early varieties of spring wheat could be sown as a catch crop. The dates of seeding and harvesting in these districts would agree closely with those for oats.

Weather and spring-wheat growth.—The precipitation in May and June and the temperature in June are important factors in the growth of spring wheat. In North Dakota rainfall for these two

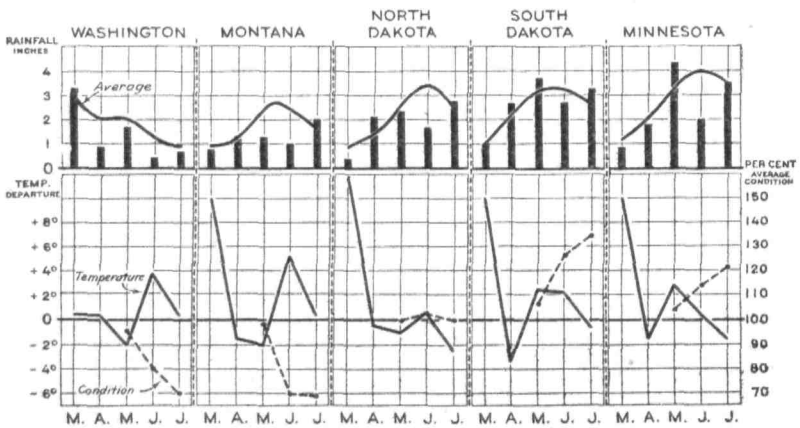


FIG. 27.—In the upper part of each diagram the heavy solid line indicates the normal monthly rainfall, whereas the average falls for the several months are shown by the vertical bars. The rainfall values are indicated by the figures at the left. In the lower part of each diagram the heavy horizontal line represents the normal temperature, whereas the variable line shows the temperature departure for each month from the normal, as indicated by the figures at the left. The condition of spring wheat on the first of May, June, and July, as compared with the 10-year average, expressed in percentages, as reported by the Department of Agriculture, is indicated by the heavy dots, and

months was below the normal 12 times during a period of 26 years, above the normal 13 times, and normal once. Of the 13 years with rainfall above the normal the per acre yield of spring wheat was above normal 9 times and below normal 4 times. Of the 13 years during this period, with May and June rainfall above the normal in South Dakota, the yield was normal or above 10 times and below normal only 3 times. The rainfall averaged above normal for May and June, with the June temperature below normal, 11 times in North Dakota and 9 times in South Dakota during the same period, and of these years 73 per cent in North Dakota and 90 per cent in South Dakota had yields above the average.

Figure 27 shows the varying effect of rainfall and temperature on the growth of spring wheat for several States during the season of 1918. In Washington and Montana the spring drought in that year was disastrous to the crop, but conditions were more favorable in the Dakotas and Minnesota. Precipitation was especially favorable in South Dakota, but in North Dakota the effect of the deficiency of rainfall in June is shown by the slight lowering in the condition of wheat as shown on the graph. These graphs show clearly the importance of weather in the growth of this crop.

Weather and Oats

Oats are best adapted to cool, moist climates, such as are found in most of the northern European countries, the northeastern portion of the United States, and in Canada. The oat is a cool weather plant and consequently needs moderately low temperatures during the season when the heads develop and fill. In warmer climates, such as the southern United States, however, winter varieties are grown which are sown in the fall. Winter oats are less hardy than winter wheat, however, and are more frequently damaged by cool waves in winter, and they usually yield less than spring oats. The region of winter-oat production in the United States is bounded on the north approximately by the winter mean isotherm of 35° F., which extends broadly from Virginia and Kentucky, westward across southern Missouri and central Oklahoma.

The principal oat-producing area of the United States comprises the northern portion of the country extending from eastern North Dakota, South Dakota, and Nebraska, eastward to western Pennsylvania and western New York, where the summers are usually cool and moist. Spring oats should be sown about the time the normal daily temperature rises to 43° F., or at the beginning of the general vegetative period. The crop requires nearly four months to mature, and it is important to seed as early as weather conditions will permit so that the critical period in growth will be reached before the warmest of summer weather sets in.

Owing to the early date of oat seeding, it sometimes happens that cold, wet weather follows sowing. Such condition is very unfavorable, as the seed may fail to germinate, and too cool weather unfavorably affects the growth of the young plants. For best results the temperature should be above normal for the season and locality about the date of sowing and for sometime thereafter, with only moderately moist soil. When the heads are forming and grain developing, the crop requires cool and moderately wet weather, as

such conditions favor proper filling and ripening of the grain. Hot, dry weather, even for only a few days, at the critical period of development may materially reduce the yield.

It has been found in Russia that a mean daily temperature above 75° F., with a maximum temperature above 86°, between the heading and milk stage endangers the yield of oats, especially if a number of such days occur in succession. An abundance of moisture in June, when the plants were developing vegetative organs, was found to be very beneficial.

Weather and Minor Grain Crops

Rye.—Rye is a typical cool-weather plant. It may be sown later in fall than wheat and can be grown where the winters are too cold for winter-wheat production. It will germinate and grow with temperatures but little above freezing and is not unfavorably effected by light frost when in the milk stage. The region of greatest production in the United States comprises the area from New York westward to North Dakota. In the central-northern States it is grown where the mean winter temperature is about zero and where temperatures as low as —40° F. sometimes occur. The crop is much more extensively grown in Europe, where in some countries it is more largely used for food than in America.

A correlation of weather and the yield of rye in the central-northern portion of the United States shows that the crop needs for best results moderately dry and warm weather in April, a rather abundant moisture supply in May, and cool weather in June. Experiments in Russia indicate that favorable conditions include a rather plentiful supply of warmth and moisture before the formation of the heads and cool and damp weather thereafter, though with moderate temperatures and dry weather during the blooming period. The crop does not fill well if there is too much rain when the heads are in bloom.

Barley.—Barley has a short growth period and consequently is produced in high latitudes where the growing seasons are short and the weather too cool for corn. The temperature range of this crop in the United States is wider than that of any other cereal. It is grown up to 10,000 feet elevation in some Rocky Mountain districts, where the smmer temperature is little more than 50° F., and also in southeastern California, where the temperature for the summer season is as high as 95° F. It will mature with an annual rainfall of less than 10 inches and is mostly grown in subhumid to semiarid climates.

Although barley can be grown in warm climates, the principal producing districts in the United States do not have any month during the growing season with a mean temperature above 75° F. It has been found in England that the chief requirement for a good yield is a cool summer, especially after mid-June. Barley is affected by spring frost more than either wheat or oats, but it recovers quickly from frost effect. A correlation of barley yield and weather in Wisconsin shows that the crop yields best with a rather warm and dry April and a cool June, with rainfall in May and June moderately above normal.

Buckwheat.—A cool, moist summer best suits this crop, very little being grown in the United States where the summer temperature averages over 70° F. and practically none where it exceeds 75°. It is well adapted to high altitudes with short growing seasons, as 10 to 12 weeks are sufficient for maturity under favorable weather conditions. It is very sensitive to cold, however, and consequently the growth period must be free from frost.

Buckwheat seed will germinate with a temperature as low as 45°; but the optimum warmth for germination is about 80°. Like oats, warmth in the germinating and early growth period is desirable, but the weather should be cool and moist during the later period of growth, especially when the grains are forming. High temperatures and drought are very unfavorable about the blooming stage. It is claimed that a type of buckwheat has been developed in Russia, by constant early seeding, that will resist a temperature several degrees below freezing.

Flax.—Flax for fiber is grown mainly in regions of high humidity and moderate rainfall, with cool summer temperatures. Uniform and rather slow growth is necessary to produce a long, even, fine fiber, and a material checking of growth just before the formation of bolls results in an inferior type. In the United States flax is mostly grown for seed, and principally in the northern Great Plains. In this region the rapid temperature changes and uneven distribution of rainfall during the growing season results in a short, coarse straw and uneven fiber; consequently only seed is produced.

Flax prefers warm and moderately dry weather in May and June, or during the planting and germinating period, damp, warm weather in August, and cool weather with plenty of moisture in early September. Deficient moisture, with hot, dry winds when the plants are in bloom is especially harmful, but if the weather be too cool and cloudy during this period of development the blooming process will be unfavorably prolonged, resulting in uneven ripening.

Grain sorghums.—Grain sorghums are more or less drought resisting and are best suited to rather dry, hot, and sunshiny climates. They are enabled to withstand droughty periods by their ability to suspend growth without material injury when moisture is deficient and resume development when it again becomes available. These crops are sensitive to low temperatures, however, and do not grow well in high altitudes because of the cool nights. They require a mean summer temperature of at least 70° to 75° F.

Grain sorghums are grown more extensively in the lower Great Plains, where the rainfall ranges from 15 to 30 inches, than in any other portion of the United States. The summers are warm in this region, droughts occur rather frequently, and there is much sunshine. When growth is unduly delayed by reason of drought or cool weather these crops are sometimes damaged by early fall frosts. Rain during the harvest period of broomcorn is unfavorable in discoloring the heads.

Rice.—The water requirement of rice is very high. It is distinctly a tropical plant, but can be grown in the warmer portions of the Temperate Zone. Summer temperatures should be at least 75° F. for best results, though some varieties are grown in Japan where the mean summer temperature is as low as 70°. A cool sum-

mer in this case, however, may case a failure of the crop, which is very serious, as it is the chief native food supply. Where irrigation is not practiced, a region to be favorable for rice must have a very heavy rainfall, especially during the growing season.

Rice production in the United States is very small compared with that of the oriental countries. It is chiefly produced in this country in the lower Mississippi Valley States, Texas, and California, though some is grown in the Carolinas and Georgia. The industry in the Sacramento Valley of California has rapidly expanded in recent years. In the United States it is necessary to irrigate this crop because the high water requirements are not met by natural rainfall. The crop requires a growing season of about 135 days, and the average length of the irrigation period in the Mississippi Valley and Texas is about 85 days. In Louisiana rice has been found to require for 90 days an amount of water equivalent to 0.5 inch of rainfall daily.

Weather and Cotton

Cotton is of tropical origin and its successful cultivation has rather definite climatic boundaries. The area of growth, however, is limited more by temperature conditions and the length of the growing season than by rainfall. The plant grows slowly and, under normal conditions, has a long fruiting period which requires for maximum production a growing season of at least 200 days. The mean summer temperature should not be lower than about 77° F. The temperature should be high in both day and night for best growth. The average annual rainfall in the Cotton Belt of this country varies from approximately 23 inches in the extreme western portion of the belt to 50 inches or more in central and eastern areas. The principal producing sections in Texas have a warm-season rainfall (April to September) of about 21 inches, the Mississippi Valley 21 to 24 inches, and the more eastern cotton States 23 to 25 inches.

During the last year or so the area planted to cotton has been materially extended in some sections to the west and north of what has been considered the Cotton Belt. In these regions the climate is not so well suited to the requirements of cotton as in the Cotton Belt proper, but at the same time the crop can be grown in competition with other sections because of the boll-weevil situation, the new areas being as yet practically free of this pest. The principal advantage of the more southern and warmer districts is their long growing season, which will permit late fruit to mature before frost, but this was largely nullified under recent conditions because of the fact that the weevil left little or no late fruit to mature in much of the old producing areas. Thus, with the higher price prevailing, the smaller crops in the new sections may still be profitable.

Planting and early growth.—Cotton should not be planted until the ground becomes thoroughly warmed up, or about the time the normal daily temperature rises to 62° F. The temperature is especially important during the early-growth period, particularly in May and June, when warm weather and a moderate amount of moisture is desired. It is especially harmful for these months to be cool and wet, as this greatly retards growth, and when the crop gets

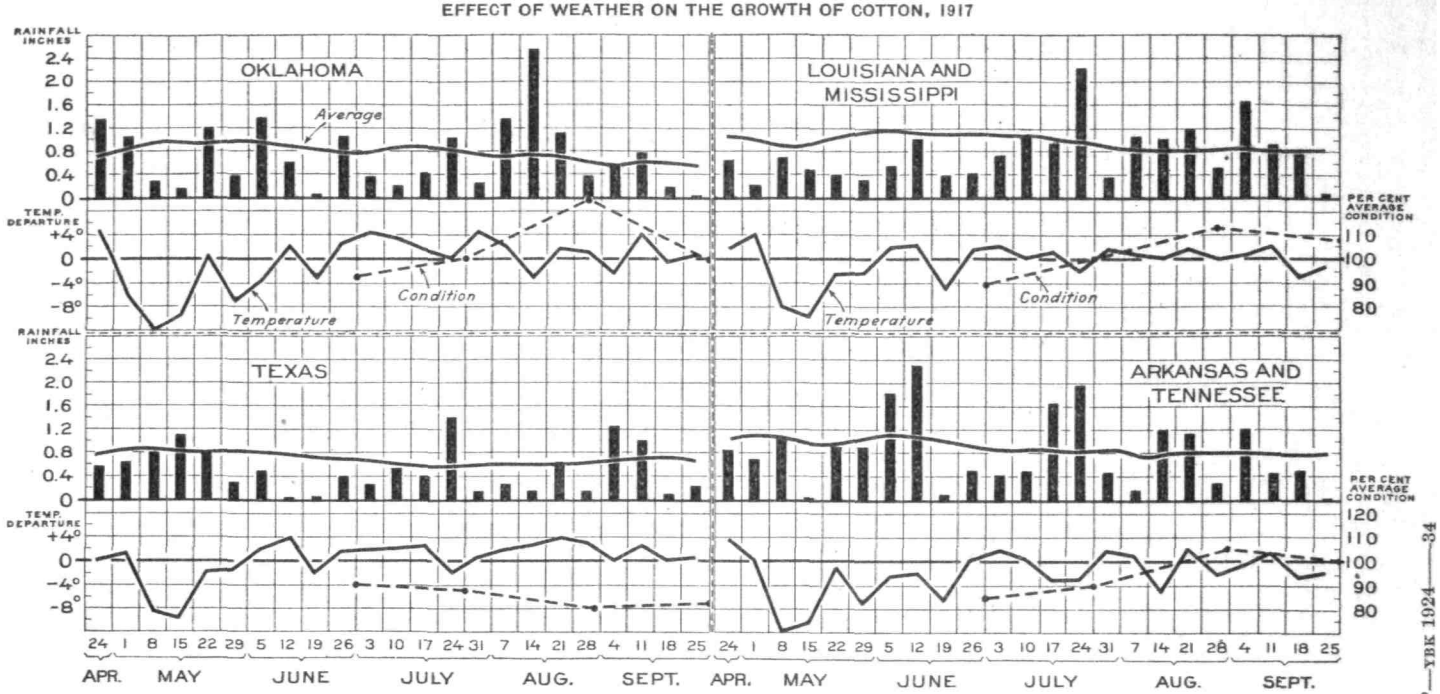


FIG. 28.—In the upper part of each diagram the heavy solid line indicates the normal weekly rainfall, whereas the average for the section for each week is shown by the vertical bars. The rainfall values are indicated by the figures at the left. In the lower part of each diagram the heavy horizontal line represents the normal temperature, whereas the variable line shows the temperature departure from the normal for each week, as indicated by the figures at the left. The condition of cotton on the 25th of the month, as compared with a 10-year average, expressed in percentages, as reported by the Department of Agriculture, is indicated by dots, and these are connected by broken lines

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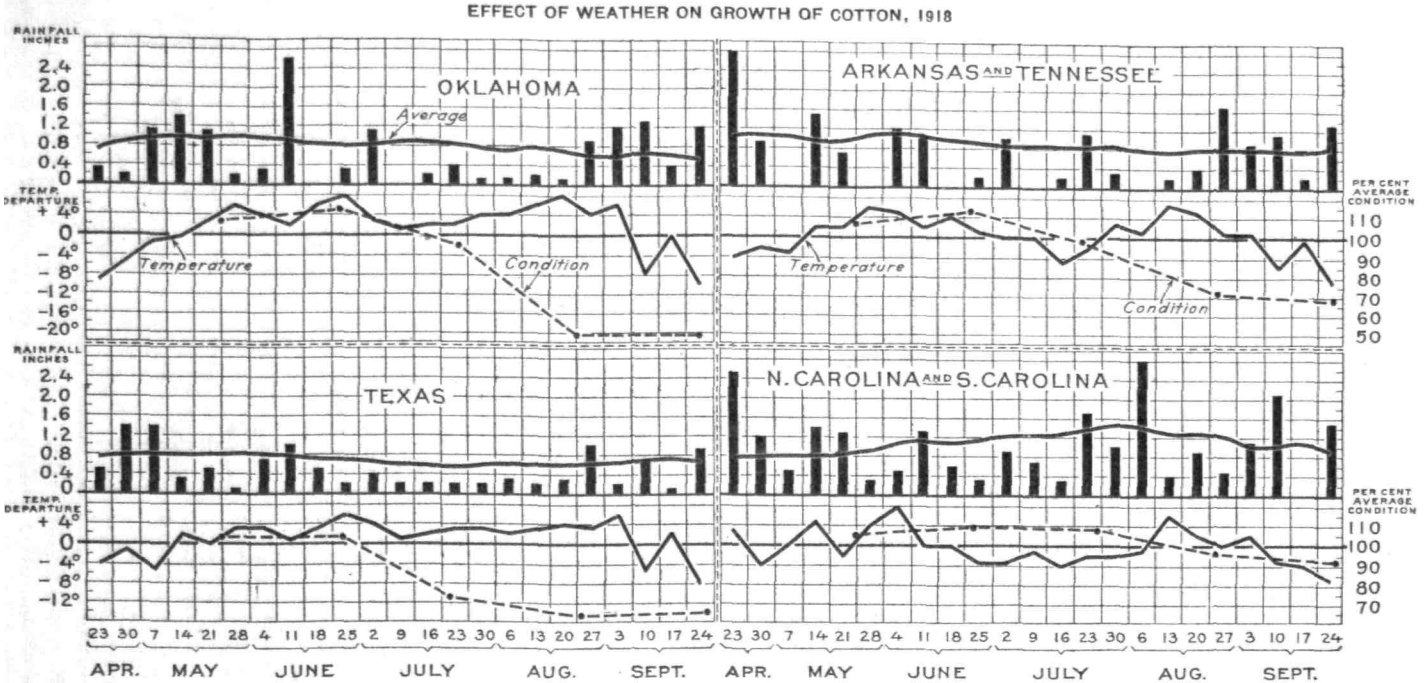


FIG. 29.—In the upper part of each diagram the heavy solid line indicates the normal weekly rainfall, whereas the average for the section for each week is shown by the vertical bars. The rainfall values are indicated by the figures at the left. In the lower part of each diagram the heavy horizontal line represents the normal temperature, whereas the variable line shows the temperature departures from the normal for each week, as indicated by the figures at the left. The condition of cotton on the 25th of the month, as compared with a 10-year average, expressed in percentages, as reported by the Department of Agriculture, is indicated by the dots, and these are connected by broken lines

a late start the retardation in development usually extends through the entire growth period to final maturity. In addition, too much rain in these months prevents proper working, and thorough cultivation is essential for best results.

Deficient rainfall during July and August is more frequently harmful in the western than in the eastern portion of the belt. In fact, in the central and eastern districts cotton is adversely affected by too much moisture as frequently, or more so perhaps, than by too little. Thus, in the west drought is most to be feared and in the east too much rain. The ideal rainfall condition is that of the summer thunderstorm type, with periods of bright, warm weather between the rains.

Frequent rainfall is especially undesirable during the boll-opening and picking period, as the exposed fiber is discolored and damaged by wet, cloudy weather, and at the same time picking, which is done by hand, and, therefore, is a slow and long-drawn-out process, is prevented. In the cotton-growing States, however, rainfall is usually lighter during the fall months than in other seasons, which is favorable for picking and ginning.

Weather and the boll weevil.—Aside from the direct effect on growth and fruiting of cotton, continued cloudy and rainy weather is very favorable for weevil activity, whereas dry, hot weather is the most potent factor in holding this pest in check. Dryness, sunshine, and heat increase the death rate of immature weevils enormously. The most important weather factors affecting the boll weevil are winter temperatures and spring and early summer rainfall. With a temperature as low as 10° F., especially if continuing for a considerable time, the boll weevil should be greatly reduced or largely killed, especially where there is scant protection afforded by his hybernating quarters. It may so happen, however, that the weevil may be largely reduced by winter cold, and the beneficial results negatived by wet weather in May and June, whereby those escaping may be enabled to multiply rapidly. On the other hand, they may largely escape through a mild winter, but be held in check by dry, sunshiny, and warm weather in late spring and early summer.

General weather effects.—The seasons of 1917 and 1918 afford excelent illustrations of the varying effects of different kinds of weather on the growth of cotton, as indicated by Figures 28 and 29. The effect of cool weather during the early part of the growing season is shown by Figure 28. As a result of the cool spring weather in 1917, cotton was in poor condition at the end of June, but thereafter there was a steady improvement in condition in most cases, though the drought caused a further falling off in Texas. The prevailing moderate temperature and well-distributed rainfall in Louisiana and Mississippi are reflected in the marked improvement in the condition of cotton in these States, as indicated on the graph, whereas in Oklahoma the beneficial effects of the rainfall in August is strikingly shown.

In 1918 the weather was widely at variance with that of the preceding summer. Figure 29 shows that May and June were generally warm, rather dry, and favorable for cotton; consequently the crop was in better condition than usual in nearly all States at the end of

June. Thereafter, however, drought was widespread, and in the western cotton States extremely severe, which resulted in a marked deterioration in the crop. The graph shows that conditions were especially bad in the States west of the Mississippi River. In Texas there were 10 consecutive weeks of deficient rainfall, beginning about the middle of June, whereas in Oklahoma only one week during the same period had as much as normal rainfall. These graphs clearly show the unfavorable effect of a cool spring (fig. 28) and of a droughty summer (fig. 29) on the development of the cotton crop. Also the beneficial effects of well-distributed rainfall and favorable temperatures as in several States in 1917 (fig. 28).

Weather and Crop Services

The United States is preeminently an agricultural country, and the farming industry is basic to our national prosperity to a greater extent than in any other of the leading countries of the world. The farmer's working partner, so to speak, is the weather, and it is essential that he and all others interested in the important problem of supplying the Nation with food be kept in close contact with prevailing weather conditions and their effect on growing crops and farming operations. To supply this need special weather and crop services are maintained by the Department of Agriculture, through which such information is made available to all interested persons. For this purpose the Weather Bureau maintains two more or less distinct services—one a daily and the other a weekly.

Daily cotton, corn and wheat, and sugar and rice region services are maintained. In these a large number of special meteorological observers, well distributed throughout the principal agricultural sections of the country, make weather observations, and their reports are collected by telegraph and published daily in bulletin form at designated central Weather Bureau stations in different sections of the country. These bulletins show for the various stations and for each 24-hour period the highest and lowest temperature, the general character of the weather, and the amount of rainfall.

In the weekly service the officials in charge at designated central Weather Bureau stations for the several States collect information weekly from special and cooperative meteorological observers and a large number of correspondents relative to prevailing weather conditions and their effect on farming operations and crop growth. These officials make weekly reports to the central office at Washington, D. C., where the information is tabulated and summarized into a weather and crop report for the entire country. This is released telegraphically each Wednesday at 10 a. m. and published in the "Weekly Weather and Crop Bulletin," which includes meteorological tables and charts showing graphically the precipitation and temperature conditions throughout the country. In addition there is published a local weather and crop summary at each State center relative to conditions prevailing in the respective States. There is also published at New Orleans a weekly cotton region bulletin covering conditions in the Cotton Belt, and at Chicago a similar report covering the principal grain-producing States.

Many circulated stories and rumors that affect the price of grain and other agricultural products and the agricultural industry in

general relate to the weather. By maintaining these services dependable information is supplied at frequent intervals whereby the public is kept acquainted with the actual conditions prevailing.

Livestock and the Weather

The range areas in the United States are four in number, as follows: (1) The Western, (2) the Cotton Belt, (3) the Appalachian, and (4) the Great Lakes region (fig. 30). The first-named, with

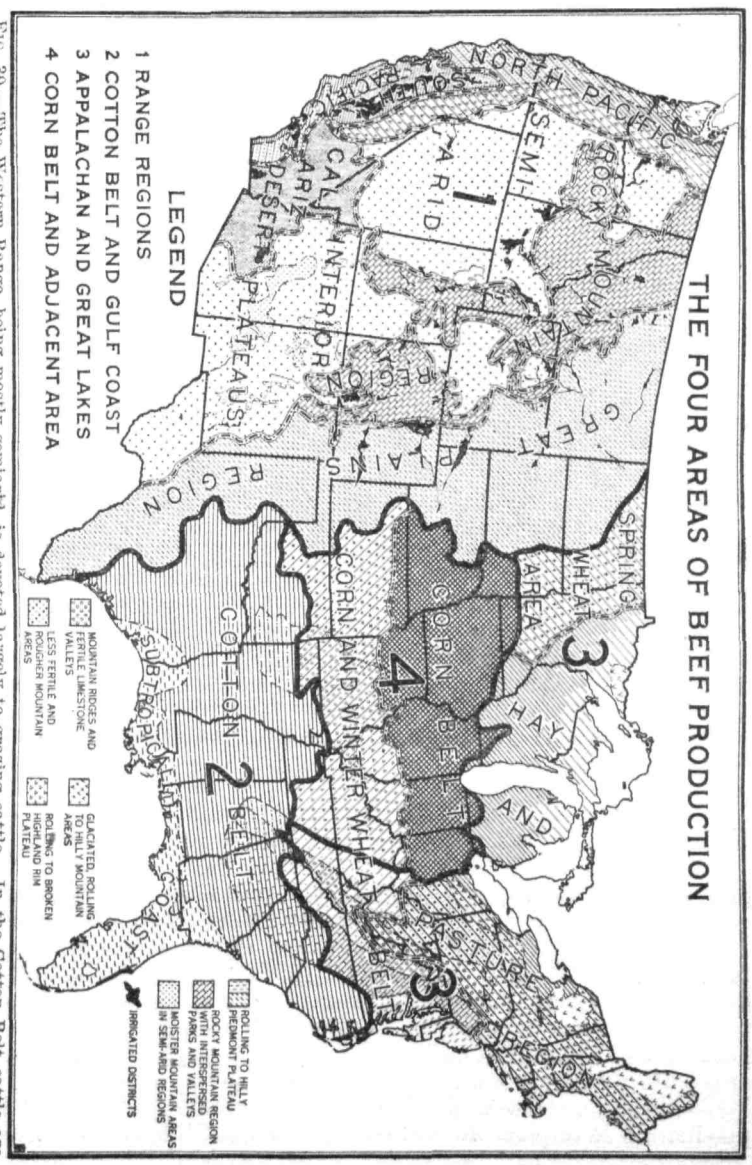


FIG. 30.—The Western Range, being mostly semiarid, is devoted largely to grazing cattle. In the Cotton Belt cattle are raised chiefly on wooded and other untilled land. Along the Subtropical Coast, largely cut-over pine land and prairies, many cattle are raised in large herds under almost range conditions. In the Appalachian and Great Lakes region cattle are raised in small herds, the cows being kept for milk as well as for their calves. In this region many cattle are fattened on grass alone. The Corn Belt is the principal region for the fattening of cattle. Large numbers are shipped in from the ranges of the West and Southwest

which this discussion is chiefly concerned, is essentially different from the others, the distinguishing features being mainly those of rainfall, altitude, and topography; therefore, the weather factor which on the other ranges is of minor importance becomes one of great importance as will appear later.

Except in parts of the Pacific Coast States and on the higher mountains, the rainfall over much the greater part of the Western range is insufficient to grow crops by the ordinary methods of farming. The average altitude of the range, as a whole, is over 4,000 feet as compared with less than 1,000 feet in the humid East. Altitude and rainfall are the measures by which the Western range is classed as pastoral rather than agricultural.

Originally the range-cattle industry was centered in Texas and certain north and south belts in the Great Plains States. With the lapse of time and concurrently with the increased demand for land potentially suited to agriculture, the best portions of the original range areas in the Middle West were absorbed by homesteaders and thus the industry was gradually pushed farther and farther toward the Pacific. At present the most compact single geographic unit in the Western range, where the range-cattle industry is best developed, is found between the eastern foothills of the Rocky Mountains and the western limit of the more humid portion of the Great Plains States on the east (fig. 31). This region forms the divide between areas where rainfall is insufficient for crop growth and those areas in which crop production without irrigation is uncertain. This unit may be described, following the classification of O. E. Baker into two belts, as follows:

(1) *The farming-grazing belt.*—This immediately adjoins the more humid eastern portion of the Plains States in which the rainfall equals or exceeds 20 inches annually and the growing of crops is the dominant feature. The farming-grazing belt comprises the west-central portions of the Dakotas, western Nebraska, extreme western Kansas and Oklahoma, and a narrow strip of western Texas. In this belt the average annual rainfall is, as a rule, slightly more than 15 inches in most of the central and northern portions and 20 to 25 inches in the southern. Here crop production without irrigation is hazardous and grazing is more important than in the belt directly toward the east. The carrying capacity of the range is from 5 to 15 acres per steer.

(2) *The grazing-forage belt.*—This belt comprises the area lying immediately east of the Rocky Mountains and is still drier than the farming-grazing belt. The average annual rainfall is about 10 to 14 inches. The soil is brown and the natural vegetation is largely grama grass mixed with buffalo and other native grasses. Crop production is precarious, the frequent failures being sufficient to reduce the average yield per acre to a little more than half that of the farming-grazing belt on the east. In this belt, grazing is the most important interest, but 15 to 25 acres in the more favorable localities to more than 50 acres in the less favorable may be required to support a mature beef animal. Some sections of this belt comprise arid, sandy land, which is mostly found in the dry, warm river valleys below the general level of the surrounding plains, where crop production is impossible without irrigation. These are better suited

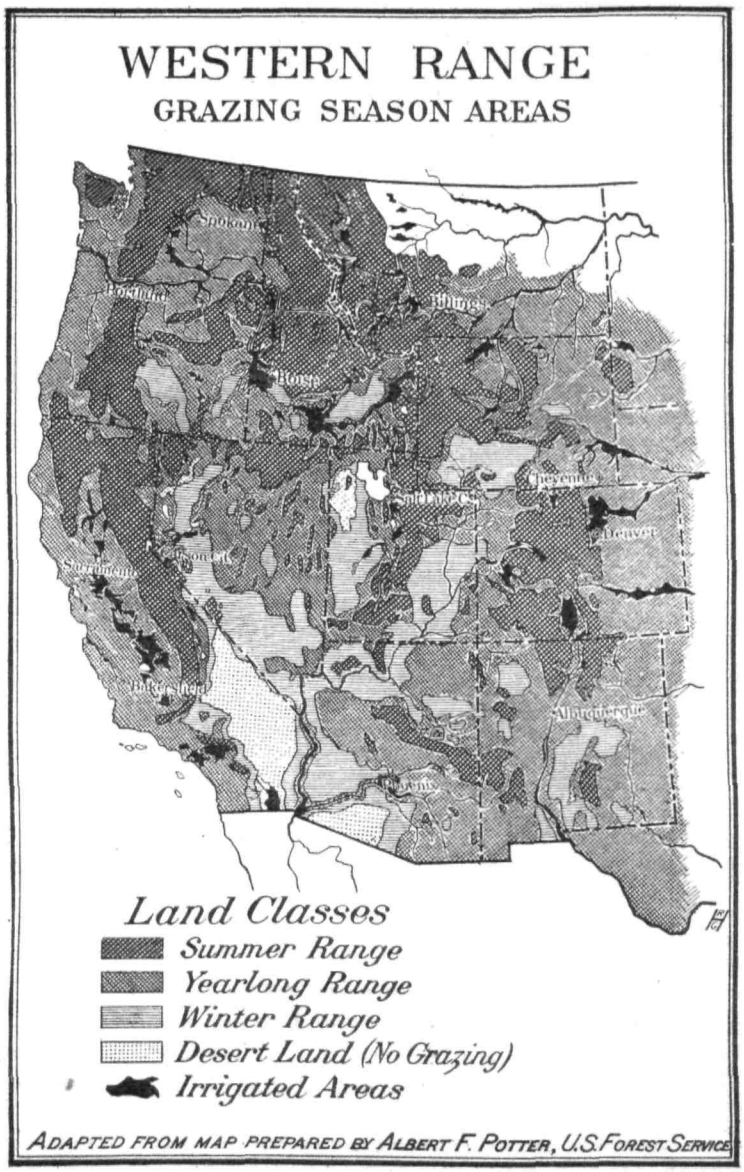


FIG. 31.—In the summer the cattle in the West near the mountains are commonly driven up into the national forests, which contain large areas of open grass land and parks, as well as abundant browse. In the Great Plains region, in western New Mexico and Arizona, and in the Pacific States, also in much of Nevada, cattle are grazed the year round on the range, commonly with supplementary winter feed. The winter range is mostly desert and used more largely for grazing sheep than cattle. Many cattle are fattened in the irrigated areas. The map, originally prepared by A. F. Potter, formerly of the Forest Service, has been revised by O. C. Stine, Bureau of Agricultural Economics. It does not extend to the eastern boundary of the range area, which is about 200 miles farther east. Nearly all this area not shown is yearlong pasture

to sheep than to cattle, but even with sheep from 5,000 to 10,000 acres are often required to support a good-sized herd.

The intermountain region.—The area west of the Rocky Mountains is not paralleled elsewhere in the United States for ruggedness of topography and variety of surface features. The latter range from lofty mountains and plateaus to alkaline plains, extensive lava flows, areas of shifting sand, and true deserts. The average rainfall of this region, except the north Pacific Coast States and the higher mountains, ranges from 5 to 12 inches. In some of the more favorable sections a steer can be maintained on probably as few as 50 acres, but in most cases the drier regions require more than 75 acres for a single steer.

The leading cultivated forage crop in the Rocky Mountain and semiarid intermountain regions is alfalfa, although much forage is obtained through grazing in the region of wild grasses along the eastern foothills of the Rocky Mountains and elsewhere. The character of the forage and the grazing capacity of the western range is shown in Table 3, reproduced from the 1921 Yearbook, page 251.

TABLE 3.—*Character of forage and estimated capacity of the western grazing areas of the United States*

Areas	Chief forages	Length of season	Area to support a cow
		Months	*Acres*
Northern Great Plains	Grama, grama-buffalo, wheat grass	5 to 8	15 to 25
Southern Great Plains	Grama-buffalo	5 to 10	15 to 25
Black Hills	Grama, short grasses	3 to 5	25 to 30
Central Rocky Mountains	Mountain weeds and grass	3 to 5	20 to 25
New Mexico-Arizona Mountains	Grama grass, browse	6 to 12	25 to 30
West-central and northwestern Montana	Pine grass	3 to 7	35 to 40
Southwestern Montana	Short grasses	3 to 6	20 to 25
Northern Rocky Mountains	Bunch grass, browse	3 to 6	60 to 150
Central Idaho	Bunch grass, weeds, browse	3 to 7	25 to 30
Wasatch, Uinta, and Wyoming Mountains	Grass, browse	3 to 7	20 to 25
Northeastern Nevada, southern Idaho, and central Oregon.	Bunch grass, sagebrush	4 to 8	35 to 40
East-central Nevada mountains	Bunch grass, browse	4 to 6	25 to 50
Wyoming semideserts	Sagebrush, shadscale, greasewood, short bunch grasses.	2 to 4	50 to 100
Utah-Arizona deserts	Browse	2 to 5	75 to 150
New Mexico-Arizona foothills	Browse, tobosa, grama grass	4 to 8	30 to 60
San Luis Valley of Colorado	Greasewood, salt and short grass	7 to 9	30 to 40
Utah foothills and valleys	Sagebrush, bunch, salt, and June grasses.	5 to 7	25 to 30
Mohave Desert [1] of California	Annual weeds, browse		640
Nevada semideserts	Shadscale, greasewood, browse	1 to 4	75 to 150
Southeastern Oregon and Snake River plains.	Sagebrush and bunch grass	2 to 5	50 to 100
Columbia River Basin	Bunch grass	7 to 9	10 to 30
Eastern California mountains	Browse and bunch grass	3 to 6	25 to 35
Western Oregon mountains	Browse	3 to 7	75 to 100
Southwestern California mountains	Browse	6 to 12	40 to 60
California-Oregon mountain valley	Grass and weeds	6 to 8	10 to 25

[1] The grazing season on the Mohave Desert depends on the availability of water for the cattle.

The development of the range and ranch cattle business in Texas and its spread to the ranges of the northern Great Plains and Rocky Mountain region forms one of the most interesting chapters in the annals of American husbandry. When Texas and New Mexico were annexed to the United States vast numbers of Texan cattle roamed throughout those areas. The census of 1870 gives the number as 4,000,000, or one-seventh of all cattle in the other States and Territories. These cattle were descended from stock imported from

Mexico and at a more remote date from Spain, and had through generations of neglect reverted into a condition of semiwildness; moreover, through the survival of the strongest they had become hardy, and being left to their own resources had become expert in seeking food and water. In the language of the stockmen, they were good "rustlers." They were able to subsist the year through with absolutely no care or expense on the part of their owners except such as might be involved in the semiannual "round-ups."

In the late sixties millions of acres of good grazing land were available to stockmen merely by occupying them. Naturally the stockmen were quick to take advantage of the situation, and so it happened that cattle by the thousands were being grazed on ranges which the cattle owners had no legal right to occupy.

In the beginning of the range-cattle business in the Southwest the moderate climate of that region and the occurrence of several mild winters in succession in the late seventies doubtless led to the unsafe conclusion that winter protection and feed could be dispensed with, and the idea thus carelessly formed spread throughout the range country, even to the Northwest, where severe winter weather is to be expected. It is difficult at this time to accurately appraise each of the several factors that contributed to the early success of the industry, but we may single out, as probably the greatest single factor, the "open" range, coupled with the good quality of the grazing thereon.

The cost of raising a steer on the open range was from 75 cents to $1.25 per year. Thus a 4-year-old steer would have cost not to exceed $5 to raise, and the selling price, when driven to the railroad, was five or six times that amount. The chief problem of the stockman in the early days was to get his product to the great markets, and thus was initiated the picturesque and unique practice of driving cattle hundreds of miles across country as the crow flies, or, in the parlance of stockmen, "riding on trail." This practice had within it the seeds of the final breaking up of the "open" range. Only two of the tendencies will be here mentioned—first, the tendency, based on sound economic principles, of consolidating many small herds into one great one; and, second, the tendency initiated by the settler who, taking advantage of the privileges permitted by the land laws of the United States, preempted such favorable locations throughout the range area as gave promise of being adapted to farming on a small scale, with the keeping of small herds as a secondary issue. The settler was well within his rights when he fenced in his holdings and thus prevented free access to the water, which was so important to the interests of those who wished to keep the range open to all.

The interests which controlled large herds naturally sought and obtained title to large holdings of range land, and thus gave impetus to the trend toward private ownership of grazing lands in the Western range, and this may be called the era of private ownership.

The tendency toward great holdings reached its peak in the middle eighties, when single holdings of as many as 3,000,000 acres were not uncommon. Latterly, however, the tendency has been toward the breaking up of these great ranches.

At present practically all public and State land that can be utilized for farming on a small scale has been taken up, and naturally the area of range land has been very materially reduced; the quality, moreover, has been lowered somewhat when the range as a whole is considered. On the other hand, the national forests have been opened up to stockmen under the permit system. Some 156,000,000 acres of national forests are now being utilized in the livestock industry.

Not only has the quality of the range as a whole been lowered, but the ability of the stock of the present to withstand the rigors of cold weather is not so good as it was before Texans were interbred with purebred stock. Originally the stockman was satisfied to take an annual loss of at least 5 per cent; but when losses of 25 to 35 per cent were sustained, as in the cold winter of 1881–82, his confidence in the ability of present-day cattle to withstand the rigor of an exceptionally cold winter was rudely shaken. Many financial losses were sustained in various parts of the range before the lesson that it would pay to provide shelter and food in very cold weather was learned. The shelter may be natural or artificial.

Cattle have a tendency to drift before a cold wind unless prevented by some physical obstruction, and if not rounded up before the storm begins they may wander many miles from their accustomed feeding grounds.

Owing to the great extent of the Western range, the weather is seldom uniform in all parts of it; some parts may have severe drought and others ample moisture and food for stock, so that it may be necessary to ship stock from one part of the range to another part where the conditions are more favorable. Bankers and others vitally interested in the livestock industry are at all times desirous of obtaining accurate information as to weather and the condition of the range. To meet these needs and to prevent drifting in time of severe storm, the Department of Agriculture, through the Weather Bureau, maintains as a part of its regular program a cattle region service. Bulletins giving the weather conditions and their effect upon livestock are issued from centrally located points in the range country, and in addition telegraphic advices are distributed giving warning of storms that may be injurious to livestock.

Marketing

Once the product is grown there is yet before the agricultural producer a sizeable problem—that of marketing his produce. In the process of marketing the weather conditions are of significance. Just as the hothouse, irrigation, and smudging are attempts to control the weather conditions in growing, so also are there methods of control in the process of marketing. There is a difference, however. Despite whatever protective efforts are made in production, the major portion of agricultural production in the United States nevertheless must take the weather as it comes with good or ill effects. The producer is helpless. But once the crop is harvested more effective barriers against ill effects of weather are possible. A portion of this article will accordingly be devoted to the description of these controls and their effects upon the agriculture of the

Weather conditions may affect the consumer in determining what he shall purchase. Watermelons, ice cream, fresh fruits, obviously are more to be desired in hot, dry weather than in cool.

Transportation is a most essential feature in the marketing program. In fact, the numerous areas of specialization, both agricultural and industrial, and the extensive systems of transportation which connect them, are mutually dependent upon one another. Without the railroads, the surplus production of products in the districts best suited to them would be useless; without the interchange of traffic thus created, the railroads would disappear. Just as the weather is important in agricultural production, so also is the weather an important factor in railroad, highway, and water transportation.

In still another sense weather may have a distinct influence in marketing: In so far as weather affects production it also tends to affect prices. It is not impossible that at times what the producer makes in increased production through most favorable weather he will more than lose in lowered prices. This problem of overproduction, so far as it relates to weather, is more of a production than a marketing problem and hence will not be discussed further in this connection.

The Refrigerator Car

Perhaps the outstanding attempt to control the weather conditions under which perishable products are moved from farms to market is in the development of the refrigerator car. Vast agricultural enterprises have paralleled the growth of the refrigerator-car system until now neither could prosper without the other. To see California fruit served on the eastern coast, and bananas from the countries to the south of us, is now a common sight. Cantaloupes from the Imperial Valley of California are shipped to nearly every State in the Union, their normal life being lengthened by proper cooling to retard deterioration. The country-wide distribution of fresh meats from centrally located slaughter points hinges upon the cooled car. Fast milk trains reach Boston daily from far points in Vermont, New Hampshire, and Maine, and Boston is but one city out of many so served.

"Between 1902 and 1913 the population of United States increased approximately 25 per cent; the railroad mileage increased 23 per cent; the tonnage of perishable products increased 44 per cent; the number of freight cars of all classes increased 47 per cent; and the number of refrigerator cars increased from 18,222 to 43,389, or 138 per cent."[6] These figures include only the cars owned by the railroads. Reliable figures of privately owned cars for early dates are not available. On December 31, 1917, the total number of refrigerator cars owned by all packing companies, private car companies, and railroad interests was 117,337. In 1922 there were about 140,000.[7]

This growth in the use of refrigerator cars has largely been in two fields—in meat shipping and in fruit shipping. The packing interests rather than the railroad were originally responsible for

[6] White, G. C. Improved transportation service for perishable products. 1917. (In Pan American scientific congress, 2d, Proc. 1915–1916, vol. 3, pp. 400–425.)

[7] Burnham, Guy H. The Weather Element in Railroading. Monthly Weather Review, January, 1922, 50: 1–7.

the development of the refrigerator car, since it rapidly came to be considered a necessary adjunct to the distribution of fresh meat.

That the refrigerator car should be developed by the packing industries rather than by the purely agricultural enterprises was to be expected, for this development required a concentration of free capital which is seldom found among agricultural producers and also because the fruit grower has need of the refrigerated car only during a limited season, whereas the meat shippers have a year-round requirement. The fruit-growing enterprises, however, were not slow to respond to the possibilities opened up by a perfected refrigerator car.

The business of shipping green fruit east from California, for example, was started about 1871 with the experimental shipment of a few carloads. To-day the industry has grown so large as to "encompass the markets of the world and make the name of California familiar at the breakfast tables of two hemispheres."[8] From its infant beginning the movement of fruits and vegetables out of California has grown to over 100,000 carloads annually, approximately 40,000 of these being oranges alone. The estimated value of the citrus crop is over a million dollars annually.

Another striking illustration of the use of refrigeration in transportation to permit the capitalization of special climates is the importation of bananas.

Bananas have been imported into the United States since 1872. They are most palatable if subjected to a ripening process after the bunches are cut from the plant. Their extreme sensitiveness to even moderate changes in temperature make the utmost care necessary in handling them. They are distributed by rail from different ports to all parts of the United States and Canada, and have come to be an important part of the food of the people. The greater part of the business is in the hands of one company, which controls every feature from production on its own plantations to placing the fruit in the hands of the consumer. Its own steamships are specially constructed for maintaining proper temperatures, and its own attendants accompany every car from port to destination. This is a special industry where little has been left to the rail carriers in originating improved methods of service, but the enormous increase thus brought about in the consumption of bananas in the United States indicates the possibilities with other products.[10]

Perishable agricultural products in transit must be protected not only from extremes of heat but also from extremes of cold. In early days the shipment of potatoes out of Maine was governed in a degree by the weather conditions. Shippers would wait for prospect of fair weather, whereupon effort would be made to get the crop through before dangerously low temperatures could harm the potatoes. If such temperatures should occur, the cars were put in roundhouses, were such available; otherwise the potatoes suffered. This condition made the growing of potatoes in northern Maine a somewhat hazardous undertaking and served as a natural check upon the growth of the industry. To meet this situation the now familiar heater car came into prominence, and just as the refrigerator car gives assurance that fruit and vegetables will arrive on the market in good condition the heater car gives protection to the potatoes when being moved and assures to the purchaser and grower an unspoiled com-

[8] Dyer, J. H. Perishable freight transportation service for California—present and future. 1920. (In Calif. Dept. of Agr. Monthly Bul., vol. 9, no. 12, December, 1920, pp. 658–661.)

[10] See footnote 6.

modity. Partly as a result of this security for the crop in transit, the industry has grown until the Aroostook potato district has become one of the major points of supply.

There is significance both to the producer and consumer in this controlling of weather conditions for perishable products while in transit. For the producer it has permitted the capitalization of soil and weather conditions in districts throughout the world by providing means for disposing of the enormous surplus crops produced. The growing of products in localities particularly adapted to them by soil and weather naturally means a much greater production per "man-hour" than in localities which have not these natural advantages. Greater production with the same human labor means that more and more of that labor can be devoted to other worthy enterprises. The ensuing process of readjustment sometimes appears to bring hardship rather than increased benefits to the particular industry, however; the working of this readjustment is through prices; that is, the district producing at the least cost can afford to put its product upon the various markets throughout the country at a smaller price than can the districts producing at greater costs, thus injuriously affecting those districts. A single instance will suffice: Western butter has often sold in Boston at a price which represents a loss on butter produced in New England. This naturally represents a hardship to New England producers of butter, although their fresh-milk business remains profitable.

While transportation is a most important factor in developing new agricultural districts, it also involves protection of perishable produce in transit.

The consumer derives direct advantage from the successful transportation of perishable products. In the first place, produce is made available to him at times during the year when it would otherwise be impossible—the banana trade, for example.

Cold Storage

Cold-storage facilities in terminal markets play an even more important part than transportation with regard to such products as butter and eggs, of which more will be said shortly. The consumer is also frequently assured of a superior product—for those districts which can produce more bountifully can likewise frequently produce better quality. Finally, the consumer may purchase at relatively lower price—this, however, has been a much-disputed question.

Cold-storage facilities located at concentration points for agricultural commodities play a very important part in their marketing. This is unusually true of the cold storage of fresh beef, mutton, and pork, and dressed poultry, butter, and eggs. A moment's consideration of the importance of cold storage to the production and marketing of eggs serves to demonstrate this importance. Eggs of course have a pronounced seasonal production. Without cold storage the peak production could profitably be no more than the market could absorb at that time. This would naturally limit the year's production to the same scale. The cold-storage warehouse serves as a reservoir in which may be placed the excess production during peak seasons and from which may be withdrawn the needs during seasons of low production. The result is twofold—to the consumer a year-

round supply is available; to the producer is given the opportunity of greatly increased production. There has been much controversy over the effect of cold storage on prices, and the charge of manipulation in markets has been made against warehouse men. On this point it may be mentioned in passing that "perhaps it is not generally known that the owners of the cold-storage warehouses do not store commodities themselves, but on the contrary let cubic space in their warehouses to customers, who place therein such perishable and other commodities as they please."[11] Although price relationships within a year may be changed, it is by no means to be admitted that the cold-storage business is responsible if the prices of its commodities have increased or if the price levels of its commodities have increased. Let the fact be what it may with regard to the effect of cold storage on prices, the fact remains that cold storage has been of incalculable benefit to consumers in providing commodities for consumption out of the natural productive season.[12] Nor is it to be doubted that this service costs an immense amount. Such being the case, it may well be considered that the cost is but incidental to, and indeed necessary to, having the year-round supply rather than a heavy burden upon the industry. The contention of some writers is that, although consumers sustain this immense expense, there is such a redistribution of consumption throughout the year that there is a consequent redistribution of prices on a lower level than before.[13] Be that as it may, it should not be forgotten that cold storage prevents that object of despair to the producer, the glut on the market. For further discussion the reader is referred to other department literature concerning relationship between cold storage and prices, of which there is considerable. Much has also been written by other individuals.

By sheltering his produce from injurious weather in transit and in the marketing, and by so controlling the conditions that the produce does not deteriorate, man has been able to successfully set at naught the effects of weather upon his products on their way to the consumer, even more than he has been able to protect their growth by adaptation to climate and soil localities. These interdependent two—adaptation to climate and soil and protection in marketing—have represented tremendous advantages to both producer and consumer—more than enough to offset the recognized large cost. Otherwise the attempts would have ceased at their inception rather than have grown to their present magnitude.

Weather and the Railroads

From a railroad point of view, weather is also a definite factor to be combated and one which represents a considerable, though inadequately-measured, cost in transportation. The costs of transportation of course represent a differential in total cost of marketing between local and distant grown produce; that is, the large-scale surplus production of specialized districts must be produced at suf-

[11] Holmes, G. K. Cold storage and prices. U. S. Dept. Agri. Bur. Stat. Bul. 101, 1913.
[12] See footnote 11.
[13] See footnote 11.

ficiently lower cost to cover the differential in transportation before it represents an advantage to the grower and the consumer.

Not only must the commodities be protected against weather, but also it is essential that the carrier equipment itself be protected. A very large proportion of the expense necessary to the maintenance of way can be attributed to the damage and wear caused by weather conditions. Not so great, but assuredly a certain proportion of the expense of maintenance of rolling stock may be attributed to weather. The weather is also responsible for variation in operating expense.

"Temperature is an important element in railroading. Extremes of heat and cold have a racking effect upon rails, girders, and other ironwork, and careful allowances have to be made for this factor." [14] Illustrating this relationship, Dr. P. H. Dudley, of the New York Central lines, says:

> The winter of November, 1911–12, had deficient temperatures and the rails contracted in the splice bars. The cold wave commenced one or two days in the last of December, but January was cold, and, in most places, February and March. In that winter the railroads had the greatest epidemic of broken Bessemer steel rails * * * that they ever experienced.[14]

When the roadbed is constructed of dirt low temperatures freeze the moisture contained, which heaves the track and causes rails to spread. A successful but expensive method of combating this condition has been found in the use of crushed stone as ballast.

"It has also been found that low temperatures tend to double the rolling friction of freight and passenger trains. This, together with the increased head resistance which is due to the greater density of the cold air, furnishes the chief reason why train tonnage must be cut down in the winter. Thus these factors, along with the trouble of making steam in cold weather, explain why heavy trains often have great difficulties in starting out of stations during the cold months of the year." [14]

Temperature, as was pointed out earlier in this discussion, is the chief weather element from which commodities must be protected. It is now seen that temperature is also an element in railroading itself, being responsible for various costs which must be met out of revenue. But of even more importance as a railroading problem are the varied forms of precipitation. For example, heavy rainfall saturates the ground, loosening it and thus causing many landslips. "A typical case can be cited from the Sacramento River Canyon, where the rainfall for five months ended March 1, 1890, was 100 inches (annual average 59 inches). In consequence of the heavy precipitation, the ground became saturated and large masses of earth and slatey rock, estimated at 25,000 cubic feet, fell on the track. The line was cleared, with an expenditure amounting to 5,500 days' work, just in time to receive a second landslip as large as the first. The danger had so increased that night work was not practical, and the day workers were so much endangered that even when all possible precautions for safety were taken very little effective work was done. The gravity head of water, as in mining operations, was used to remove the débris, and in nine days 9,000 cubic

[14] See footnote 7.

yards of material was removed, at an average cost of $200 per day." [17]

The story of the "washout" and the consequent interruption to traffic is familiar to all. Indeed, in regions of heavy precipitation, especially in regions where this precipitation is seasonal, the railroad must wage a constant war with floods.

Moisture is a very significant element in the deterioration of ties. It has a destructive effect upon all woodwork construction and is also instrumental in the oxidization of rails. On the other hand, an extreme lack of moisture causes drying and splintering. To meet this situation, extensive tests have been made with various kinds of woods, certain kinds—camphor, for example—having been found to have longer life. But with the growing scarcity of timber of all kinds in this country it has become even more urgent to find methods of prolonging the life of ties. One method which, though expensive, has been attended with success is the treating of ties with creosote. "The Chicago & North Western Railway, for example, has two plants for treating ties. One of these has a capacity of 800,000 ties per annum and the other of 600,000; the timber being of pine, spruce, or fir." [18]

Moisture also impairs operating efficiency, especially when in conjunction with low temperatures. When sleet makes the rail slippery quantities of sand must be used. This results in unusual wear, both for rails and wheels. The ice storm, besides breaking down lines of communication, results in frozen switches and other yard apparatus, thus greatly impeding terminal handling. Because of the accumulation upon points of electrical contact the ice storm is of particular menace to electric rail transportation.

Another type of precipitation with which the railroads must wage a battle, and one which is of more spectacular nature, is snow. "The transcontinental lines that cross the Cascade Mountains of Washington and Oregon and the Sierra Nevadas of California have to contend with a snow problem of great magnitude. In these mountains the snow accumulates on level ground to a depth of 25 or 30 feet and drifts may be found in the canyons and gulches that are twice as deep. Here the locomotive push plow so common on the eastern roads gives way to the powerful rotary plow * * *. High up in the mountains even the rotaries are of no avail in keeping the iron trail open for travel, and there snowsheds have been resorted to. These sheds are usually made of heavy timbers and are roofed over and serve as tunnels through which the trains may pass. They are designed to sustain snow 16 feet in depth, and where that limit is reached it is necessary to shovel the excess off by hand. In spite of their massive structure, sections of the sheds sometimes collapse and thus block transportation until the débris is cleared away. Some of the best-known snowsheds in the world are on the overland route of the Southern Pacific. Here it was found necessary to construct 32 miles of snowsheds in order to operate this line during the winter months. These sheds were built at a cost of $42,000 over a mile of single track and $65,000 over double track. On the average $150,000 a year is spent for upkeep and renewals, the expenditure for a typi-

[17] Climatic Factors in Railroad Construction and Operation. Jour. of Geography, April, 1903.

cal year (1914) having been $65,000 for repairs and $91,000 for renewals."[19] Owing to the considerable fire hazard of these wooden structures, concrete sheds have been attempted, but the expense of these is considered prohibitive.

Another method of combating snow, particularly drifting, is through the erection of snow fences. "These fences are usually from 4 to 6 feet high and consist of boards nailed 3 or 4 inches apart on heavy wooden posts. They serve as a very efficient barrier to snow driven along by high winds, for, by breaking the force of the wind near the ground, it causes the snow to be precipitated in a drift on the leeward side of the fence, leaving the track beyond relatively clear. Many miles of these structures are set up every year and, as thousands of feet of lumber are used in their construction, this one item alone looms big in the annual budget of snow-removal expenditure.

"In an effort to reduce their snow-fighting bills, some railroads have replaced these board fences with hardy, quick-growing trees of both evergreen and deciduous varieties. To secure the best results the trees are planted about 75 feet from the track in rows about 3 feet apart. The rows are set out in staggered formation and a space of about 3 feet is left between each tree. Experiments made with the various kinds of trees show that either two rows of conifers or eight rows of deciduous trees planted in this fashion will be equally effective. By following this plan, then, a good thick hedge is secured which increases in its effectiveness as a windbreak as the years roll by. Wherever this plan has been adopted it has worked so successfully that others have been induced to imitate it, and hence we now find it being used almost exclusively by many roads in both the United States and Canada."[19]

The battle against snow, it is conservatively estimated, costs the railroads (and hence those who use the railroads) between five and six million dollars in an ordinary winter. In a severe winter the costs would undoubtedly be much greater. This factor is of such importance to railroads in the northern portion of the United States that the general character of a winter is often reflected by the operation costs appearing in their reports.

Of course, the weather costs of railroading are not directly attributable to shippers of agricultural products, but, nevertheless, these costs represent one of the necessary elements of successful railroading, and as such are naturally reflected in the freight rates charged on all traffic. They are thus indirectly of considerable importance to agricultural as well as industrial and commercial shippers.

So far the weather as a factor in transportation has been considered only from the point of view of the railroad. Although the railroad is of primary importance in the United States in the transportation of agricultural produce, nevertheless water and highway transportation are of significance. The latter is becoming of more and more significance with reference to truck crops. The highways of concrete, or other hard-surface construction, are sometimes rendered impassable by snow and unsafe by rain and sleet. The highways of dirt construction are sometimes rendered impassable by rain

[19] See footnote 7.

as well as by snow and sleet. The construction of good roads on extensive scale throughout the country has grown to such a degree, however, that snow at present represents about the only obstruction to traffic over the main routes. In some places steps have been taken to keep the major highways clear of snow. Within city limits this has long been attempted and accomplished, but at great cost. The clearing of the streets of New York city is well known as an undertaking of considerable magnitude.

Paralleling the construction of good highways is the development of motor transportation. This has not developed to a sufficient degree, however, nor has it been sufficiently standardized and tried as yet to permit of finality in stating just what part it will play in the transportation of agricultural commodities. It is possible that for short-haul traffic it may supplant rail transportation. For long-distance transportation this is highly improbable. As a means of feeding railroads and concentrating freight there is undoubtedly a real opportunity for service. But in any event, exclusive of snow and sleet, the weather is not of such importance to motor traffic operation as to rail, since motor traffic is much more limited in the distances covered. It should not be forgotten, however, that weather plays a very important part in highway deterioration.

It might be interesting to mention a growing tendency in the marketing of near-by produce which has come with the automobile and the highway—that of carrying the market place to the producer rather than to the consumer. Data are not available to show the extent of this traffic, but it is not unusual to see many motorists stopping at the fruit farms and buying fruit which they carry back with them to their homes. To a degree the old order is being inverted and Sunday—the day of motor rides—is being made likewise the day of marketing. In a number of ways this purchasing at the farm is to be commended. It tends to eliminate some of the transportation cost and also the spoilage through repeated handling. It can, however, never play more than a small part in the marketing of agricultural commodities in view of the fact that much of the country's supply is grown primarily in those districts best suited to it.

Weather in relation to water transportation is becoming of less and less significance. The use of steam has to a large degree nullified it. Nevertheless, the season of storms is obviously not the season of most efficient water transportation. Ice is a factor to be considered. When the lakes open up the freight begins to move. Much romance has attached to the spring drive when the winter snows thaw and the logs go out.

A discussion of the influence of weather upon marketing would not be complete without at least mentioning the probable influence of weather upon consumer preferences. Unfortunately, there are practically no trustworthy data available to demonstrate such a relation. Nevertheless, it is highly probable that in hot, dry weather, for example, oranges, cantaloupes, lemonades, orange-juice drinks, watermelons, ice cream, and the lighter fruit and vegetable salads would be more palatable than the heaver foods indulged in customarily in the colder weather. Studies are at the present time under way in several of the major cities of the country and before long more data will be available on this point.

In this discussion of weather in relation to the marketing of agricultural commodities the question naturally arises as to what steps the producer and marketer can take in view thereof. The best methods of nullifying injurious effects of weather can only be answered commodity by commodity, and that, of course, is beyond the scope of this article. The Department of Agriculture, however, has made many studies of technical nature with reference to specific plant diseases and the conditions—weather included under which they thrive, with specific recommendations as to how best to obviate loss from them. Numerous studies have been made and the results published showing the best methods of handling refrigerator cars in transit with reference to desired temperatures, handling of ventilators, reicing, etc. Such literature is available to those interested. Private literature is also available concerning precooling plants, their methods of construction, and the desirability of using precooling with different fruits. Methods of loading and insulating are extremely important to the successful refrigeration or heating of goods in transit, and much reliable information has been secured on this subject which is available to the public in the form of Government publication and information currently distributed. The weather problem, so far as temperature is concerned, is met in large measure by what are known as shipper's forecasts issued by the Weather Bureau from practically all of its stations in large commercial centers. The detailed procedure in applying these forecasts to the shipment of perishable produce, is, of course, out of place in this article. If, however, this discussion has served to point out that there is a direct weather problem in marketing and that the best information and advice as to methods should be secured, that is sufficient. We may conclude with the rather startling and thought-provoking quotation from a State publication:

> In most fruit it takes 51 weeks to produce the crop and in one week it is marketed. In this one week 51 times more care should be taken than in any one of the previous weeks. However, here is where many producers fail—they take less care during the process of marketing their fruit than they do in growing it.[21]

Floods and Their Effects Upon Agriculture

In general the effect of floods upon agriculture is detrimental rather than beneficial, although in rare instances beneficial results may follow. A classic example of the last named is, of course, that of the Nile in its annual flood. Not only does the annual overflow supply the moisture necessary to crop growth, but it also deposits a fine silt or sediment that enriches the land.

Some of the rivers of southeastern United States deposit a small amount of sedimentary material when they overflow their banks, but as a rule the current is too swift to permit a material deposit of silt to accumulate. On the other hand there is frequently great danger of soil removal by erosion in the upper stretches of the rivers rather than deposition by flood waters.

The effect of floods upon agriculture in North America is, in the large, harmful rather than beneficial. Millions of dollars

[21] Burger, O. F. Decay in citrus fruits during transportation. 1920. (In California Dept. of Agri. Monthly bul., vol. 9, no. 9, Sept., 1920, pp. 365–370.)

have been expended in the United States for flood protection and the end is not yet in sight. More than a thousand miles of levees have been constructed along the Mississippi, mainly for the protection of the rich bottom lands which border that stream. Large sums have also been expended in drainage projects in order to reclaim potentially valuable agricultural lands.

The bottom lands along smaller streams east of the one hundredth meridian of west longitude are also among the choicest possessions of the North American farmer. Some of these lands, fortunately, are almost immune from the flood hazard, others are visited infrequently, and still others are subject to high water or floods almost annually.

Most of the ordinary farm-flood damage can be averted on receipt of advices from the Weather Bureau of the near approach of high water or possibly a damaging flood. Perhaps once in a century a deluge of water may break upon the fertile bottom land and in a few moments sweep away every vestige of soil from it—soil that had accumulated through centuries of deposition—and again this process may be reversed and instead of the soil being washed away it may be covered up by from 6 inches to a foot of sand and gravel carried by a torrent of water such as filled the streams of southern Ohio in March, 1913.

Against these cataclysms of nature the dweller along the streams is helpless; under less extreme conditions, however, the evils of high water can be greatly mitigated; for example, livestock may be driven to higher land, farm implements and other stored material can be removed on due notice of approaching high water.

It happens rather frequently that a considerable quantity of unshucked corn, in the aggregate, is allowed to remain in the bottom lands, a portion of which is quite sure to become flotsam in the first flood that sweeps down the river, rather than food for livestock as intended by the farmer. Of course the farmer may have his chance to gather this corn into barns and elevators on notice that a flood is under way, but the question still remains unanswered—Why was it not harvested while the harvesting was good?

Saving of Livestock

In the States bordering the Atlantic south of Virginia, also in the Gulf States and Arkansas, there are great stretches of so-called swamp areas along the principal streams. These areas, when dry, afford excellent pasturage for livestock. Protection from the weather owing to the mild climate is unnecessary; livestock are therefore turned loose in the river bottoms and practically no further attention is paid to them except to drive them to higher ground and provide feed when notified of the approach of floods that will overflow the bottom lands. This effective aid on the part of the department has been instrumental in establishing and maintaining the livestock industry in the sections above named.

The issue of forecasts of river stages, warnings of high water and damaging floods is a part of the daily program of the Weather Bureau. It is the special aim to reach the dweller of the lowlands along the principal streams whenever danger from high water or floods arises. The present flood service has grown from small begin-

nings until now it covers practically all of the principal streams and some of the smaller ones.

Figure 32 shows the distribution of the 65 river districts that have been organized to care for the dwellers in and users of the lowlands.

Figure 33 shows the organization of a typical river district—that of the Ohio basin above Wheeling, W. Va., with headquarters at the Pittsburgh office of the Weather Bureau.

The art of flood forecasting has been developed to a high degree of accuracy through the absolute necessity of making a definite

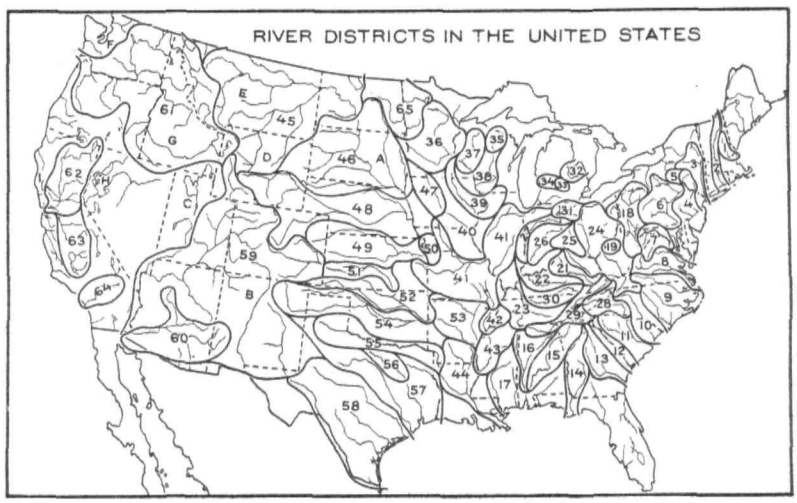


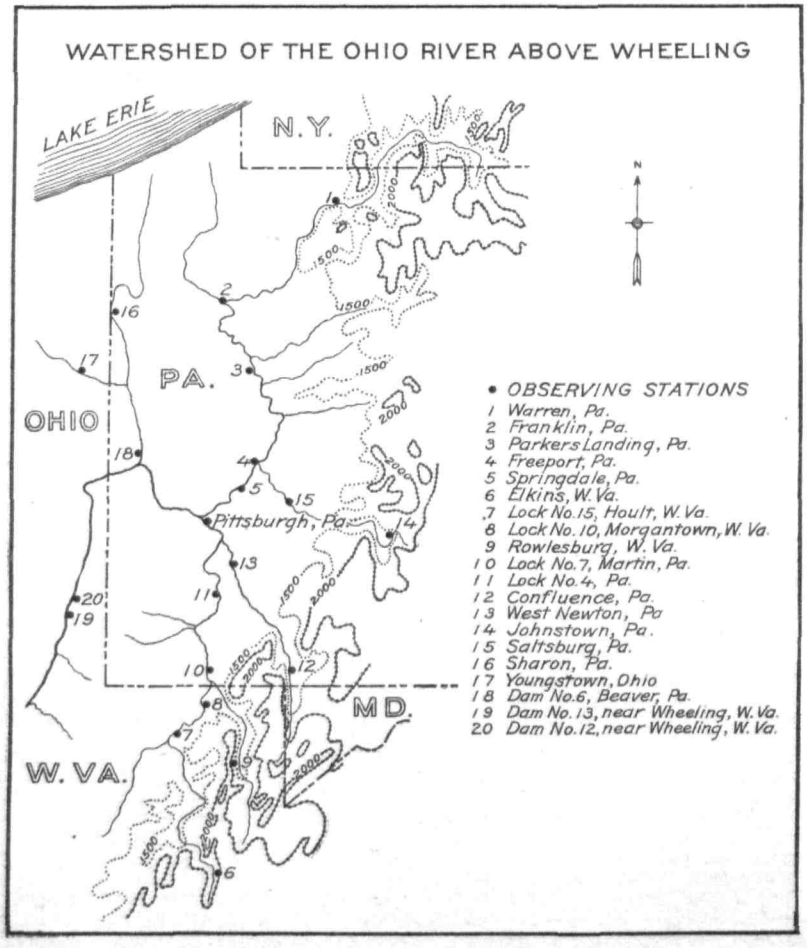
FIG. 32.—The capital letters indicate the States in which snow measurements are made in the higher levels. The numerals immediately following show the number of snowfall stations in each State: A, Huron, S. Dak., 6; B, Santa Fe, N. Mex., 15; C, Salt Lake City, Utah, 1; D, Cheyenne, Wyo., 8; E, Helena, Mont., 2; F, Seattle, Wash., 16; G, Boise, Idaho, 13; H, Reno, Nev., 6; I, San Francisco, Calif., 17. The numbers identify the river districts

No.	District	Number of stations	No.	District	Number of stations	No.	District	Number of stations
1	Concord, N. H	4	23	Cairo, Ill	10	45	Bismarck, N. Dak	7
2	Hartford, Conn	9	24	Columbus, Ohio	46	46	Sioux City, Iowa	18
3	Albany, N. Y	14	25	Dayton, Ohio	22	47	Des Moines, Iowa	13
4	Philadelphia, Pa	10	26	Indianapolis, Ind	17	48	Omaha, Nebr	10
5	Binghamton, N. Y	11	27	Terre Haute, Ind	8	49	Topeka, Kans	51
6	Harrisburg, Pa	14	28	Knoxville, Tenn	13	50	Kansas City, Mo	2
7	Washington, D. C	7	29	Chattanooga, Tenn	11	51	Wichita, Kans	13
8	Richmond, Va	5	30	Nashville, Tenn	15	52	Fort Smith, Ark	32
9	Raleigh, N. C	20	31	Fort Wayne, Ind	7	53	Little Rock, Ark	34
10	Charleston, S. C	8	32	Saginaw, Mich	11	54	Oklahoma City, Okla	10
11	Columbia, S. C	12	33	Lansing, Mich	7			
12	Augusta, Ga	10	34	Grand Rapids, Mich	4	55	Shreveport, La	15
13	Macon, Ga	10	35	Wausau, Wis	10	56	Dallas, Tex	11
14	Atlanta, Ga	18	36	Minneapolis, Minn	8	57	Houston, Tex	40
15	Montgomery, Ala	15	37	La Crosse, Wis	0	58	San Antonio, Tex	30
16	Mobile, Ala	6	38	Dubuque, Iowa	4	59	Denver, Colo	60
17	Meridian, Miss	22	39	Daveport, Iowa	4	60	Phoenix, Ariz	16
18	Pittsburgh, Pa	23	40	Hannibal, Mo	19	61	Portland, Oreg	48
19	Parkersburg, W. Va	10	41	St. Louis, Mo	84	62	Sacramento, Calif	37
20	Cincinnati, Ohio	43	42	Memphis, Tenn	4	63	Fresno, Calif	9
21	Louisville, Ky	8	43	Vicksburg, Miss	6	64	Los Angeles, Calif	1
22	Evansville, Ind	8	44	New Orleans, La	23	65	Moorhead, Minn	9

forecast of each flood crest expected in terms of feet and tenths of a foot on the local river gauge at each of the industrial centers and gauging stations along the river. Each farmer, manufacturer, or other person dwelling within the flood plain of the stream knows from experience or surveys, at just what stage of the river his property will be inundated and when that stage is forecast he must of necessity remove to a higher level all property, material, or what not that is subject to water damage. This removal frequently entails considerable expense, which in the case of inaccurate forecasts is burdensome. The remedy lies in definite forecasts; hence the constant urge to attain the greatest possible precision in these important advices.

Snow Water for Irrigation

A knowledge of the probable amount of water available for irrigation and other purposes is of very great importance in the irri-



gated regions of the West. The Department of Agriculture, through the Weather Bureau, attempts to supply this knowledge so far as practicable through the medium of snow measurements during the winter and spring seasons in the elevated regions of the West. From the data thus supplied an estimate is made at the close of the winter and again in the spring of the water equivalent of the accumulated snowfall and its probable influence upon the flow of streams that supply irrigation water to the farmer and water for use of hydroelectric plants of the different sections.

The high-level snow-measuring service is maintained in all of the States west of the Rocky Mountains (see fig. 32). It is susceptible of enlargement and further improvement as funds permit.

Inland Waterways

Although the general tendency in late years has been toward a diminished use of the inland waterways of the country, certain streams continue to bear a large tonnage of the coarser freight, such as coal, lumber, and manufactured steel. The Great Lakes are in a class by themselves and have not been considered in the foregoing. Water-borne traffic has increased on these inland seas, owing to perfectly natural economic causes, many of which, however, are not operative in the case of rivers and canalized streams.

The most striking instances of river-borne traffic that has held its own or even increased in competition with other forms of transportation may be found in the Monongahela River, which carried in 1923 about 25,000,000 tons of freight, mostly coal; the Federal Barge Line, on the Mississippi, carried 709,635 tons; and the Warrior system, of Alabama, 268,064 tons.

Whatever the tendency of the future may be as regards the development of transportation by use of the inland waterways of the country, the statistics of high-water and low-water depths on the principal rivers, the rainfall in the several river basins, as now collected by the Department of Agriculture, must continue to be the fundamental physical data which are necessary to devise and execute plans for river improvement or in the successful operation of barge lines already established on the larger rivers.

Forests and the Weather

The forest, like all other agricultural crops, is susceptible to the influence of the weather, for the life processes of forest trees are but little different from that of other farm crops. Heat and cold, drought and flood, sunshine and storm affect the forest throughout its existence from seed to final harvest. The growth of the tree and the growth of the forest are affected by changes in the weather, as are the various agencies which bring about the final destruction of the forest—insects, disease, fungi, fire.

Forest management, like farm management, is concerned with the maximum production of the soil crop; only in this case, instead of bushels or pounds, it is reckoned in terms of board feet of lumber, cords of pulp or fuel wood, or perhaps in number of poles, props, and ties. If the season be backward or early, if frosts come early or late, if drought appears in the growing season, the agriculturist

recognizes the influence of these factors upon the ultimate farm crop, and they should be recognized quite as much in forest management.

When he turns to his orchards the agriculturist finds a very close analogy in many respects to forest growth and forest crop. The forest is reproduced from seed, as is the orchard, and forest seeds come from fruits that, like orchard fruits, are affected by the vagaries of the weather. As in the orchard, a freeze during the blossoming time will prevent the setting of the fruit. A heavy rain may wash away the pollen. Cloudy, damp weather will germinate the pollen before it has a chance to be blown or carried to another flower. Wind may break off the blossoms or the limbs bearing them.

Wind, indeed, plays a very active part in the life of the forest, being nature's chief aid in the fertilization and dissemination of forest seed. Pollen grains have been found floating in the air during the spring season for over 13 miles from the flowering tree. Seeds do not stray so far, but the lighter seeded trees can with the wind's help cover considerable distances, the feathery seeds of the cottonwood drifting with the wind as much as 9 miles in one instance. In this instance, however, the wind was a somewhat blind and ineffective agent, for the seeds were carried off to sea and fell aboard a coasting vessel. In general, the importance of the wind's good offices can be realized when it is remembered that the great bulk of our forest seeds are provided with wings of one kind or another to aid the wind. Maples, elms, poplars, basswoods, pines, and firs are among the more notable of those trees.

After the seed has once set wind storms may cause the tree fruits to fall or they may be cut from the trees by hailstorms. Periods of very high evaporation, especially when the humidity is unusually low, the temperature high, and winds strong, often cause the fruit of forest trees to drop before ripening, just as these climatic changes destroy the orchard flower before the fruit is set In the forest one or another or all of these causes may be responsible for failure of trees to bear seed for a number of years, and particularly in the case of those trees whose seeds require more than one growing season in which to ripen.

Once the seed falls on the ground the battle shifts from the parent tree to the potential seedling. From this time forth until the seedling has proved itself and becomes well established there ensues the sharpest struggle. The early life of the tree is much more quickly and vitally affected by weather changes than is its later growth. Reckoning on this, nature usually sows seeds with a lavish hand to make certain that the various species will not vanish from the earth.

In the forest many thousand seeds are scattered for every tree that reaches maturity and the great proportion of these do not get beyond the seedling stage. If the ground is too dry the seed fails to germinate; if the weather is too cold growth can not begin; if favorable weather is too long delayed the seed rots. Heavy spring frosts often kill the ambitious seedling which has not yet developed protective bark. Protracted spring rains may so saturate and flood the ground that the seedling is drowned before it can become well established. Warm, damp weather favors the various fungous diseases that are fatal to seedlings and spread rapidly on the soil surface, attacking especially, the tender, newly germinated trees.

Periods of drought are perhaps the greatest foe to the existence of the young trees. Millions of trees from seeds that germinate each spring get well started, apparently are thriving, when a sudden drought occurs, and they fail to become established. Although we generally think of forest trees as having great strength and hardiness, this is not true of them in early life; for a dry season either of the air or of the soil need be neither severe nor of long duration to kill the tree. The seedling is as tender as any of the annual soil crops, and many species are indeed more so. Drought is readily recognized as an important factor in the life of many of the timber trees in the semiarid West, but in the more humid East it is much more important than is generally known.

Reforestation

Man's endeavors to improve on nature, in sowing the tree seed himself where he wants it, when he wants it, and in such a manner that there will be the greatest encouragement for growth, have not been entirely successful. Indeed, he has found through experience in many places and over many years that broadcast seed sowing is not economical as a general practice. With the uncertainty of weather conditions on one hand and the activities of numerous hungry rodents on the other, the seeds sown year after year either fail to become established seedlings or else are eaten or destroyed before they can germinate. Nature is the only one who makes a general success of broadcast sowing save in exceptional instances, and her ways are too lavish to be imitated by man.

As an improved method of securing young growth where he wants it the forester turns to growing young trees from seed in a nursery, where the needful even distribution of moisture can be controlled and by artificial means the unevenness of weather conditions can be compensated. Here the young seedlings may be sheltered from the sun, protected from hail, sleet, and frost, and watered during drought.

When these seedlings are set out as forest plantations weather conditions are most important. The first necessity is that the roots be able to secure the necessary moisture from the soil that the tops will demand. Weather conditions control both the supply of moisture and the seedling's demand for it, and hence the success of many forest plantations is due more to the favorable weather conditions at the time of planting and immediately thereafter than to any other one factor influencing tree growth.

The very process of planting is largely determined by weather conditions. Trees must be set out during the resting or dormant period, for once "growing weather" has set in the demand for water is so heavy that the roots have not time to develop and get started in the soil. Both in the spring or fall weather conditions are liable to jeopardize planting operations. Trees planted in the fall are particularly subject to frost-heaving the first winter if there is no snow cover; and in regions where snowfalls are heavy the planting job may be entirely shut down because of the interruption of an unexpected heavy fall of snow. In the spring a sudden thaw may open the planting season, but if the weather becomes warm and stays warm, tree growth begins in the nursery before the trees can

be set out and make it difficult to continue the planting with much success. In the spring also heavy falls of snow may interrupt the planting work at the very time, perhaps, when a large-scale operation is planned and a large crew has been assembled.

By the time the young forest is well established weather conditions have played their most conspicuous part in retarding or encouraging tree growth, but even when the new growth has apparently got an excellent start in life losses continue, due to weather conditions, whether the stand is the result of planting or of natural seeding or sprouting. Alternate freezing and thawing may yet heave the young plants from the ground. Persistent freezing in regions of low winter temperature may penetrate so deeply into the ground (if a snow cover does not protect the young trees) that the roots are unable to secure from the frozen soil the necessary water required by the top of the tree. This either partially injures the tree and kills off a portion of the foliage or twigs or, if the injury is severe, results in the death of the tree from no apparent cause. This form of damage is prevalent among evergreen trees, for they take more water from the soil during the winter than do trees whose leaves drop off in the fall.

The Growing Forest

As the trees get older and develop into saplings the crowns of the trees begin to touch one another. If the stand is very dense the trees are tall for their diameter, and in such stands very often only the support they give each other prevents them from falling over in the first heavy wind; thus thinned stands are naturally more exposed to severe weather conditions than dense stands.

Growth.—As the woodlot or forest develops, its growth is materially affected by the weather conditions throughout the various years. Most of a tree's growth, both in diameter and in height, is made in the early part of the growing season. If the ground at the beginning of the growing season is well saturated with moisture and the spring rains appear on schedule the tree makes its best growth. Wide rings are formed in the wood and with continued and moderately warm temperatures the tree puts on a considerable volume of wood. On the other hand, if the spring is relatively dry only a small amount of wood is formed. Thus when the tree is sawn in two the growth rings often show in a general way what kind of weather the tree has experienced at different stages of its career. Occasionally a dry spring and early summer in which the growth is very slow is followed by wet weather later in the season and the tree is stimulated into additional growth. After this has happened the resting stages set in again, but an additional ring may be formed in the wood. In other trees, particularly on the southerly side of the tree where the living wood may be warmed, a false ring may be formed which does not go all the way round the stem. These rings when examined after the tree has been cut are exceedingly fine and sometimes lead to wrong deductions as to the age of the tree. In the Monterey pine, for example, very small fluctuations in weather conditions bring about stimulated growth, particularly in height; instead of but one whorl of branches being formed in

a season, there may be two and sometimes as high as three such whorls formed.

Management.—Proper forest management prepares for the harvesting of the forest crop as well as for its formation and growth. In cutting the woods the future welfare of the forest should be considered, and among the factors to which consideration must be given in the reestablishment of the forest is the weather. As already indicated, tree reproduction is influenced by the many phases of the weather, and, in the harvesting of the forest crop, the effect of the local weather conditions has a great bearing upon the methods of cutting used. If the species is susceptible to frost damage in early life only a part of the mature trees are taken at a time, the rest being left to act as "nurses" until the smaller ones have reached a stage where they are able to withstand complete exposure to the weather. In other forests it is necessary to guard against



FIG. 34.—The destructive agency of the wind in the forest is well shown here. Winds of high velocity often break off the trees close to the ground or even uproot them. In the great Olympic "blowdown" of January, 1921, with a wind velocity no instrument could record, but which was estimated at 150 miles an hour, billions of board feet of spruce and hemlock were lost, much of it beyond salvage. In a space approximately 15 miles wide and 60 miles long in Callam County, Wash., trees a century and more old, once standing in thickly stocked stands, are now strewn like jackstraws with scarcely a single tree upright

windfall of those left standing. Indeed, so great is the danger of windfalls after cutting in some forests that more seed trees are left than would be the case were wind not a factor. In leaving seed trees local weather conditions and the effect of the winds upon the trees left are carefully considered. Trees with exceedingly large rounded tops are more subject to windthrow than trees with a long and rather narrow crown.

Occasionally nature does the harvesting and instead of man felling the trees they are uprooted or broken off by severe wind (fig. 34). In such cases there is nothing to be done but to salvage as much of the crop as is possible. In 1921 a severe windstorm visited the Olympic Peninsula of western Washington and blew down trees in

which there were estimated to be 8 billion board feet of lumber or about one-fifth that used in the United States each year. In the Southern States heavy losses are sometimes experienced by the timberland owner through the destruction of considerable areas of forest by excessive wind storms.

In many places in the west it is advisable to remove a portion of the fire danger by burning the slash after the timber has been cut. In most forests the limbs and the débris are thrown in piles and when weather conditions are right the piles are burned. This is usually after the first snowfall, for then the fuel is dry enough to burn and there is no danger from fire spreading (fig. 35). Weather

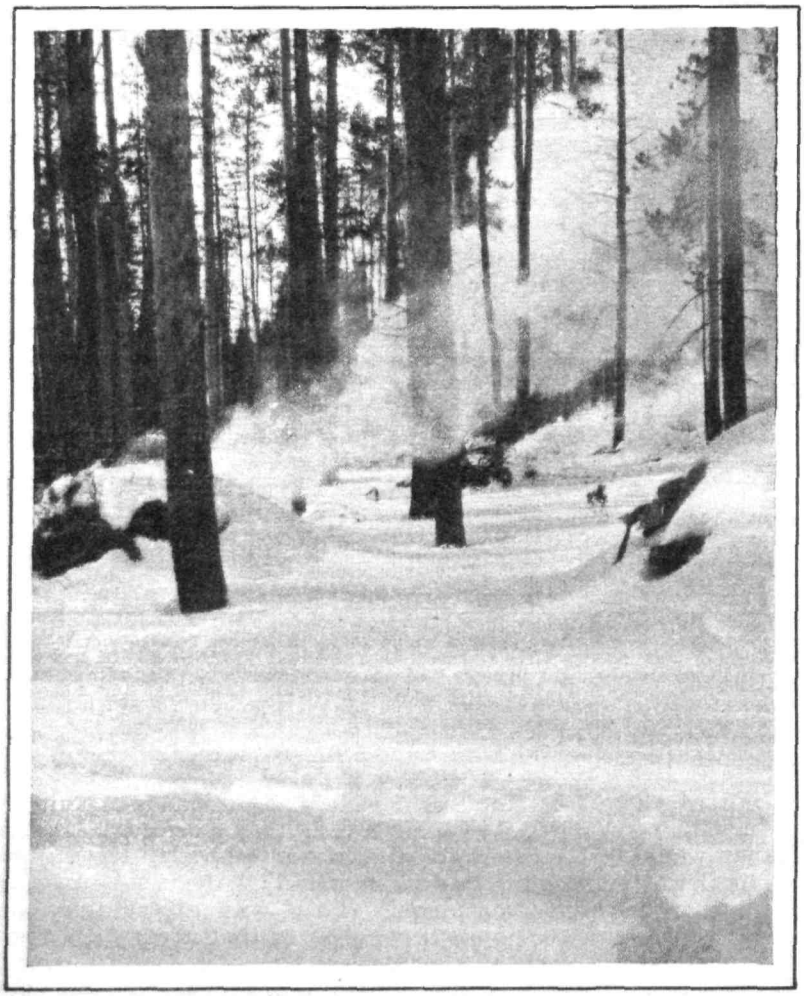


FIG. 35.—The burning of the tops and débris left after logging, so necessary in a number of forest regions as a precaution against severe fires, endangers standing timber if undertaken during the dry season. Therefore, in the early fall the woodsmen often take advantage of a light snowfall to burn brush piles. Under conditions shown above, fire has little chance to escape. A period of warm, dry, and windy weather, however, will permit such fires to run and do much

often changes quickly, and many fires have occurred because the snow melted rapidly, and under the influence of warm dry winds conditions favorable for fire developed.

Forest fires.—Besides its very material effect upon the establishment, growth, and management of the forest, the weather is of tremendous importance in forest-fire protection and suppression. Season of fire occurrence is a matter of climate, but the frequency and extent of actual fires are mainly controlled by the weather.

Among foresters "fire weather" has a definite meaning, though what determines it may vary from one region to another. Generally speaking, fire weather is an atmospheric condition favorable to a rapid rate of spread of forest fires. It may be a period of only a day or two, during which a region, under the influence of a major storm movement, experiences a high rate of evaporation due to a combination of high temperatures, strong winds, and low atmospheric humidity. As fires burn only when the fuels are able to ignite, this season when fire weather is of moment is usually limited to periods of drought in the spring, summer, or fall, though in regions of warm winter climate the lack of rain or snow may bring about conditions favorable to the spread of fire during the winter period as well.

Fire weather usually develops very quickly, and conditions during the fire season often change in just a few hours either favorably or unfavorably. Numerous fires are caught every season when small and are subdued with very little effort; yet a slight change in atmospheric conditions may cause a sluggish fire to escape control when it is all but extinguished. Numerous instances could be cited of fires which under normal conditions could have been put out without great difficulty, but which under the influence of some major weather factor became uncontrollable until a decided change in the weather made suppression again a simple matter.

One of the more noted of recent cases indicating the close relationship between fire and weather occurred at Berkeley, Calif. Under the influence of a strong dry wind a fire starting in dry grass about noon, September 17, 1923, swept rapidly into a brush field and forest at the edge of the city, communicated itself quickly to the houses close by, and spread through the city. From 2 to 5 p. m. nothing that man could do made any impression upon the onslaught of the flames. By 5.30 p. m. the pressure disturbance which had caused the sudden development of fire weather two days earlier had passed far enough to the east so that the wind reversed its direction and the moisture-laden air from the ocean blew inland. Then fire control was merely a matter of extinguishing the fires in structures that were already ablaze.

A somewhat similar fire took place in northern Minnesota in October, 1918. Uncontrolled fires were burning in many places, but, as with many another "brush fire," no attention was paid to them by the local population. Then a big storm movement passed over the region, bringing low humidities, high evaporation, and strong winds. The slow-running and smouldering fires were whipped together into a few rapidly spreading fires with a wide front and the conflagration was on. Towns were wiped out almost as soon as the fires reached them and great forests were completely destroyed. Cloquet, Brookston, and Moose Lake were devastated and 453 people lost their lives. Then, as suddenly as the fires had flared up, under

the influence of another storm condition they quieted down and were readily extinguished.

So it is with practically every fire that assumes large proportions. During the passage of one of these storm areas across a region the fires get out of control and do practically as they will unless there has been a forehanded plan of attack and trained personnel and equipment. If these storm areas persist for some time the conditions under their influence become correspondingly more critical and severe.

In addition to periods of fire weather when fires burn most intensely, weather changes and changes in temperature during each 24 hours usually affect fire in the same manner as do the larger storms. During the early morning hours the temperature reaches its lowest point, the air is fairly quiet, and the dew is being formed. With sunrise the wind ceases for a time, the temperature rises, and the dew begins to evaporate, and as the morning wears on the temperature rises, the air is able to absorb more and more water, and all traces of the dew are lost. Then the forest fuels dry out to the point where they will burn readily and all that is needed to start a fire is the spark. As night comes on the process is reversed, the temperature falls, the forest fuels absorb moisture from the air, dew forms, fires burn but slowly, and the ordinary spark fails to ignite the fuel. Many a fire that has seemed impossible to control in the middle of the day has been checked with comparative ease under the weather change that takes place from noon to midnight.

Once a fire has gotten well under way it creates its own local weather (Fig. 36). The heat causes the air to rise rapidly and so creates a draft that assists fire in its spread. Then, too, this intense heat dries out the air and the fuels well in advance of the flame so that the material ignites more quickly. Tests made at some distance

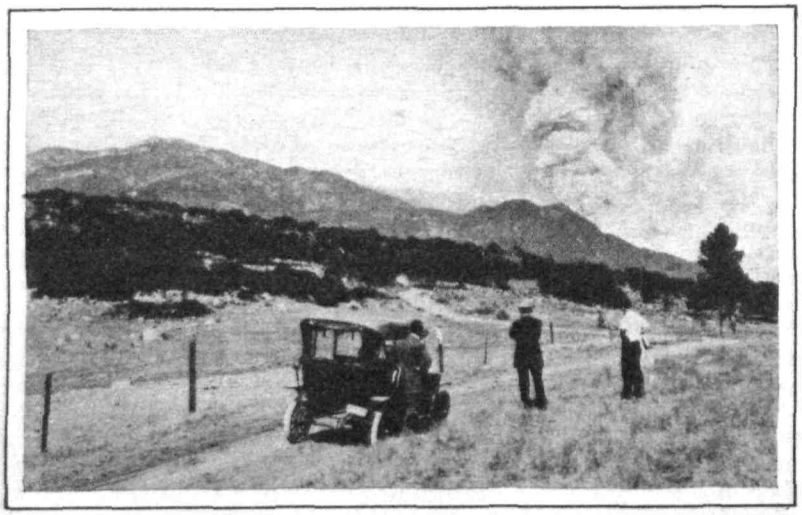


FIG. 36.—The rate of spread of forest fires is tied in closely with the weather. Hot, dry days, especially with wind, make for rapid spread, and fire suppression is then a difficult matter

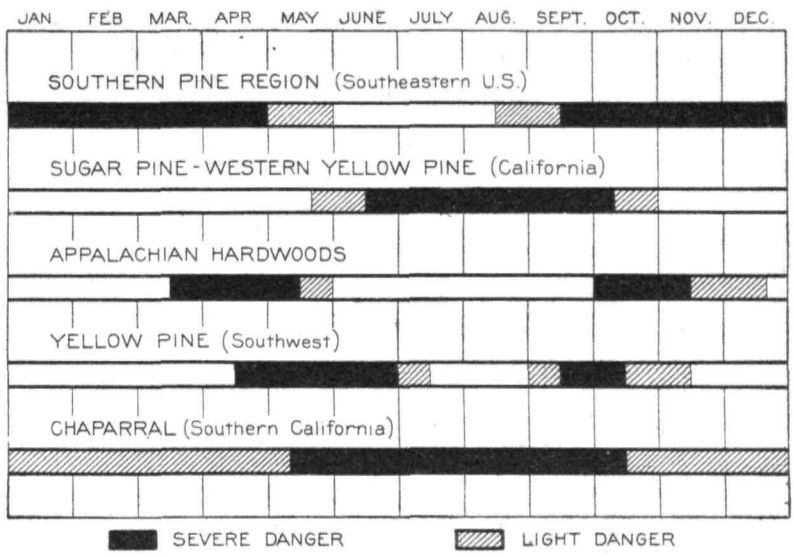


FIG. 37.—Duration and degree of fire season for various forest regions

in front of an advancing forest fire in the open showed that the added draft and the heat caused by the flames was responsible for a difference of 10° of temperature and from 15 to 20 per cent of humidity. A recent study of a going fire in a cut-over area showed that at the edge of the cut-over area in advance of the fire the humidity was 12 per cent, whereas it was 35 per cent in the forest, indicating that the green forest cover has a local weather condition which would help check the fire when the forest was reached.

As indicated previously, fire seasons are generally determined by climate, but they are also to some extent controlled by the weather. The occurrence of the fire seasons is shown in Figure 37 for some of the forest regions. The Pacific coast and the northern Rockies normally have a dry summer, though rains may occur in this period. Weather controls the date for beginning and end of fire season. If spring is late and wet the fire season is slow in getting under way; if spring is early and dry the fire season begins much earlier. Weather also controls the intensity of fire season. If rains occur at frequent intervals during the summer and cloudy cool weather prevails then the fire season is a mild one, but if the weather is hot and dry and windy there is an excellent possiblity of having a severe fire season on hand. As the season opens with drought, it closes with moisture, and usually a good heavy rain or snow about the first of October puts an end to it.

Under a different climatic condition in the East, the fire season occurs during the time of drought both in spring and in fall. In the eastern woods the leaves that dropped from the trees in the previous fall dry out quickly in the spring and a few days of warm dry weather makes conditions ripe for fire to spread. But when the weeds and grass begin to leaf out the fire danger is soon over, and,

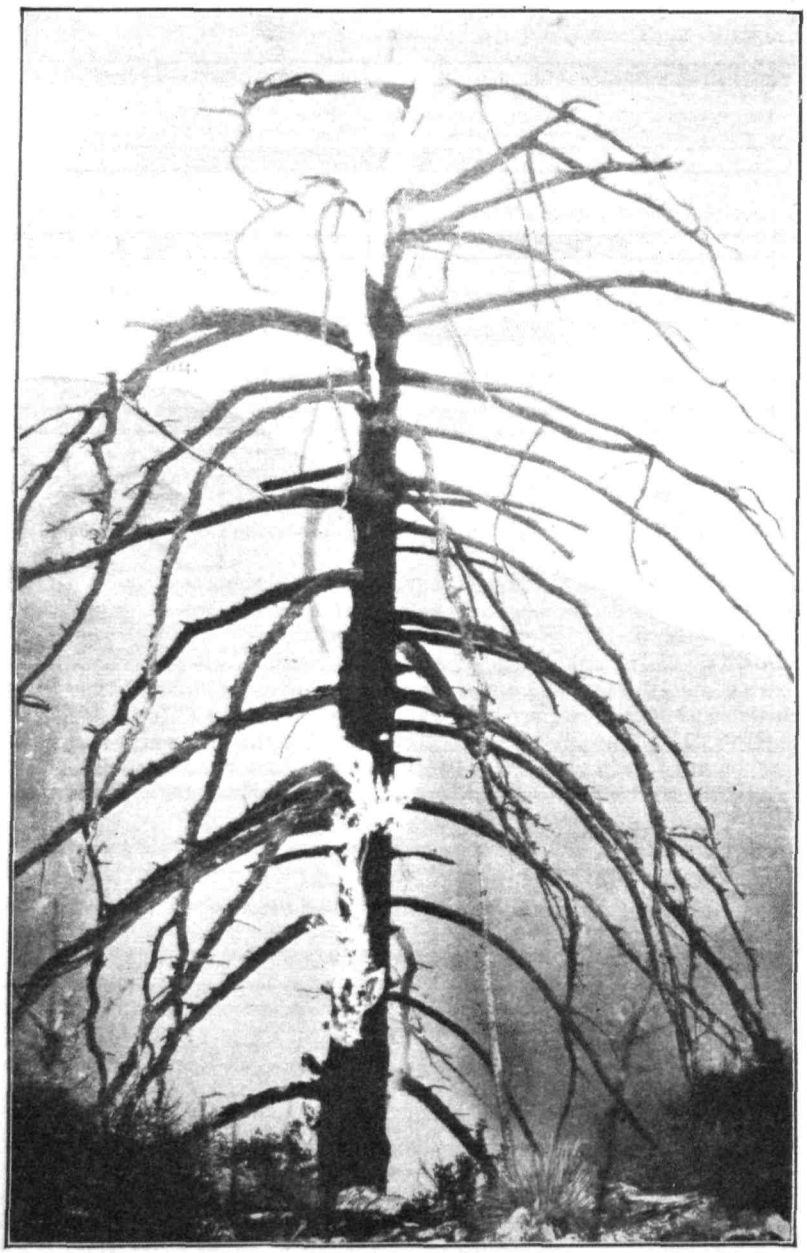


FIG. 38.—When lightning strikes a dead tree a fire is apt to result. When many lightning fires are started from a single storm it is usually in mountainous regions difficult of access to the fire fighters, making control and suppression of the fires doubly difficult. On the other hand, lightning fires will sometimes smoulder along for days, attracting no attention, only to break forth when weather conditions are at their worst

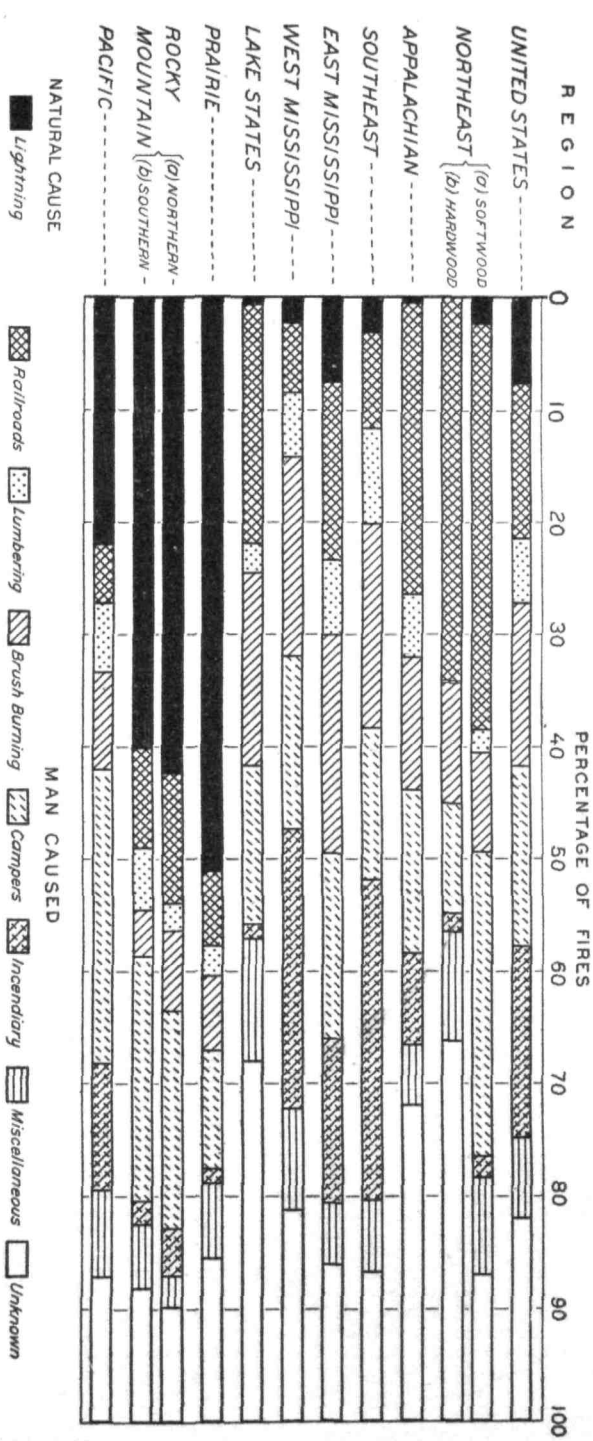
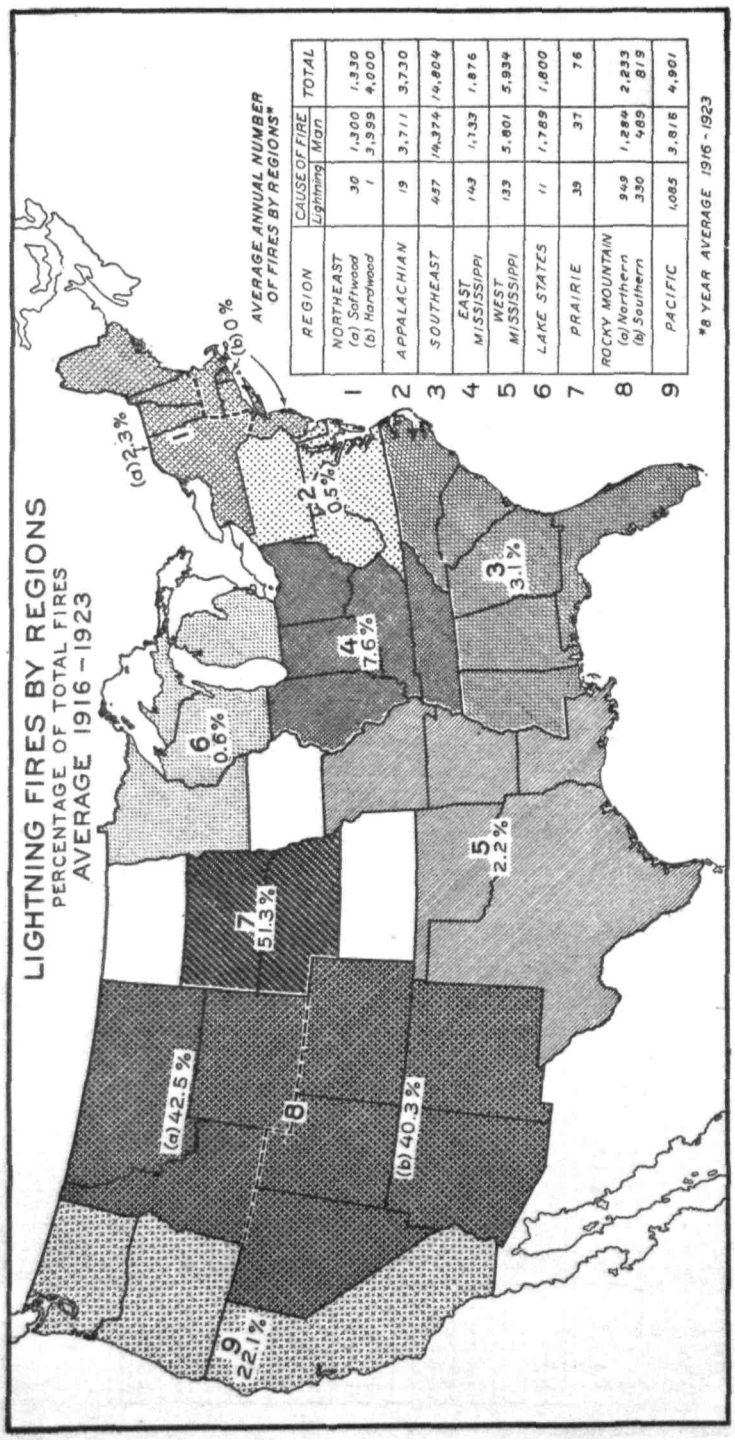


FIG. 39.—Lightning, the only natural cause of forest fires, is an important factor in nearly all forest regions



	REGION	CAUSE OF FIRE		TOTAL
		Lightning	Man	
1	NORTHEAST			
	(a) Softwood	30	1,300	1,330
	(b) Hardwood	1	3,999	4,000
2	APPALACHIAN	19	3,711	3,730
3	SOUTHEAST	437	14,374	14,804
4	EAST MISSISSIPPI	143	1,733	1,876
5	WEST MISSISSIPPI	133	5,801	5,934
6	LAKE STATES	11	1,789	1,800
7	PRAIRIE	39	37	76
8	ROCKY MOUNTAIN			
	(a) Northern	949	1,284	2,233
	(b) Southern	330	489	819
9	PACIFIC	1,085	3,818	4,901

*8 YEAR AVERAGE 1916 - 1923

FIG. 40.—Lightning fires by regions in percentages of total fires

as the eastern woods usually are green all summer, there is little danger from fire except in the evergreen forest. In the fall after the first frost, when the grass dries up and the leaves begin to drop, the fire season opens again and persists until the fall or winter rain or snows set in.

Lightning.—Second only to the influence of weather upon the spread of fire is the harm one phase of weather creates in starting fire. All but one of the many and varied causes of fire are attributable to man and therefore are preventable with care. The one natural cause over which man has no control is lightning (fig. 38), and in

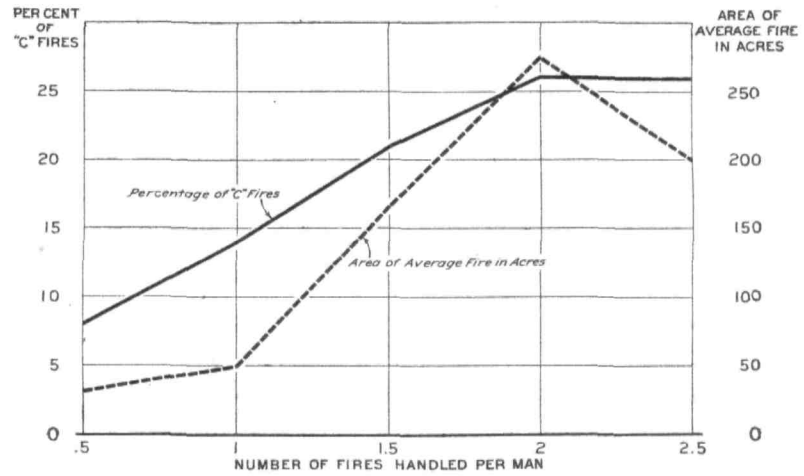


FIG. 41.—The effect of concentrated outbreaks of fires during heavy lightning storms. Note sharp increase in the percentage of "C" fires and in the size of average fire after the number of fires per storm passes California

an 8-year period lightning has started 7.7 per cent of all reported fires, amounting to about 33,000 fires each year (fig. 39). In a number of regions lightning as a cause of fire is negligible, but in some of the important forested regions of the West lightning has been responsible for as high as 2,300 fires a year out of 8,000. This is shown graphically in Figure 39.

It will be noted that the East has relatively a much smaller percentage of lightning fires than the West. This is due to two main causes: (1) The character of the storms and (2) the character of the forest. In many parts of the West thunderstorms are exceedingly violent, and it not infrequently happens that a thunderstorm is accompanied by very little rain, often insufficient to wet down the forest and keep the litter and débris in the forest from burning. In the East most thunderstorms are accompanied by copious rainfall, which prevents lightning fires from really becoming serious. The forests of the West, too, contain many "snags" or standing dead trees. These are not perhaps struck any more often than are green trees, but when the wood is rotten it catches fire readily and smoulders for some time before breaking out.

A light thunderstorm does not set many fires and those it does set can readily be handled by the rangers and forest guards. But many of these storms are not mere local disturbances, but are dominated by weather changes over great areas. Then the fires per storm increase rapidly and the protection organization breaks down for the time being. As indicated in the diagrams (figs. 41 and 42), when the number of fires in a given region exceeds 250 the percentage of class C fires, i. e., those over 10 acres in size, increases markedly. With but one lightning fire for each man to handle, the size of the forest fire can be kept down very easily. Beyond one fire to the man, the average size of the fire increases rapidly.

Records of forest fires in California for several years show how variable the weather as evidenced in lightning storms really is.

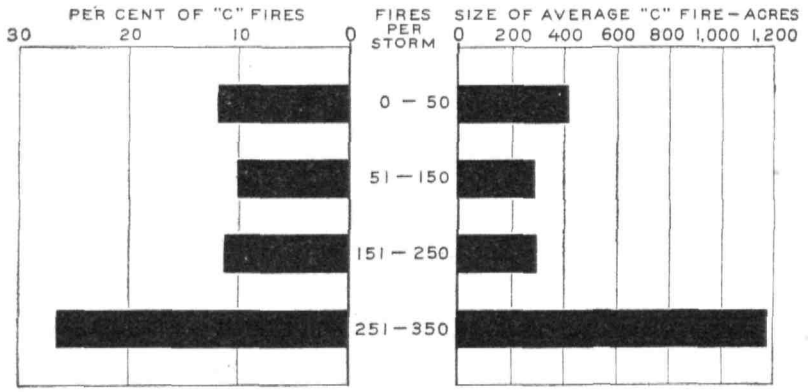


FIG. 42.—The rapid increase in percentage of "C" fires and in size of average fire as the number of fires handled per man increases during any one lightning storm in California

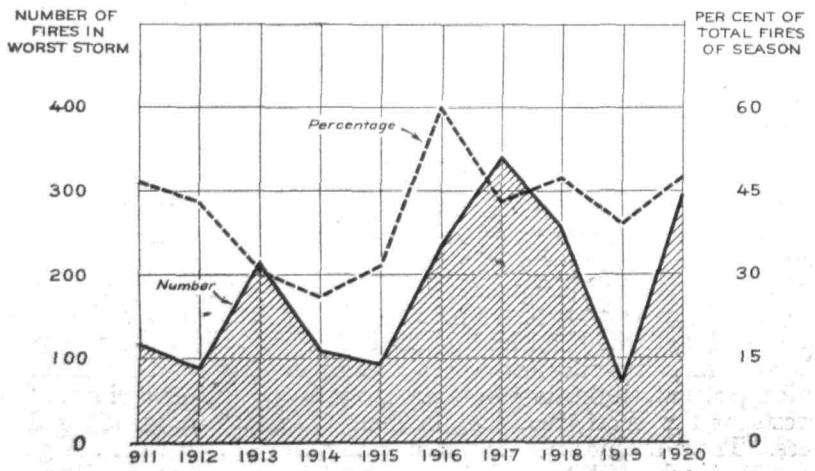


FIG. 43.—The number of fires in worst single lightning storm each year. The extreme gravity of these concentrated outbreaks is shown by the dashed curve, giving the percentage of the total fires of the season caused by these single general storms in California

The number of fires in the worst single storm during the year is indicated in Figure 43. When such a large number of fires start all at once in a mountainous region the percentage that succeed in becoming large fires is very high.

Aviation and Agriculture

It is too early to indicate the extent to which aviation may be applied in aid of farming, but the outlook is decidedly promising. Already air-mail planes are speeding up the delivery of mail and, although this may not be of direct economic benefit to the farmer, it suggests the use of airplanes in the rapid transportation of perishable products, thus insuring prompt delivery and preventing considerable waste. Particularly is this true in the case of small fruits and vegetables, such as strawberries, raspberries, lettuce, peas, radishes, etc., all of which should be marketed and consumed as soon after picking as possible. Similarly repair parts for agricultural implements and other supplies can be quickly delivered from cities to the farmer in cases of emergency.

A still wider and probably the most important use of the airplane can be made in spraying or dusting various crops for the purpose of destroying insects and preventing the spread of plant diseases. This phase of the application of aviation to agriculture has as yet not been carried beyond the experimental stage, but in tests that have been made in dusting cotton in the Southern States and in combating locusts in the Philippines very promising results have been realized. This method was found to be much quicker and less

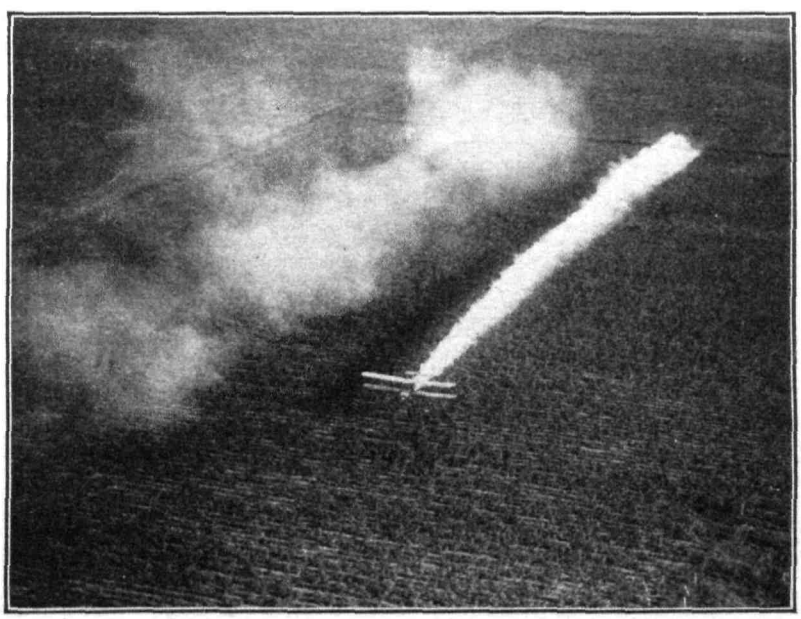


FIG. 44.—Using an airplane in dusting cotton fields to suppress the boll weevil

expensive than the ordinary means of applying poison by hand. With improvements in equipment and with more experience, it seems likely that aviation will become an effective agency for the control of such pests as the boll weevil, the tobacco hornworm, the potato bug, wheat rust, and various fruit-destroying insects and diseases.

An application of aviation to agriculture that has already reached a stage of economic importance is that of locating fires in large forested tracts. With a larger force and with planes carrying radio equipment, it is easy to see that by timely warnings fire fighters can quickly go to a threatened area and prevent the destruction of millions of dollars' worth of timber.

Aviation in its relations to agriculture is peculiarly susceptible to weather conditions, because of the limitations under which the work can be done. Clear weather is desirable for flying at all times, but is essential when search for forest fires is being made. For most effective spraying or dusting of crops (fig. 44) the air should be absolutely quiet and there should be dry weather for a day or two following. Fortunately, the weather conditions that are required are those that occur most frequently during the crop-growing seasons. Clear and practically calm days are numerous in all parts of the country during the late spring to early fall months. With suitable arrangement for weather advices, there will therefore be no difficulty in selecting days that are favorable for the work to be done at times when that work will be most effective.

AGRICULTURAL STATISTICS

UNITED STATES DEPARTMENT OF AGRICULTURE YEARBOOK, 1924

Prepared under the direction of the Statistical Committee, W. F. Callander, Lewis B. Flohr, Joseph A. Becker, and G. B. L. Arner

INTRODUCTION

Statistics of acreage, yield per acre, and production in the United States are estimates made by the Division of Crop and Livestock Estimates. For the year 1909, acreages are as reported by the Bureau of the Census; acreages in 1919 are based upon the census, supplemented by State enumerations. In the intercensal years from 1911 to 1915, estimated acreages were obtained by applying estimated percentages of decrease or increase to the published acreage in the preceding year. The estimates from 1915 to 1918, and from 1919 to date are based upon acreage changes from year to year as shown by a sample of approximately 2 per cent of the crop acreages in each year, supplemented by State enumerations. Yields per acre are estimates based upon reports of one or more farmers in each agricultural township, on the average yield per acre in their localities. Production is acreage times yield per acre. Production estimates are in some cases revised in the following year on the basis of State enumerations and record of shipments.

Estimates of farm stocks, shipments, quality, crop condition, and miscellaneous information concerning crops are based either upon sample data or upon estimates of crop reporters for their localities. The sources of these data are indicated in the notes accompanying the tables.

Farm prices on the specified dates are based upon reports of farmers and country dealers on the average price paid to farmers, and do not relate to any specified grade. Farm value as shown is computed by applying the December 1 farm price to the total production. The average price received for the portion of the crop sold may be greater or less than this price, depending on the price changes previous and subsequent to December 1 and the amount of the crop sold at the different prices.

Numbers of livestock on farms in 1910 correspond to the census enumeration as of April 15 in that year. The number on January 1, 1920, is based upon the census enumeration as of that date, supplemented by enumerations by State agencies, such as assessors and brand inspection boards. In the intercensal years from 1911 to 1916, the numbers of livestock were obtained by methods identical with those used for crop acreages. Estimates from 1917 to 1919, and from 1920 to date are based upon a sample of approximately 2 per cent, supplemented by trends derived from assessors' enumerations, reports of brand inspection boards, market movements, and stockyard receipts. The census bases are not always comparable from one decade to another, due both to changes of dates and classifications.

The average price per head on January 1 is estimated from reports of correspondents relating to livestock in their vicinity. The farm value on January 1 is computed by applying the average price per head to the number of head on farms.

Certain statistics represent enumerations made by the department in connection with the administration of regulatory and inspection laws. Certain other statistics represent enumerations made by the department in compliance with general legislation authorizing the collection and dissemination of information on agricultural products.

Statistics relating to supplies, movements, and market prices of agricultural products in the United States are derived from official sources as far as available; otherwise from reliable unofficial sources. In all cases wherein the data presented did not cover the field or a major sample thereof, data most representative of the various commodities, movements, and markets have been selected.

With some crops marketing and movement into consumptive channels takes place entirely within the calendar year in which the crop was produced. For many crops marketing takes place during portions of two calendar years. For a few crops, as potatoes, marketing extends beyond a 12-month period. In order that the movement and prices of the particular crop may be followed through, the months in which the crop moved have been used as the "year." Farm prices are indexes of price trends rather than prices actually received.

Weighted averages of prices are shown in all cases where a weighting factor was available. For instance, the weighted price of wheat in Chicago is based on the number of carload sales reported, which range from 42 to 55 per cent of all receipts on that market. In the case of hogs at Chicago, the weighted average price is based on total sales of butcher hogs to slaughterers. With many commodities, however, data as to quantities sold are unobtainable; in all such cases average prices are based on price quotations without reference to quantity.

It should be remembered that, due to changes in market conditions or quality of delivery in different years on or under the same grade description or specifications, prices derived from different sources may not be strictly comparable, although for most general purposes they are entirely satisfactory. For instance, the changes in the description of many kinds of livestock which were made July 1, 1923, while not affecting certain price series, made others only fairly comparable and made comparison impossible in other cases. The data as to commercial stocks and movements of various commodities are as nearly complete as practicable and feasible, and are considered fairly representative.

Data originating with other departments and agencies are included because of their general interest to the agricultural industry. The sources of such data are given in connection with the tables. Care has been taken to quote only such sources as are generally considered reliable.

Statistics of acreage and production in foreign countries are compiled as far as possible from official sources and are therefore subject to whatever errors may result from shortcomings in the reporting and statistical services of the various countries. Inaccuracies also result from differencies in nomenclature and classification in foreign countries, and through the conversion of foreign units into domestic equivalents. Except where otherwise stated, pre-war data refer to pre-war boundaries. Yields per acre are calculated from acreage and production, both rounded to thousand units, and are therefore subject to a greater possibility of error when calculated for countries with small acreage.

The tables of international trade cover substantially the international trade of the world. The total imports and the total exports in any one year can not be expected to balance, although disagreements tend to be compensated over a series of years. Among the sources of disagreement are: The different periods covered by the "year" of various countries; imports received in the year subsequent to the year of export; lack of uniformity in classification of goods as among countries; different trade practices and varying degrees of failure in recording countries of origin and ultimate destination; different practices in recording reexported goods; and different methods of treating free ports. The exports given are domestic exports and the imports given are imports for consumption, whenever it is possible to distinguish such imports from general imports. While there are some inevitable omissions, there may be some duplication because of reshipments which do not appear as such in the official reports. In the trade tables, figures for the United States include Alaska, Porto Rico, and Hawaii, but not the Philippines Islands.

Since the statistics for the current year are in many cases preliminary and subject to revision on the basis of later and fuller information, the reader is cautioned to use always the figures as they appear in the latest issue of the Yearbook.

BREAD GRAINS

WHEAT

TABLE 1.—*Wheat: Acreage, production, value, exports, etc., in the United States, 1909–1924*

Year	Acreage harvested	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]	Chicago cash price per bushel No. 2 Northern spring [2]				Domestic exports, including flour, fiscal year beginning July 1 [3]	Imports, including flour, fiscal year beginning July 1 [3]	Per cent of crop exported
							December		Following May				
							Low	High	Low	High			
	1,000 acres	*Bush. of 60 lbs.*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels*	*Bushels*	*Per cent*
1909	*44,262*	15.8	700,434	98.4	689,108	15.57	106	119¾	100	119¼	87,364,318	815,617	12.5
1910	45,681	13.9	635,121	88.3	561,051	12.28	104	110	98	106	69,311,760	1,146,558	10.9
1911	49,543	12.5	621,338	87.4	543,063	10.96	105	110	115	122	79,689,404	3,413,626	12.8
1912	45,814	15.9	730,267	76.0	555,280	12.12	85	90¾	90½	96	142,879,596	1,282,039	19.6
1913	50,184	15.2	763,380	79.9	610,122	12.16	89½	93	96	100	145,590,349	2,383,537	19.1
Aver. 1909–1913	47,097	14.7	690,108	85.7	591,725	12.56	97.9	104.7	99.9	108.6	104,967,085	1,808,275	15.2
1914	53,541	16.6	891,017	98.6	878,680	16.41	115	131	141	164½	332,464,975	715,369	37.3
1915	60,469	17.0	1,025,801	91.9	942,303	15.58	106	128½	116	126	243,117,026	7,187,650	23.7
1916	52,316	12.2	636,318	160.3	1,019,968	19.50	155½	190	258	340	203,573,928	24,924,985	32.0
1917	45,089	14.1	636,655	200.8	1,278,112	28.35	220	220	220	220	132,578,633	31,215,213	20.8
1918	59,181	15.6	921,438	204.2	1,881,826	31.80	220	220	245	280	287,401,579	11,288,591	31.2
1919	75,694	12.8	967,979	214.9	2,080,056	27.48	280	325	295	345	219,864,548	5,495,516	22.7
1920	61,143	13.6	833,027	143.7	1,197,263	19.58	164	187	142	178	366,077,439	57,398,002	43.9
Aver. 1914–1920	58,205	14.5	844,605	156.9	1,325,458	22.77	180.1	200.2	202.4	236.2	255,011,161	19,746,475	30.2
1921	63,696	12.8	814,905	92.6	754,834	11.85	118½	138	127	173	279,406,799	17,251,482	34.3
1922	62,317	13.9	867,598	100.7	873,412	14.02	121	139¾	120¾	129¼	221,923,184	19,944,934	25.6
1923	59,659	13.4	797,381	92.3	735,993	12.34	110	119½	111¼	130	156,429,824	28,044,999	19.9
1924 [4]	54,209	16.1	872,673	130.2	1,136,596	20.97	156½	190	-----	-----	-----	-----	-----

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] No. 1 Northern spring to 1915. Chicago Daily Trade Bulletin.
[3] Bureau of Foreign and Domestic Commerce.
[4] Preliminary.

TABLE 2.—*Winter and spring wheat: Acreage sown and harvested, production, and farm value, United States, 1910–1924*

Year	Winter wheat						Spring wheat				
	Acreage sown in preceding fall	Acreage harvested	Average yield per acre	Production	Average farm price Dec. 1	Total farm value Dec. 1	Acreage	Average yield per acre	Production	Average farm price Dec. 1	Total farm value Dec. 1.
	1,000 acres	*1,000 acres*	*Bush.*	*1,000 bushels*	*Cents*	*1,000 dollars*	*1,000 acres*	*Bush.*	*1,000 bushels*	*Cents*	*1,000 dollars*
1910	31,659	27,329	15.9	434,142	88.1	382,318	18,352	11.0	200,979	88.9	178,733
1911	32,648	29,162	14.8	430,656	88.0	379,151	20,381	9.4	190,682	86.0	163,912
1912	33,229	26,571	15.1	399,919	80.9	323,572	19,243	17.2	330,348	70.1	231,708
1913	33,274	31,699	16.5	523,561	82.9	433,995	18,485	13.0	239,819	73.4	176,127
1914	37,158	36,008	19.0	684,990	98.6	675,623	17,533	11.8	206,027	98.6	203,057
1915	42,431	41,308	16.3	673,947	94.7	638,149	19,161	18.4	351,854	86.4	304,154
1916	39,245	34,709	13.8	480,553	162.7	781,906	17,607	8.8	155,765	152.8	238,062
1917	38,359	27,257	15.1	412,901	202.8	837,237	17,832	12.5	223,754	197.0	440,875
1918	43,126	37,130	15.2	565,099	206.3	1,165,995	22,051	16.2	356,339	200.9	715,831
1919	51,483	50,494	15.1	760,377	210.5	1,600,805	25,200	8.2	207,602	230.9	479,251
1920	44,861	40,016	15.3	610,597	148.6	907,291	21,127	10.5	222,430	130.4	289,972
1921	45,625	43,414	13.8	600,316	95.1	571,044	20,282	10.6	214,589	85.6	183,790
1922	47,930	42,358	13.8	586,878	104.7	614,399	19,959	14.1	280,720	92.3	259,013
1923	46,103	39,518	14.5	571,959	95.1	543,710	20,141	11.2	225,422	85.3	192,283
1924	39,749	36,438	16.2	590,037	132.1	779,510	17,771	15.9	282,636	126.3	357,086

Division of Crop and Livestock Estimates.

TABLE 3.—*Wheat: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Maine	4	5	5	100	130	130	170	153	221
Vermont	4	4	3	84	84	60	122	118	90
New York	463	403	380	8,966	8,159	6,840	10,580	8,974	9,850
New Jersey	77	74	74	1,540	1,480	1,369	1,694	1,628	2,149
Pennsylvania	1,339	1,283	1,213	24,722	24,338	20,020	27,194	24,338	28,829
Delaware	109	106	101	1,766	1,908	1,616	1,907	1,908	2,327
Maryland	578	600	540	9,537	11,520	8,532	10,681	11,520	12,371
Virginia	830	838	735	10,375	11,145	9,628	12,658	12,260	14,249
West Virginia	240	228	195	2,760	2,964	2,574	3,367	3,438	3,784
North Carolina	600	544	462	5,400	6,038	5,544	7,344	7,729	8,870
South Carolina	165	175	123	1,320	1,925	1,476	2,072	2,964	2,509
Georgia	190	189	81	1,520	1,739	850	2,280	2,556	1,436
Ohio	2,526	2,350	2,221	35,374	42,770	37,313	41,388	42,342	54,104
Indiana	1,996	2,076	1,849	28,928	34,248	31,437	32,399	33,563	44,640
Illinois	3,196	3,479	2,411	55,432	62,506	35,758	59,312	58,756	48,631
Michigan	1,023	976	911	14,326	16,576	20,014	16,475	15,913	27,619
Wisconsin	176	119	109	3,006	1,970	2,353	3,096	1,931	3,012
Minnesota	1,989	1,840	1,674	27,276	23,385	36,513	27,548	22,216	47,467
Iowa	731	731	428	16,452	13,558	8,628	16,288	12,067	10,957
Missouri	3,105	2,830	1,924	38,818	36,790	24,629	40,759	35,686	32,756
North Dakota	8,980	9,650	8,685	126,618	71,410	134,618	113,956	61,413	169,619
South Dakota	2,989	2,870	2,296	40,012	27,515	34,138	36,811	22,287	42,672
Nebraska	4,177	3,174	2,989	59,838	31,388	57,115	57,445	26,052	69,680
Kansas	9,756	8,299	9,435	122,861	83,804	153,738	120,404	76,262	196,784
Kentucky	650	620	434	7,475	7,688	4,340	8,820	8,303	6,206
Tennessee	472	443	340	4,484	4,519	3,570	5,515	5,197	5,248
Alabama	20	15	8	218	150	80	349	195	130
Mississippi	5	4	2	60	60	32	87	66	48
Texas	1,249	1,559	1,396	9,992	16,370	25,826	10,991	16,861	33,316
Oklahoma	3,300	3,450	3,346	31,350	37,950	54,874	30,723	35,294	68,044
Arkansas	78	70	59	1,014	770	678	1,075	832	902
Montana	3,618	3,274	3,154	52,714	47,708	51,668	46,916	39,121	64,068
Wyoming	179	175	141	2,506	2,785	2,131	2,055	2,228	2,365
Colorado	1,620	1,407	1,457	21,776	18,272	21,030	19,380	15,166	24,815
New Mexico	105	108	163	885	1,300	2,551	1,062	1,404	3,188
Arizona	49	42	31	1,274	1,092	837	1,465	1,529	1,180
Utah	294	272	254	5,682	6,566	4,413	5,113	5,975	5,736
Nevada	21	20	19	550	507	402	660	583	603
Idaho	1,123	1,052	933	24,275	30,115	17,828	21,847	24,092	23,355
Washington	2,486	2,446	2,211	32,104	61,215	27,300	33,388	52,033	35,490
Oregon	1,093	1,111	1,099	18,900	26,807	15,450	20,412	23,590	19,930
California	712	748	318	15,308	16,157	4,770	17,604	17,450	7,346
United States	62,317	59,659	54,209	867,598	797,381	872,673	873,412	735,993	1,136,596

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 4.—*Durum wheat:* [1] *Estimated yield per acre and production in four States*

Year	Yield per acre					Production				
	Minnesota	North Dakota	South Dakota	Montana	Four States	Minnesota	North Dakota	South Dakota	Montana	Four States
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*
1917	15.5	9.0	15.6	9.0	10.9	1,557	14,168	8,941	1,343	26,009
1918	20.0	14.0	19.5	12.9	15.2	2,460	30,856	12,403	4,516	50,235
1919	11.9	7.9	9.8	4.5	8.2	1,485	21,720	6,848	943	30,996
1920	12.0	10.5	12.4	11.5	10.9	1,383	33,702	8,884	4,231	48,200
1921	11.9	9.7	11.0	11.2	10.1	1,754	36,741	10,570	4,259	53,324
1922	16.0	15.0	15.5	14.7	15.1	3,960	60,397	19,206	4,106	87,669
1923	12.7	9.1	12.0	10.2	10.0	2,858	33,370	15,300	1,306	52,834
1924	21.5	16.0	14.9	18.0	15.9	2,709	48,640	17,493	1,368	70,210

Division of Crop and Livestock Estimates.

[1] Also included in spring wheat, Table 5.

TABLE 5.—*Winter and spring wheat: Acreage sown and harvested, production, and farm value December 1, by States, 1924*

State	Winter wheat [1]						Spring wheat [1]				
	Acreage sown in preceding fall	Acreage harvested	Average yield per acre	Production	Average farm price Dec. 1	Total farm value Dec. 1	Acreage	Average yield per acre	Production	Average farm price Dec. 1	Total farm value Dec. 1
	1,000 acres	*1,000 acres*	*Bush.*	*1,000 bushels*	*Cents*	*1,000 dollars*	*1,000 acres*	*Bush.*	*1,000 bushels*	*Cents*	*1,000 dollars*
Maine							5	26.0	130	170	221
Vermont							3	20.0	60	150	90
New York	380	366	18.0	6,588	144	9,487	14	18.0	252	144	363
New Jersey	77	74	18.5	1,369	157	2,149					
Pennsylvania	1,240	1,203	16.5	19,850	144	28,584	10	17.0	170	144	245
Delaware	106	101	16.0	1,616	144	2,327					
Maryland	562	540	15.8	8,532	145	12,371					
Virginia	775	735	13.1	9,628	148	14,249					
West Virginia	212	195	13.2	2,574	147	3,784					
North Carolina	486	462	12.0	5,544	160	8,870					
South Carolina	129	123	12.0	1,476	170	2,509					
Georgia	140	81	10.5	850	169	1,436					
Ohio	2,468	2,221	16.8	37,313	145	54,104					
Indiana	1,963	1,845	17.0	31,365	142	44,538	4	18.0	72	142	102
Illinois	2,678	2,330	14.7	34,251	136	46,581	81	18.6	1,507	136	2,050
Michigan	922	904	22.0	19,888	138	27,445	7	18.0	126	138	174
Wisconsin	66	64	22.0	1,408	128	1,802	45	21.0	945	128	1,210
Minnesota	105	100	22.0	2,200	130	2,860	1,574	21.8	34,313	130	44,607
Iowa	408	396	20.4	8,078	127	10,259	32	17.2	550	127	698
Missouri	2,134	1,921	12.8	24,589	133	32,703	3	13.5	40	133	53
North Dakota							8,685	15.5	134,618	126	169,619
South Dakota	89	80	14.0	1,120	125	1,400	2,216	14.9	33,018	125	41,272
Nebraska	2,941	2,794	19.5	54,483	122	66,469	195	13.5	2,632	122	3,211
Kansas	9,819	9,426	16.3	153,644	128	196,664	9	10.5	94	128	120
Kentucky	620	434	10.0	4,340	143	6,206					
Tennessee	395	340	10.5	3,570	147	5,248					
Alabama	11	8	10.0	80	162	130					
Mississippi	4	2	16.0	32	150	48					
Texas	1,469	1,396	18.5	25,826	129	33,316					
Oklahoma	3,485	3,346	16.4	54,874	124	68,044					
Arkansas	62	59	11.5	678	133	902					
Montana	685	637	17.1	10,893	124	13,507	2,517	16.2	40,775	124	50,561
Wyoming	16	16	16.0	256	111	284	125	15.0	1,875	111	2,081
Colorado	1,268	1,141	14.0	15,974	118	18,849	316	16.0	5,056	118	5,966
New Mexico	122	110	15.0	1,650	125	2,062	53	17.0	901	125	1,126
Arizona	32	31	27.0	837	141	1,180					
Utah	157	149	12.0	1,788	130	2,324	105	25.0	2,625	130	3,412
Nevada	3	3	22.0	66	150	99	16	21.0	336	150	504
Idaho	397	353	16.0	5,648	131	7,399	580	21.0	12,180	131	15,956
Washington	1,687	1,265	15.3	19,354	130	25,160	946	8.4	7,946	130	10,330
Oregon	945	869	15.0	13,035	129	16,815	230	10.5	2,415	129	3,115
California	691	318	15.0	4,770	154	7,346					
United States	39,749	36,438	16.2	590,037	132.1	779,510	17,771	15.9	282,636	126.3	357,086

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 6.—*Wheat: Yield per acre, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	25.5	29.7	21.0	23.5	25.5	25.0	27.0	28.0	27.0	14.0	22.0	18.8	22.0	22.7	17.0	25.0	26.0	26.0
Vermont	25.0	29.3	27.8	25.0	24.5	26.3	29.0	30.0	25.0	20.0	22.0	16.0	19.0	23.0	14.0	21.0	21.0	20.0
New York	21.0	23.7	19.5	16.0	20.0	20.0	22.5	25.0	21.0	21.0	18.2	21.0	21.8	21.5	19.2	19.4	20.2	18.0
New Jersey	17.9	18.5	17.4	18.5	17.6	18.0	18.0	20.0	20.0	19.0	17.0	18.0	16.0	18.3	19.0	20.0	20.0	18.5
Pennsylvania	17.0	17.8	13.5	18.0	17.0	16.7	18.1	18.5	19.0	17.5	17.0	17.5	16.6	17.7	17.5	18.5	19.0	16.5
Delaware	14.0	17.0	16.7	17.5	14.5	15.9	20.5	15.0	15.0	16.5	13.0	12.0	17.0	15.6	11.5	16.2	18.0	16.0
Maryland	14.5	17.4	15.5	15.0	13.3	15.1	21.5	16.1	16.0	17.0	15.5	13.5	17.0	16.7	14.0	16.5	19.2	15.8
Virginia	11.2	12.8	12.0	11.6	13.6	12.2	14.5	13.8	12.7	13.0	12.0	11.8	12.5	12.9	9.8	12.5	13.3	13.1
West Virginia	13.0	12.5	11.5	14.5	13.0	12.9	15.0	15.0	14.5	14.0	14.2	13.5	12.5	14.1	12.5	11.5	13.0	13.2
North Carolina	9.5	11.4	10.6	8.9	11.7	10.4	12.0	10.9	10.5	10.0	7.0	7.9	11.7	10.0	7.5	9.0	11.1	12.0
South Carolina	10.0	11.0	11.4	9.2	12.3	10.8	11.5	10.8	10.6	10.5	11.0	10.0	11.0	10.8	11.0	8.0	11.0	12.0
Georgia	10.0	10.5	12.0	9.3	12.2	10.8	12.1	11.0	11.4	8.5	10.2	10.5	10.0	10.5	10.5	8.0	9.2	10.5
Ohio	15.9	16.2	16.0	8.0	18.0	14.8	18.5	20.3	13.5	22.0	19.0	19.9	12.7	18.0	12.4	14.0	18.2	16.8
Indiana	15.3	15.6	14.7	8.0	18.5	14.4	17.4	17.2	12.0	18.5	21.0	14.9	12.0	16.1	12.0	14.5	16.5	17.0
Illinois	17.4	15.0	16.0	8.3	18.7	15.1	18.5	19.0	11.0	18.7	22.1	17.1	15.2	17.4	16.1	17.3	18.0	14.8
Michigan	18.8	18.0	18.0	10.0	15.3	16.0	19.7	21.3	16.6	18.0	14.2	19.4	15.3	17.8	15.7	14.0	17.0	22.0
Wisconsin	19.5	19.3	15.9	19.0	19.3	18.6	19.1	22.7	17.6	22.3	24.2	13.5	15.1	19.2	13.1	17.1	16.6	21.6
Minnesota	16.8	16.0	10.1	15.5	16.2	14.9	10.6	17.0	7.6	17.5	20.9	9.4	9.8	13.3	9.7	13.7	12.7	21.8
Iowa	17.0	21.0	16.4	19.8	20.6	19.0	18.6	20.0	16.3	19.9	18.9	14.8	17.5	18.0	17.9	22.5	18.5	20.2
Missouri	14.7	13.8	15.7	12.5	17.1	14.8	17.0	12.3	8.5	15.3	17.2	13.5	12.5	13.8	10.9	12.5	13.0	12.8
North Dakota	13.7	5.0	8.0	18.0	10.5	11.0	11.2	18.2	5.5	8.0	13.6	6.9	9.0	10.3	8.5	14.1	7.4	15.5
South Dakota	14.1	12.8	4.0	14.2	9.0	10.8	9.1	17.1	6.8	14.0	19.0	8.2	9.2	11.9	9.1	13.4	9.6	14.9
Nebraska	18.8	16.2	13.4	17.6	17.9	16.8	18.6	18.3	19.4	13.8	11.2	13.8	16.8	16.0	15.1	14.3	9.9	19.1
Kansas	14.4	14.1	10.7	15.5	13.0	13.5	20.5	12.5	12.0	12.2	14.1	13.8	15.4	14.4	12.2	12.6	10.1	16.3
Kentucky	11.8	12.8	12.7	10.0	13.6	12.2	16.5	11.0	9.0	12.0	13.0	11.5	10.2	11.9	10.0	11.5	12.4	10.0
Tennessee	10.4	11.7	11.5	10.5	12.0	11.2	15.5	10.5	9.5	9.2	10.0	9.3	9.5	10.5	10.0	9.5	10.2	10.5
Alabama	10.5	12.0	11.5	10.6	11.7	11.3	13.0	12.0	9.5	10.0	9.0	9.0	9.6	10.3	10.5	10.9	10.0	10.0
Mississippi	11.0	14.0	12.0	12.0	14.0	12.6	13.0	20.0	15.0	15.0	16.5	14.0	10.0	14.8	14.0	12.0	15.0	16.0
Texas	9.1	15.0	9.4	15.0	17.5	13.2	13.0	15.5	11.0	12.0	10.0	16.5	13.0	13.0	10.0	8.0	10.5	18.5
Oklahoma	12.8	16.3	8.0	12.8	10.0	12.0	19.0	11.6	9.7	11.5	12.6	14.0	16.0	13.5	12.5	9.5	11.0	16.4
Arkansas	11.4	13.9	10.5	10.0	13.0	11.8	13.0	12.5	8.0	16.0	12.0	9.5	9.5	11.5	9.3	13.0	11.0	11.5
Montana	30.8	22.0	28.7	24.1	23.8	25.9	20.2	26.5	19.3	10.4	12.6	2.7	10.3	14.6	12.3	14.6	14.6	16.4
Wyoming	28.7	25.0	26.0	28.7	25.0	26.7	22.9	26.5	21.6	21.2	25.4	14.4	20.0	21.7	17.2	14.0	15.9	15.1
Colorado	29.5	22.3	18.9	24.2	21.0	23.2	23.8	24.2	19.8	22.6	12.3	13.7	18.0	19.2	13.5	13.4	13.0	14.4
New Mexico	24.5	20.0	22.9	20.9	18.8	21.4	24.2	22.2	18.6	12.7	16.7	19.0	18.3	18.8	13.6	8.4	12.0	15.6
Arizona	25.0	22.3	29.6	30.7	32.0	27.9	28.0	28.0	29.0	25.0	26.0	25.0	24.0	26.4	21.0	26.0	26.0	27.0
Utah	25.9	22.1	22.3	25.7	24.2	24.0	25.0	25.7	21.2	19.1	20.2	15.4	19.5	20.9	22.8	19.3	24.1	17.4
Nevada	28.7	26.5	28.3	29.2	27.7	28.1	29.6	29.6	28.9	27.8	25.5	21.2	22.3	26.4	23.5	26.2	25.4	21.2
Idaho	27.8	22.6	30.7	28.6	27.6	27.5	26.2	28.0	23.8	20.3	21.3	18.2	22.4	22.9	24.0	21.6	28.6	19.1
Washington	23.2	16.9	22.7	23.5	23.2	21.9	23.5	25.7	23.7	15.8	13.1	16.8	16.9	19.4	22.8	12.9	25.0	12.3
Oregon	20.2	22.1	21.0	25.0	21.0	21.9	20.8	22.2	23.0	14.5	14.7	19.2	20.9	19.3	23.4	17.3	24.1	14.1
California	14.0	18.0	18.0	17.0	14.0	16.2	17.0	16.0	16.0	19.8	15.0	15.5	14.0	16.2	15.0	21.5	21.6	15.0
United States	15.8	13.9	12.5	15.9	15.2	14.7	16.6	17.0	12.2	14.1	15.6	12.8	13.6	14.6	12.8	13.9	13.4	16.1

Division of Crop and Livestock Estimates.

TABLE 7.—*Wheat: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant disease	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost, freeze, or winter kill	Hail	Hot winds	Storms	Total climatic [1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	8.5	3.2	0.7	2.4	2.0	1.2	0.6	18.9	1.6	1.1	0.3	0.1	0.8	22.8
1910	18.9	.9	.2	6.6	.5	2.6	.2	30.0	.8	1.9	.4	.2	.5	33.8
1911	25.5	.8	[2]	1.5	.4	3.8	.1	32.3	1.9	1.9	.2	.2	1.3	37.8
1912	8.1	1.8	.3	9.5	1.5	1.8	.4	24.0	1.8	2.3	.3	.2	.9	29.5
1913	14.1	.4	.2	1.9	.7	1.7	.3	19.8	.3	2.2	.1	.1	1.0	23.5
1914	6.7	1.4	.1	1.1	1.0	2.7	.2	13.4	3.0	2.6	.1	.1	.6	19.8
1915	1.3	7.3	1.0	1.2	1.6	.1	.4	13.0	2.4	3.6	.1	.1	.5	19.7
1916	6.9	3.8	.6	5.1	1.3	2.7	.2	21.2	12.5	4.0	.1	.1	.8	38.7
1917	19.1	.4	.1	11.8	1.0	1.6	.2	34.4	.7	.7	.1	.1	.3	36.3
1918	14.6	.3	.1	3.8	1.1	2.0	.2	22.3	1.5	1.1	.2	.1	.5	25.7
1919	12.3	6.2	.4	1.3	.8	2.8	.3	24.3	10.2	2.5	.1	[2]	.5	37.6
1920	8.1	2.3	.2	4.2	1.0	1.5	.4	17.7	9.5	4.4	.1	.1	.4	32.2
1921	13.3	2.0	.2	3.1	1.4	3.6	.3	23.9	5.2	3.6	.1	.1	.2	33.1
1922	13.1	2.0	.4	2.2	2.0	1.4	.2	21.4	3.4	3.4	.1	.1	.3	28.7
1923	8.6	4.0	.5	4.0	1.4	.8	.2	19.5	4.6	4.6	.1	.1	.3	29.2

Division of Crop and Livestock Estimates. [1] Includes all other climatic. [2] Less than 0.05 per cent.

TABLE 8.—*Winter wheat: Yield per acre in States producing both winter and spring wheat, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
New York	21.0	23.7	19.5	16.0	20.0	20.0	22.5	25.0	21.0	21.0	18.0	22.0	22.3	21.7	19.5	19.5	20.4	18.0
Pennsylvania	17.0	17.8	13.5	18.0	17.0	16.7	18.1	18.5	19.0	17.5	17.0	17.5	16.6	17.7	17.5	18.5	19.0	16.5
Ohio	15.9	16.2	16.0	8.0	18.0	14.8	18.5	20.3	13.5	22.0	19.0	20.0	12.7	18.0	12.4	14.0	18.2	16.8
Indiana	15.3	15.6	14.7	8.0	18.5	14.4	17.4	17.2	12.0	18.5	21.0	15.0	12.0	16.2	12.0	14.5	16.5	17.0
Illinois	17.4	15.0	16.0	8.3	18.7	15.1	18.5	19.0	11.0	18.5	21.5	17.5	15.1	17.3	16.2	17.5	18.0	14.7
Michigan	18.8	18.0	18.0	10.0	15.3	16.0	19.7	21.3	16.6	18.0	14.0	20.3	15.6	17.9	16.0	14.0	17.0	22.0
Wisconsin	20.4	20.0	17.5	19.5	20.1	19.5	21.5	23.0	19.0	24.0	21.2	19.6	22.0	21.5	16.0	18.6	17.0	22.0
Minnesota	----	----	----	----	16.2	----	19.5	19.5	14.0	18.0	18.0	15.0	19.6	17.7	14.0	14.0	16.0	22.0
Iowa	21.6	21.2	19.7	23.0	23.4	21.8	21.6	21.5	18.5	17.5	20.5	18.3	19.7	19.7	19.2	23.2	18.9	20.4
Missouri	14.7	13.8	15.7	12.5	17.1	14.8	17.0	12.3	8.5	15.3	17.2	13.5	12.5	13.8	10.9	12.5	13.0	12.8
South Dakota	----	----	----	----	9.0	----	14.0	20.5	18.5	14.0	17.0	13.0	14.5	15.9	14.0	19.0	12.0	14.0
Nebraska	19.4	16.5	13.8	18.0	18.6	17.3	19.3	18.5	20.0	12.0	11.1	14.8	17.4	16.2	15.3	14.5	10.0	19.5
Kansas	14.5	14.2	10.8	15.5	13.0	14.6	20.5	12.5	12.0	12.2	14.1	13.8	15.4	14.4	12.2	12.6	10.1	16.3
Montana	32.5	22.0	31.7	24.5	25.6	27.3	23.0	27.0	21.5	13.0	12.7	5.2	12.0	16.3	14.0	15.2	17.0	17.1
Wyoming	32.5	25.0	26.0	28.0	25.0	27.3	24.0	26.0	21.0	20.0	24.0	12.0	20.0	21.0	18.0	14.0	15.0	16.0
Colorado	29.7	23.0	18.0	24.5	21.1	23.3	25.0	26.0	20.0	23.0	10.5	13.2	17.5	19.3	12.0	13.0	12.0	14.0
New Mexico	----	20.0	25.0	20.0	18.6	----	25.0	22.0	16.5	10.0	10.0	19.1	18.2	17.3	12.6	5.5	9.5	15.0
Utah	24.0	20.5	20.0	24.0	23.0	22.3	25.0	25.0	20.0	14.0	16.6	12.7	15.9	18.5	19.9	14.0	19.9	12.0
Nevada	----	24.0	23.0	27.5	23.0	----	29.0	26.0	24.5	26.0	29.0	19.7	18.7	24.7	20.2	19.7	25.7	22.0
Idaho	29.0	23.7	31.5	28.7	27.4	28.1	27.5	29.0	24.0	18.0	22.0	18.5	20.0	22.7	24.0	19.5	28.0	16.0
Washington	25.8	20.5	27.3	27.6	27.0	25.6	26.5	27.6	26.5	21.5	23.5	21.1	24.0	24.4	27.9	15.6	27.5	15.3
Oregon	21.0	23.7	22.2	26.8	21.4	23.0	22.0	24.0	23.0	17.5	17.0	21.2	22.2	21.0	25.5	19.0	25.0	15.0
United States	15.8	15.9	14.8	15.1	16.5	15.6	19.0	16.3	13.8	15.1	15.2	15.1	15.3	15.7	13.8	13.8	14.5	16.2

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TABLE 9.—*Spring wheat: Yield per acre in States producing both winter and spring wheat, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
New York	----	----	----	----	----	----	----	----	----	21.0	20.0	15.0	18.0	----	14.5	16.0	16.5	18.0
Pennsylvania	----	----	----	----	----	----	----	----	----	----	17.0	15.0	16.0	----	15.0	15.0	15.5	17.0
Ohio	----	----	----	----	----	----	----	----	----	----	21.5	16.0	13.0	----	12.5	15.0	----	----
Indiana	----	----	----	----	----	----	----	----	----	20.0	23.0	9.0	12.0	----	12.0	11.0	15.0	18.0
Illinois	----	----	----	----	----	----	----	----	----	25.0	26.9	14.5	16.5	----	14.5	14.5	17.0	18.6
Michigan	----	----	----	----	----	----	----	----	----	17.7	18.0	11.2	10.0	----	9.0	14.5	15.0	18.0
Wisconsin	19.0	18.7	14.5	18.5	18.6	17.9	17.0	22.5	16.6	21.2	24.7	12.4	12.6	18.1	11.1	15.3	16.0	21.0
Minnesota	16.8	16.0	10.1	15.5	16.2	14.9	10.5	17.0	7.5	17.5	21.0	9.3	9.5	13.2	9.5	13.7	12.5	21.8
Iowa	14.7	20.9	13.8	17.0	17.0	16.7	13.5	16.7	13.0	21.5	18.0	9.5	11.3	14.8	10.3	14.3	12.9	17.2
Missouri	----	----	----	----	----	----	----	----	----	9.0	15.6	8.5	13.0	----	12.0	13.5	13.0	13.5
South Dakota	14.1	12.8	4.0	14.2	9.0	10.8	9.0	17.0	6.3	14.0	19.0	8.0	9.0	11.8	9.0	13.2	9.5	14.9
Nebraska	14.0	13.9	10.0	14.1	12.0	12.8	11.5	16.0	12.5	16.5	11.9	8.5	9.5	12.3	11.3	11.4	9.0	13.5
Kansas	11.5	8.4	4.2	15.0	8.5	9.5	15.0	12.0	10.5	6.0	8.0	9.3	12.5	10.5	8.2	8.3	9.0	10.5
Montana	28.8	22.0	25.2	23.5	21.5	24.2	17.0	26.0	18.0	9.0	12.5	2.3	10.0	13.5	12.0	14.4	14.0	16.2
Wyoming	27.0	25.0	26.0	29.2	25.0	26.4	22.0	27.0	22.0	22.0	26.0	15.0	20.0	22.0	17.0	14.0	16.0	15.6
Colorado	29.4	21.9	19.5	24.0	21.0	23.2	22.5	21.0	19.5	22.0	17.5	15.4	19.4	19.6	19.0	15.0	16.0	16.0
New Mexico	24.5	20.0	20.5	22.0	19.0	21.2	23.0	22.5	21.5	18.0	24.0	18.7	18.5	20.9	16.6	11.1	14.0	17.0
Utah	28.5	25.3	27.0	29.2	28.0	27.6	25.0	28.0	25.0	25.0	23.8	18.7	23.7	24.2	26.3	25.6	29.2	25.0
Nevada	28.7	29.0	32.5	30.2	31.0	30.3	30.0	32.0	31.5	28.0	25.0	21.4	23.0	27.3	24.0	27.3	25.3	21.0
Idaho	26.0	20.4	29.0	28.3	28.0	26.3	24.0	26.5	23.5	22.0	21.0	18.0	24.0	22.7	24.0	23.0	29.0	21.0
Washington	20.6	14.5	19.5	20.4	19.0	18.8	20.0	22.2	21.5	13.6	9.5	13.0	11.9	16.0	15.0	9.3	22.0	8.4
Oregon	18.7	18.0	17.7	19.5	19.5	18.7	16.5	17.0	23.0	11.0	11.0	13.0	17.0	15.5	17.0	11.5	21.0	10.5
United States	15.8	11.0	9.4	17.2	13.0	13.3	11.8	18.4	8.8	12.5	16.2	8.2	10.5	12.3	10.6	14.1	11.2	15.9

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TABLE 10.—*Winter wheat: Percentage of acreage abandoned,*[1] *1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
New York	5.5	1.4	4.2	5.1	2.0	3.6	1.0	1.2	1.0	4.0	15.0	0.7	1.5	3.5	2.0	2.5	3.2	3.8
New Jersey	3.2	3.4	3.4	5.7	4.0	3.9	4.5	4.0	3.0	5.0	6.0	1.5	10.0	4.9	1.8	4.0	3.0	4.0
Pennsylvania	2.7	2.3	3.8	4.6	3.0	3.3	2.0	4.9	2.5	4.0	5.0	.5	3.5	3.2	1.0	2.0	2.5	3.0
Delaware	2.0	1.7	3.4	3.9	2.7	2.7	2.0	2.5	3.0	3.5	9.0	0	5.0	3.6	2.5	2.0	3.0	5.0
Maryland	1.5	1.1	2.9	3.0	1.8	2.1	1.5	3.0	3.8	4.2	5.0	.5	4.0	3.1	2.0	2.0	3.2	3.8
Virginia	1.3	2.9	2.6	2.8	1.8	2.3	1.9	3.5	2.0	5.0	1.0	1.0	3.0	2.5	2.2	1.5	2.5	5.0
West Virginia	1.7	3.6	4.0	3.3	3.3	3.2	2.0	2.0	2.0	2.5	2.0	.5	4.0	2.1	1.5	1.5	3.5	10.0
North Carolina	1.8	3.5	3.8	3.3	2.5	3.0	2.6	4.0	1.5	10.0	2.0	1.0	2.0	3.3	2.0	1.0	2.0	3.0
South Carolina	3.3	3.8	3.5	4.3	4.0	3.8	3.0	3.3	3.0	25.0	2.0	2.0	2.0	5.8	2.5	10.0	2.0	5.0
Georgia	3.0	6.0	3.3	5.0	3.0	4.1	3.0	5.0	4.0	38.0	11.0	6.0	5.0	10.3	3.5	9.0	5.0	42.0
Ohio	10.0	5.6	3.2	45.2	3.3	13.5	1.3	1.8	18.0	4.0	5.0	.1	16.0	6.6	2.0	2.5	12.5	12.0
Indiana	8.5	6.0	3.6	46.5	3.5	13.6	1.3	2.0	30.0	20.0	1.0	1.0	13.0	9.8	3.0	5.0	6.0	9.0
Illinois	7.5	8.0	4.1	53.5	2.0	15.0	2.0	2.0	33.0	35.6	3.0	1.0	18.0	13.4	2.3	5.0	5.5	17.0
Michigan	5.0	5.5	3.2	26.0	4.5	8.8	2.3	1.0	3.5	5.0	24.0	1.0	7.0	6.3	2.5	2.0	4.5	1.0
Wisconsin	6.0	4.4	7.2	7.2	4.6	5.9	5.0	3.0	20.0	5.0	45.0	2.0	4.0	12.0	10.0	16.0	4.0	3.0
Minnesota							8.0	3.0	25.0	15.0	18.0	3.5	14.0	12.4	7.0	12.0	15.0	5.0
Iowa	4.0	28.1	4.0	18.3	3.5	11.6	2.0	1.0	18.0	62.0	13.0	.4	6.0	14.6	1.0	2.0	5.0	2.5
Missouri	9.0	17.5	3.0	23.2	1.5	10.8	1.4	2.5	20.0	22.0	1.0	.6	9.0	8.1	2.0	3.7	1.8	7.0
South Dakota							14.0	3.0	9.0	34.0	20.0	5.0	15.0	14.3	7.5	6.0	40.0	10.7
Nebraska	7.2	28.5	10.0	10.5	2.0	11.6	4.0	1.0	4.0	75.0	10.0	.3	8.0	14.6	2.0	12.0	25.0	3.0
Kansas	8.0	30.7	27.0	18.0	6.0	17.9	4.5	3.5	5.0	53.0	29.0	.4	16.0	15.9	8.0	27.0	28.0	4.5
Kentucky	5.5	6.5	3.9	13.0	5.0	6.8	2.3	7.0	6.0	16.0	2.0	1.0	14.0	6.9	3.5	3.0	3.5	25.0
Tennessee	3.0	6.4	4.3	5.6	3.2	4.5	2.0	4.5	4.5	35.0	2.0	1.8	14.0	9.1	2.0	2.0	2.5	14.0
Alabama	5.0	6.7	6.2	7.0	4.3	5.8	8.0	5.0	6.0	30.0	3.0	2.0	3.0	8.1	5.0	6.0	7.0	26.0
Mississippi	0	0	10.0	17.0	2.5	5.9	15.0	10.0	6.0	25.0	5.0	5.0	10.0	10.9	20.0	5.0	8.0	50.0
Texas	37.0	3.3	7.0	1.5	11.0	12.0	5.0	.5	33.0	25.0	45.0	3.0	10.0	17.4	4.0	41.0	8.0	2.0
Oklahoma	7.5	5.0	34.0	10.5	7.0	12.8	3.0	.5	5.0	17.0	20.0	.1	13.0	8.4	4.0	24.0	9.0	2.0
Arkansas	3.0	3.3	5.0	7.0	2.4	4.1	2.5	2.0	5.0	5.0	1.0	1.7	6.0	3.3	4.0	3.5	4.0	5.0
Montana	15.5	15.0	5.4	3.7	7.0	9.3	5.0	5.0	25.0	22.0	12.0	4.5	22.0	13.6	15.0	9.0	18.0	6.0
Wyoming	2.9	4.5	7.7	8.7	4.6	5.7	4.0	2.0	5.0	15.0	10.0	4.0	6.0	6.6	8.0	11.0	17.0	3.0
Colorado	6.0	10.0	11.4	7.8	5.1	8.1	8.0	3.0	8.0	20.0	7.0	1.0	12.0	8.4	8.0	20.0	33.0	4.5
New Mexico	0	0	0	10.9	14.2	5.0	7.0	2.5	8.0	28.0	35.0	5.0	15.0	14.4	10.0	60.0	50.0	10.0
Arizona	0	0	0	15.0	5.0	4.0	5.0	3.5	6.0	10.0	13.0	5.0	5.0	6.8	10.0	1.0	8.0	2.0
Utah	9.0	5.0	2.6	7.1	8.5	6.4	3.0	3.0	2.0	5.0	2.0	4.5	4.0	3.4	4.0	2.0	2.5	2.0
Nevada	5.0	0	5.9	5.0	13.3	5.8	4.5	4.0	3.0	5.0	1.0	5.0	12.0	4.9	8.0	1.0	2.0	2.0
Idaho	4.2	4.0	4.7	3.8	5.0	4.3	2.0	4.0	5.5	10.0	4.0	2.0	10.0	5.4	3.0	6.0	4.0	4.0
Washington	4.0	7.6	4.9	4.5	5.6	5.3	4.5	4.0	20.0	33.0	5.0	3.0	20.0	12.8	2.0	7.0	5.0	18.0
Oregon	3.0	6.0	3.9	1.6	5.0	3.9	2.0	2.5	2.0	11.0	2.0	1.5	3.0	3.4	1.0	4.0	3.0	1.0
California	16.3	5.2	8.0	8.0	30.0	13.5	5.0	5.0	20.0	20.0	15.0	10.0	16.0	13.0	28.0	8.7	8.0	54.0
United States	7.4	13.7	10.7	20.0	5.0	11.4	3.1	2.6	11.6	28.9	13.2	1.1	12.3	10.4	4.7	14.4	14.3	7.5

Division of Crop and Livestock Estimates.

[1] Based on percentages reported abandoned to May 1 by crop reporters. Total for season used in December estimate may be greater or less.

TABLE 11.—*Wheat: Monthly marketings by farmers, 1917–1923*

Year beginning July 1	Percentage of year's receipts as reported by about 3,500 mills and elevators												
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season
1917	7.4	12.4	19.3	18.0	13.7	7.6	4.7	3.9	3.7	4.1	3.1	2.1	100.0
1918	17.6	19.9	18.0	13.8	8.7	7.3	4.6	3.1	2.0	1.6	1.9	1.5	100.0
1919	17.1	23.2	15.6	11.1	7.5	5.7	4.2	3.0	2.9	3.1	3.4	3.2	100.0
1920	12.1	14.3	15.9	10.6	6.9	6.2	5.5	5.3	4.9	5.0	6.4	6.9	100.0
1921	19.1	18.2	16.4	10.6	6.8	5.4	4.4	4.9	3.9	3.2	3.5	3.6	100.0
1922	14.8	17.3	14.2	12.0	8.6	7.4	5.5	5.1	4.3	3.7	3.4	3.7	100.0
1923	13.4	17.6	16.7	13.7	9.5	6.2	4.6	4.8	3.3	2.9	3.7	3.6	100.0

Division of Crop and Livestock Estimates.

TABLE 12.—*Wheat: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE										
NORTH AMERICA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Canada	9,945	23,261	22,423	22,672	22,505	19.8	12.9	17.8	20.9	12.1
United States	47,097	63,696	62,317	59,659	54,209	14.7	12.8	13.9	13.4	16.1
Mexico	[1] 2,174		1,419	1,138				9.6	12.0	
Total North America comparable 1909–1913	59,216		86,159	83,469						
Total North America comparable 1924	57,042	86,957	84,740	82,331	76,714					
EUROPE										
United Kingdom:										
England and Wales	1,787	1,976	1,967	1,740	1,545	31.2	35.3	31.2	31.5	33.2
Scotland	57	65	65	59	50	39.9	39.5	38.8	39.3	
Ireland	43	43	41	39		37.0	33.7	34.6	32.5	
Norway	12	41	25	26	25	25.5	23.7	25.7	22.6	22.2
Sweden	255	358	356	363	323	31.8	34.5	26.4	30.5	22.5
Denmark	[2] 154	220	237	205	149	41.1	50.7	39.0	43.2	
Netherlands	138	180	150	154	119	36.1	47.6	41.1	40.3	36.3
Belgium	[2] 404	343	300	345	340	37.6	42.3	35.4	38.8	37.1
Luxemburg	27	29	23	16	18	22.8	21.4	7.5	18.8	14.5
France	[2] 16,500	13,300	13,072	13,672	13,412	19.7	24.3	18.6	20.2	21.1
Spain	9,547	10,386	10,309	10,488	10,355	13.7	14.0	12.2	15.2	11.9
Portugal	[3] 1,211	1,267	1,123	1,055			7.4	8.7	12.3	
Italy	[2] 11,793	[2] 11,877	11,489	11,554	11,280	15.6	16.3	14.1	19.5	15.1
Switzerland	105	117	103	105	104	31.6	30.5	22.8	34.2	29.9
Germany	[2] 4,029	3,561	3,396	3,653	3,624	32.6	30.3	21.2	29.1	25.7
Austria	[2] 635	378	460	475	481	20.2	17.3	16.1	18.7	18.8
Czechoslovakia	[2] 1,718	1,556	1,675	1,507	1,500	22.0	24.9	20.1	24.0	22.9
Hungary	[2] 3,712	2,888	3,522	3,320	3,499	19.3	18.3	15.5	20.4	14.4
Yugoslavia	[2] 3,982	3,699	3,673	3,843	4,071	15.6	14.0	12.1	15.9	17.2
Greece	[2 4] 1,134	988	890	1,071		14.4	11.3	10.7	12.5	
Bulgaria	[2] 2,409	2,233	2,226	2,303	2,462	15.7	13.1	16.9	15.7	11.5
Rumania	[2 5] 9,515	6,149	6,547	6,648	7,839	16.7	12.8	14.1	15.4	9.5
Poland	[2] 3,350	2,093	2,585	2,514	2,658	19.0	17.9	16.4	19.8	12.4
Lithuania	[2] 211	179	194	202	210	15.5	15.9	16.9	14.7	16.9
Latvia	[2] 85	46	70	104	106	17.4	17.0	13.7	15.8	15.5
Esthonia	[2] 23	31	52	56		15.8	13.8	14.6	13.2	
Finland	8	28	38	40	37	17.1	16.0	18.7	11.8	18.8
Russia, including Ukraine and Northern Caucasia	[2] 57,420	27,326	17,257	22,192		10.6	4.8	10.8		
Total Europe comparable 1909–1913	130,264	91,357	81,845	87,749						
Total Europe comparable 1924	70,433	61,702	62,482	63,336	64,207					
AFRICA										
Morocco	(1,700)	1,960	2,068	2,249	2,332		6.2	8.9	10.8	
Algeria	3,520	3,009	3,035	3,166	3,451	10.0	9.4	5.6	11.5	50.3
Tunis	1,310	1,492	1,072	1,559	1,108	4.8	7.1	3.4	6.4	4.7
Egypt	1,314	1,458	1,518	1,537	1,416	25.6	25.4	24.1	26.5	24.1
Total Africa comparable 1909–1913	7,844	7,919	7,693	8,511	8,307					
Cyprus		196	191	191			12.1	13.1	13.7	
India	29,224	25,784	28,207	30,844	31,178	12.0	9.7	13.0	12.1	11.7
Russia (Asiatic)	16,789	10,985	6,027	5,928		9.0	6.8	9.5		
Japanese Empire:										
Japan	1,179	1,264	1,229	1,196	1,149	21.3	22.6	23.9	22.2	22.1
Chosen	574	871	890	875		12.0	12.8	11.8	9.8	
Formosa	15	13	10	8		11.3	8.5	9.1	9.6	
Kwantung	[3] 4	4	4			10.0	15.5	12.0		
Total Asia comparable 1909–1913	47,785	38,921	36,367							
Total Asia comparable 1924	30,403	27,048	29,436	32,040	32,327					
Total Northern Hemisphere comparable 1909–1913	245,109		212,064							
Total Northern Hemisphere comparable 1924	165,722	183,626	184,351	186,218	181,555					

TABLE 12.—*Wheat: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Acreage					Yield per acre				
	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE										
Peru	[1] 192	232	213	.....	.....	.....	12.9	.....	.....	.....
Chile	1,003	1,345	1,473	1,379	1,399	20.0	17.6	17.6	20.0	.....
Uruguay	[5] 791	812	663	1,056	1,052	8.2	12.2	7.8	11.8	.....
Argentina	16,051	14,240	16,254	17,215	17,755	9.2	13.4	12.0	14.3	10.7
Union of South Africa [6]	[4] 803	992	.....	.....	.....	7.5	8.5	.....	.....	.....
Australia	7,603	9,719	9,764	9,498	10,775	11.9	13.3	11.2	13.2	.....
New Zealand	241	353	276	174	170	28.7	29.9	30.4	24.4	.....
Total Southern Hemisphere comparable 1909–1913	26,684	27,693	.....	.....	.....	.....	.....	.....	.....	.....
Total Southern Hemisphere comparable 1924	25,689	26,469	28,430	29,322	31,151	.....	.....	.....	.....	.....
World total comparable 1909–1913	271,793	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable 1924	191,411	210,095	212,781	215,540	212,706	.....	.....	.....	.....	.....

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[1] Two-year average.
[2] Estimated for present territory.
[3] Three-year average.
[4] One year only.
[5] Four-year average.
[6] Excluding native locations.

TABLE 13.—*Wheat: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Average 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada	197,119	300,858	399,786	474,199	271,622
United States	690,108	814,905	867,598	797,381	872,673
Mexico	[1] 11,481	.....	13,626	13,657	13,962
Total North America comparable 1909–1913	898,708	.....	1,281,010	1,285,237	1,158,257
EUROPE					
United Kingdom:					
England and Wales	55,770	69,776	61,312	54,872	51,259
Scotland	2,273	2,568	2,520	2,320	.....
Ireland	1,597	1,451	1,417	1,269	.....
Norway	306	972	643	587	554
Sweden	8,103	12,335	9,381	11,082	7,279
Denmark	[2] 6,332	11,145	9,249	8,858	.....
Netherlands	4,976	8,562	6,161	6,211	4,316
Belgium	[2] 15,199	14,495	10,615	13,376	12,612
Luxemburg	615	621	173	301	261
France	[2] 325,644	323,467	243,315	275,569	282,335
Spain	130,446	145,150	125,469	157,110	122,884
Portugal	[3] 11,850	9,418	9,782	12,964	8,630
Italy	[2] 184,393	194,071	161,641	224,836	169,779
Switzerland	3,314	3,574	2,348	3,593	3,112

[1] Four-year average.
[2] Estimated for present territory.
[3] One year only.

TABLE 13.—*Wheat: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

[Thousand bushels—i. e., 000 omitted]

Country	Average 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE—Continued					
EUROPE—continued					
Germany	[2] 131,274	107,798	71,933	106,448	93,216
Austria	[2] 12,813	6,530	7,422	8,889	9,042
Czechoslovakia	[2] 37,879	38,682	33,621	36,226	34,293
Hungary	[2] 71,493	52,715	54,729	67,705	50,386
Yugoslavia	[2] 62,024	51,809	44,472	61,069	70,062
Greece	[2 3] 16,273	11,170	9,553	13,356	9,661
Bulgaria	[2] 37,823	29,239	37,704	36,223	28,319
Rumania	[1 2] 158,672	78,563	92,007	102,311	74,332
Poland	[2] 63,675	37,409	42,451	49,735	32,859
Lithuania	[2] 3,264	2,840	3,274	2,965	3,541
Latvia	[2] 1,475	784	958	1,641	1,642
Esthonia	[2] 364	427	761	737	----
Finland	137	447	710	473	696
Russia, including Ukraine and Northern Caucasia	[2] 607,828	130,071	185,185	----	----
Total Europe comparable 1909–1913	1,955,802	1,346,089	1,228,806	----	----
Total Europe comparable 1924	1,337,418	1,200,427	1,029,674	1,247,542	1,071,070
AFRICA					
Morocco	(17,000)	23,241	12,894	20,050	25,170
Algeria	35,161	28,177	16,986	36,394	17,355
Tunis	6,224	10,619	3,674	9,921	5,181
Egypt	33,662	37,010	36,648	40,654	34,186
Total Africa comparable 1909–1913	92,047	99,047	70,202	107,019	81,892
ASIA					
Cyprus	2,216	2,380	2,496	2,611	----
India	351,841	250,357	366,987	372,661	364,149
Russia (Asiatic)	151,113	74,589	57,320	----	----
Japanese Empire:					
Japan	25,088	28,575	29,315	26,578	25,406
Chosen	6,898	11,111	10,532	8,599	10,605
Formosa	169	110	91	77	----
Kwantung	[4] 40	62	48	----	----
Total Asia comparable 1909–1913	537,365	367,184	466,789	----	----
Total Asia comparable 1924	383,827	290,043	406,834	407,838	400,160
Total Northern Hemisphere comparable 1909–1913	3,483,922	----	3,046,807	----	----
Total Northern Hemisphere comparable 1924	2,712,000	----	2,787,720	3,047,636	2,711,379

Country	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE					
Peru	[3] 2,866	3,001	----	----	----
Chile	20,062	23,636	25,937	27,521	----
Uruguay	[1] 6,517	9,944	5,152	12,493	----
Argentina	147,059	191,012	195,842	247,036	190,330
Union of South Africa [5]	[3] 6,034	8,419	6,059	6,027	----
Australia	90,497	129,089	109,455	125,545	----
New Zealand	6,925	10,565	8,395	4,250	----
Total Southern Hemisphere comparable 1909–1913	279,960	375,666	----	----	----
Total Southern Hemisphere comparable 1924	147,059	191,012	195,842	247,036	190,330
World total comparable 1909–1913	3,763,882	----	----	----	----
World total comparable 1924	2,859,059	----	2,983,562	3,294,672	2,901,709

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[1] Four-year average.
[2] Estimated for present territory.
[3] One year only.
[4] Three-year average.
[5] Excluding native locations which produced 359,000 bushels in 1918 and 290,000 bushels in 1921.

TABLE 14.—*Wheat: World production, 1890–1924*

[Thousand bushels—i. e., 000 omitted]

Year	Production in countries reporting all years 1890–1924	Production as reported	Estimated world total	Selected countries						
				Russia [1]	Italy	France	India	Argentina	Australia	Canada
1890	1,475,141	1,957,335	2,090,927	213,060	131,442	329,713	228,592	31,048	27,118	.....
1891	1,581,975	2,016,036	2,170,514	181,450	141,465	214,981	256,704	36,008	25,675	.....
1892	1,633,263	2,192,472	2,319,194	266,055	115,685	310,728	227,500	58,532	32,760	.....
1893	1,648,461	2,443,072	2,557,764	481,758	135,228	277,751	285,567	82,232	37,143	.....
1894	1,730,605	2,357,727	2,515,616	477,199	121,595	344,180	271,375	61,361	27,856	.....
1895	1,574,080	2,276,811	2,440,445	309,660	117,762	339,595	261,293	46,407	18,270	.....
1896	1,628,012	2,328,627	2,468,629	412,038	145,233	340,268	200,866	31,599	20,880	.....
1897	1,561,792	2,112,010	2,233,593	340,170	86,919	242,227	200,229	53,388	28,241	.....
1898	2,113,124	2,867,948	3,012,350	459,289	137,345	364,906	269,113	104,981	41,418	.....
1899	1,929,387	2,643,177	2,773,061	454,145	137,912	365,449	255,273	101,654	39,978	.....
1900	1,787,154	2,478,739	2,633,405	422,994	147,341	325,542	200,000	74,752	48,353	.....
1901	2,017,031	2,701,163	2,900,167	427,782	181,512	310,913	264,825	56,379	38,562	.....
1902	1,983,191	2,913,652	3,117,721	607,370	150,648	327,898	227,380	103,758	12,378	.....
1903	2,136,988	3,111,340	3,272,810	621,459	203,191	362,968	297,601	129,671	74,150	.....
1904	2,017,180	3,006,388	3,144,436	666,752	184,819	299,639	359,936	150,743	54,536	.....
1905	2,110,003	3,130,443	3,309,345	636,287	176,735	334,838	283,076	134,930	68,521	.....
1906	2,279,413	3,253,930	3,493,206	543,481	194,372	328,697	319,950	155,991	66,421	.....
1907	2,158,965	3,012,480	3,189,191	570,570	195,475	381,223	317,061	192,487	44,656	.....
1908	2,000,064	3,077,785	3,171,263	627,698	167,917	316,684	228,689	156,162	62,591	112,434
1909	2,216,491	3,551,056	3,625,128	846,166	190,378	359,174	285,197	131,010	90,414	166,744
1910	2,091,735	3,477,180	3,575,891	836,242	153,403	252,963	359,647	145,981	95,112	132,049
1911	2,232,327	3,522,157	3,570,369	563,485	192,395	322,339	375,629	166,190	71,636	230,924
1912	2,326,048	3,782,788	3,857,488	801,497	165,720	334,333	370,515	187,391	91,981	224,159
1913	2,334,362	4,011,754	4,087,654	1,027,662	214,772	319,370	368,219	104,723	103,344	231,717
1914	2,627,111	3,588,988	3,625,388	[2] 827,756	169,582	282,689	312,368	169,166	24,892	161,280
1915	2,579,924	4,144,659	4,166,259	[2] 826,784	170,541	222,776	376,992	169,019	179,066	393,543
1916	1,968,736	2,515,591	3,288,291	.....	176,530	204,908	323,045	84,121	152,420	262,781
1917	1,965,624	2,426,838	3,133,838	.....	139,999	[3] 137,096	382,144	234,818	114,734	233,743
1918	2,337,111	2,774,877	3,147,677	.....	183,294	[3] 228,688	370,421	180,182	75,638	189,075
1919	2,190,147	2,668,701	2,997,051	.....	169,769	[3] 187,091	280,261	216,954	45,975	193,260
1920	2,202,538	2,892,988	3,033,438	[3] 318,197	141,337	[3] 236,929	377,888	156,133	145,874	263,189
1921	2,300,742	3,303,749	3,316,749	[3] 204,660	[3] 194,071	[3] 323,467	250,357	191,012	129,089	300,858
1922	2,259,581	3,397,648	3,400,448	[3] 242,505	[3] 161,641	[3] 243,315	366,987	195,842	109,455	399,786
1923	2,438,242	3,486,381	3,742,541	.....	[3] 224,836	[3] 275,569	372,661	247,036	125,545	474,199
1924 [4]	.....	3,048,679	.....	.....	[3] 169,779	[3] 282,335	364,149	190,330	.....	271,622

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[1] Includes all Russian territory reporting for years named.
[2] Excludes Poland.
[3] New boundaries, and therefore not comparable with earlier years.
[4] Preliminary.

TABLE 15.—*Wheat: Supply and distribution and per capita disappearance in the United States*

[Thousand bushels—i. e., 000 omitted]

Item	Year beginning July 1						
	Average, 1899–1908	Average, 1909–1913	Average, 1914–1920	1921	1922	1923	1924
Supply:							
Stocks on farms, July 1	46,423	28,872	32,631	56,707	32,359	35,894	30,696
Stocks in country mills and elevators, July 1	27,000	29,000	26,997	26,767	28,756	37,117	34,435
Commercial visible (Bradstreet's), July 1	31,817	24,168	19,290	9,966	20,342	29,403	38,597
Stocks of flour (in terms of wheat), July 1	7,114	8,024	8,240	6,651	7,461	10,048	9,207
New crop	677,927	690,108	844,605	814,905	867,598	797,381	872,673
Imports (flour included), July 1 to June 30	746	1,808	19,746	17,252	19,945	28,045	.....
Total supply	791,027	781,980	951,509	932,648	976,461	937,888	.....

TABLE 15.—*Wheat: Supply and distribution and per captia disappearance in the United States*—Continued

[Thousand bushels—i. e., 000 omitted]

Item	Year beginning July 1						
	Average, 1899–1908	Average, 1909–1913	Average, 1914–1920	1921	1922	1923	1924
Distribution:							
Exports (flour included), July 1–June 30	152,623	104,967	255,011	279,407	221,923	156,430	.....
Reexports, July 1–June 30	397	195	561	383	208	88	.....
Shipments (flour included) to Alaska, Hawaii, Porto Rico	1,722	2,445	2,476	2,576	2,787	2,851	.....
Estimated seed requirements	70,444	72,326	88,312	96,249	91,413	79,378	.....
Carryover on June 30—							
On farms	40,654	32,485	36,127	32,359	35,894	30,696	.....
In country mills and elevators [1]	25,400	31,600	26,449	28,756	37,117	34,435	.....
Commercial visible (Bradstreet's)	28,668	25,326	18,265	20,342	29,403	38,597	.....
Flour (in terms of wheat) [1]	6,986	8,628	7,938	7,461	10,048	9,207	.....
Total distribution	326,894	277,972	435,139	467,533	428,793	351,682	.....
Disappearance for food, feed, and loss	464,133	504,008	516,370	465,115	547,668	586,206	.....
Population, Jan. 1	82,614	94,378	102,880	108,541	109,956	111,371	.....
Per capita disappearance, food, feed, and loss, bushels	5.6	5.3	5.0	4.3	5.0	5.3	.....

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[1] Compiled from Chicago Daily Trade Bulletin. Stocks in country mills and elevators, from 1899–1918, are stocks in second hands less visible supply on July 1, as given by Chicago Daily Trade Bulletin.

TABLE 16.—*Wheat: Farm stocks, shipments, and quality, 1895–1924*

Year beginning July 1	Stocks in mills and elevators July 1 [1]	Old stocks on farms July 1 [2]	Crop.			Total supplies (except visible)	Stocks on farms Mar. 1, following [2]	Stocks in mills and elevators Mar. 1, following [1]	Shipped out of county where grown [5]
			Quantity	Weight per bushel [3]	Quality [4]				
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*Pounds.*	*Per cent.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1895	.....	29,007	569,456	58.3	85.7	598,463	151,395	.....	334,557
1896	.....	48,524	544,193	57.6	84.4	592,717	113,139	.....	284,315
1897	.....	29,239	610,254	57.1	.....	639,493	138,068	.....	308,298
1898	.....	20,196	772,163	57.7	87.9	792,359	224,575	.....	453,675
1899	.....	71,861	636,051	56.9	83.7	707,912	183,286	.....	351,662
1900	.....	58,363	602,708	56.3	87.8	661,071	147,674	.....	322,982
1901	.....	35,140	788,638	57.5	88.8	823,778	181,673	.....	389,275
1902	.....	54,616	724,808	57.6	.....	779,424	174,664	.....	420,279
1903	.....	45,262	663,923	57.3	.....	709,185	136,811	.....	386,589
1904	.....	37,422	596,911	57.4	.....	634,333	118,172	.....	327,960
1905	.....	25,545	726,819	57.5	.....	752,364	163,866	.....	428,000
1906	.....	47,393	756,775	58.3	.....	804,168	211,910	.....	447,589
1907	.....	55,438	637,981	58.2	89.9	693,419	148,392	.....	377,999
1908	.....	33,188	644,656	58.3	89.4	677,844	137,628	.....	392,441
1909	.....	14,171	700,434	57.9	90.4	714,605	163,371	.....	428,262
1910	.....	36,725	635,121	58.5	93.1	671,846	162,705	98,597	352,906
1911	.....	34,071	621,338	57.8	88.3	655,409	122,041	95,710	348,739
1912	.....	23,876	730,267	58.3	90.0	754,143	156,471	118,400	449,881
1913	.....	35,515	763,380	58.7	93.2	798,895	151,795	93,627	411,733
1914	.....	32,236	891,017	58.0	89.7	923,253	152,903	85,955	541,198
1915	.....	28,972	1,025,801	57.9	88.4	1,054,773	244,448	155,027	633,380
1916	.....	74,731	636,318	57.1	87.0	711,049	100,650	89,173	361,088
1917	.....	15,611	636,655	58.5	92.4	652,266	107,745	66,138	325,500
1918	.....	8,063	921,438	58.8	93.1	929,501	128,703	107,037	541,666
1919	19,672	19,261	967,979	56.3	82.1	1,006,912	169,904	123,233	591,552
1920	37,304	49,546	833,027	57.4	88.9	919,877	217,037	87,075	491,035
1921	27,167	56,707	814,905	57.0	85.8	898,779	134,253	75,071	502,470
1922	28,756	32,359	867,598	57.7	87.6	928,713	155,474	102,908	584,089
1923	37,117	35,894	797,381	57.4	87.5	870,392	135,943	98,283	505,785
1924 [6]	34,435	30,980	872,673	58.9	93.1	938,088	.....	.....	.....

Division of Crop and Livestock Estimates. Prior to 1918 stocks in mills and elevators not included.

[1] Based on percentage of crop as estimated by about 3,500 mill and elevator operators.
[2] Based on percentage of crop on farms as estimated by crop reporters.
[3] Based on estimates of crop reporters on Nov. 1.
[4] Percentage of "a high medium grade" as estimated by crop reporters at time of harvest
[5] Based on percentage shipped out as estimated by crop reporters.
[6] Preliminary.

TABLE 17.—*Wheat: Receipts and shipments, 11 primary markets, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning July 1	Chicago		Milwaukee		Minneapolis		Duluth		St. Louis		Toledo	
	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments
1909	27,542	20,586	8,482	2,757	92,833	20,546	54,687	50,280	22,064	19,622	4,426	1,474
1910	27,400	17,259	10,062	7,875	90,774	20,866	28,628	25,352	20,127	20,082	4,122	1,556
1911	35,563	30,003	8,497	3,411	96,889	52,745	30,598	25,571	15,336	12,790	6,930	4,644
1912	44,168	43,325	10,337	5,685	126,161	32,761	83,530	75,435	38,792	27,179	4,734	2,475
1913	50,884	47,905	6,372	3,442	103,679	28,994	62,799	64,799	27,244	22,242	5,802	3,704
Average 1909–1913	37,111	31,816	8,750	4,634	102,067	31,182	52,048	48,287	24,713	20,383	5,208	2,771
1914	107,708	91,112	9,550	7,010	112,716	39,510	62,268	59,867	34,196	26,913	7,089	4,168
1915	85,819	61,531	7,337	3,505	163,202	54,932	95,674	82,540	42,226	31,046	9,965	5,571
1916	56,708	47,342	10,595	8,099	119,701	39,689	30,978	36,789	41,024	33,080	5,719	2,590
1917	13,735	8,118	13,138	1,336	82,229	19,072	16,602	13,646	17,023	13,234	4,583	1,379
1918	54,533	67,122	15,535	12,575	117,787	38,174	88,383	86,932	42,547	25,621	5,940	1,345
1919	74,167	57,215	7,006	3,674	119,419	37,468	18,317	13,664	45,266	32,956	8,046	2,285
1920	30,615	27,886	4,424	2,556	118,579	50,724	45,083	43,272	45,316	31,479	5,052	1,409
Average 1914–1920	60,469	51,475	9,655	5,536	119,090	39,938	51,044	48,101	38,228	27,761	6,628	2,677
1921	51,548	45,803	9,676	7,464	105,343	43,237	49,226	49,843	39,009	29,404	6,753	3,622
1922	51,660	44,203	3,681	3,145	133,830	48,648	65,541	55,036	40,605	33,561	10,472	5,524
1923	49,804	31,683	2,307	2,397	105,958	46,425	38,201	36,270	33,119	25,829	15,401	6,851
1923												
July	8,559	1,990	299	216	5,120	3,108	3,136	4,789	5,778	2,777	711	87
August	21,380	7,558	249	111	10,705	4,444	3,233	3,938	5,826	4,535	2,223	192
September	6,211	6,496	361	147	15,245	5,661	8,606	5,065	3,027	2,929	665	166
October	2,774	1,748	278	212	14,652	4,689	5,067	3,587	3,139	2,477	1,361	647
November	1,519	2,180	191	191	14,925	5,074	5,883	3,305	2,311	1,819	3,248	1,340
December	1,335	1,286	228	216	10,169	4,006	3,073	4,049	2,334	1,721	3,995	1,160
1924												
January	1,197	1,781	126	208	5,630	2,940	1,417	918	1,850	1,512	347	369
February	1,512	954	163	195	7,624	3,044	1,018	636	2,265	2,018	675	663
March	1,610	993	148	209	7,533	3,585	1,473	847	1,654	1,648	465	633
April	983	2,004	81	260	3,659	2,863	1,213	1,452	1,482	1,393	113	933
May	1,245	2,918	54	270	4,618	3,262	1,716	3,995	1,731	1,472	1,241	591
June	1,479	1,775	129	162	6,078	3,749	2,366	3,689	1,722	1,528	357	70
July	3,590	1,809	165	200	5,523	3,234	2,264	3,426	3,693	1,843	580	207
August	28,347	17,809	2,310	1,536	6,720	4,471	2,704	2,506	8,774	4,633	2,801	91
September	15,059	16,268	2,254	2,072	21,076	7,608	16,764	10,034	5,567	4,142	1,721	953
October	8,102	11,005	1,656	1,672	16,859	10,388	32,784	28,013	5,354	4,304	1,702	694
November	3,363	2,963	1,163	830	11,909	6,507	27,633	27,804	3,345	2,885	1,798	145
December	2,638	3,238	181	576	9,865	3,861	10,063	11,916	2,876	2,928	1,494	216

TABLE 17.—*Wheat: Receipts and shipments, 11 primary markets, 1909–1924*—Continued

[Thousands of bushels, i. e., 000 omitted]

Year beginning July 1	Detroit		Kansas City		Peoria		Omaha		Indianapolis		Total	
	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments
1909	1,821	167	34,092	22,057	1,304	1,002	(1)	(1)	(1)	(1)	247,251	138,491
1910	2,003	105	40,537	26,709	1,225	1,074	(1)	(1)	(1)	(1)	224,878	120,878
1911	2,861	401	23,627	16,970	1,518	1,106	11,030	9,690	176	173	233,025	157,504
1912	977	715	48,374	33,415	1,951	1,616	20,193	13,133	1,560	462	380,777	236,201
1913	1,442	842	32,152	23,730	1,629	1,424	16,453	11,958	1,898	812	310,354	209,852
Average 1909–1913	1,821	446	35,756	24,576	1,525	1,244	15,892	11,594	1,211	482	279,257	172,585
1914	2,763	2,012	77,745	65,650	3,786	3,527	17,767	11,639	3,028	916	438,616	312,324
1915	2,809	1,580	70,442	51,632	4,503	5,336	25,613	16,215	4,851	1,967	512,441	315,855
1916	2,724	1,082	68,720	62,878	2,870	2,468	31,194	29,221	2,890	929	373,123	264,167
1917	1,597	260	22,226	8,255	2,195	1,422	8,565	6,096	2,990	1,192	184,883	74,010
1918	1,608	306	54,106	35,696	3,405	3,371	19,730	15,115	6,477	2,080	410,051	288,340
1919	1,688	289	92,215	55,673	3,663	4,285	26,585	21,992	7,471	1,340	403,843	230,841
1920	1,656	149	87,148	64,637	2,199	2,011	28,192	24,372	4,491	458	372,755	248,944
Average 1914–1920	2,121	811	67,515	49,203	2,232	3,203	22,521	17,807	4,600	1,269	385,102	247,783
1921	1,578	234	90,574	69,085	2,564	1,709	25,310	25,559	4,056	890	385,637	276,850
1922	1,797	80	77,684	52,464	4,355	4,070	25,356	19,505	5,185	909	420,166	267,145
1923	1,884	120	60,516	33,053	2,221	1,678	17,896	13,441	6,081	1,450	333,388	199,197
1923												
July	117	6	9,001	3,347	275	202	1,386	856	966	4	35,348	17,382
August	288	8	12,284	3,467	654	471	2,493	1,183	2,121	250	61,456	26,157
September	155	10	5,947	3,216	257	141	2,295	1,290	522	351	43,291	25,472
October	253	11	6,355	3,072	241	188	2,514	1,971	452	119	37,086	18,721
November	210	5	5,712	2,651	134	78	1,409	1,183	186	45	35,728	17,871
December	162	28	4,777	2,263	161	148	1,648	1,201	170	89	28,052	16,167
1924												
January	173	8	3,060	2,306	94	66	924	1,076	221	163	15,039	11,347
February	176	------	4,081	2,078	79	102	1,481	1,192	379	148	19,453	11,030
March	119	9	2,616	2,618	72	61	902	1,115	203	119	16,795	11,837
April	75	28	1,350	2,538	45	52	532	582	247	95	9,780	12,200
May	65	------	2,638	2,985	94	75	1,412	900	325	67	15,139	16,535
June	91	7	2,695	2,512	115	94	900	892	289	------	16,221	14,478
July	43	------	19,732	4,860	100	73	2,032	874	404	11	38,126	16,537
August	203	6	23,698	12,677	670	527	8,541	5,485	1,354	79	86,012	49,820
September	499	102	11,657	10,637	324	328	4,383	4,284	444	115	79,748	56,543
October	224	5	10,677	7,714	214	174	5,183	4,795	335	67	83,090	68,831
November	184	4	5,145	4,933	135	106	1,994	2,626	293	10	56,962	48,813
December	209	4	3,348	5,021	68	49	1,158	1,552	195	136	32,095	29,497

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the Annual Reports of the Chicago Board of Trade.

[1] No report.

TABLE 18.—*Wheat: Estimated requirements, surplus, and deficiency, by States, 1924–25*

[Thousand bushels—i. e. 000 omitted]

Geographic divisions and State	Population Jan. 1, 1925	Estimated per capita consumption		Estimated requirements for food and feed		Estimated seed requirements [3]	Total requirements		Dec. 16, 1924, production estimate	Surplus (+) or deficiency (−) for export and unaccounted disposition, 1924–25	
		1911 [1]	Average 1919–1923 [2]	1911 per capita basis	Average 1919–1923 per capita basis [2]		1911 food and feed basis plus seed	Average 1919–1923 food and feed basis plus seed [2]		1911 per capita basis	Average 1919–1923 per capita basis [2]
New England:											
Maine	781,220	4.7	4.3	3,672	3,359	10	3,682	3,369	130	− 3,552	− 3,239
New Hampshire	449,526	5.0	4.6	2,248	2,068	-------	2,248	2,068	-------	− 2,248	− 2,068
Vermont	351,244	5.4	4.9	1,897	1,721	6	1,903	1,727	60	− 1,843	− 1,667
Massachusetts	4,102,626	5.0	4.6	20,513	18,872	-------	20,513	18,872	-------	− 20,513	− 18,872
Rhode Island	636,218	4.3	3.9	2,736	2,481	-------	2,736	2,481	-------	− 2,736	− 2,481
Connecticut	1,517,562	4.5	4.1	6,829	6,222	-------	6,829	6,222	-------	− 6,829	− 6,222
Middle Atlantic:											
New York	11,040,134	5.4	4.9	59,617	54,097	780	60,397	54,877	6,840	− 53,557	− 48,037
New Jersey	3,474,561	5.0	4.6	17,373	15,983	144	17,517	16,127	1,369	− 16,148	− 14,758
Pennsylvania	9,263,317	5.8	5.3	53,727	49,096	2,295	56,022	51,391	20,020	− 36,002	− 31,371
E. North Central:											
Ohio	6,270,435	6.2	5.6	38,877	35,114	4,261	43,138	39,375	37,313	− 5,825	− 2,062
Indiana	3,048,596	5.7	5.2	17,377	15,853	3,392	20,769	19,245	31,437	+ 10,668	+ 12,192
Illinois	6,921,342	5.6	5.1	38,760	35,299	3,697	42,457	38,996	35,758	− 6,699	− 3,238
Michigan	4,110,423	5.0	4.6	20,552	18,908	1,638	22,190	20,546	20,014	− 2,176	− 532
Wisconsin	2,785,649	5.2	4.7	14,485	13,093	177	14,662	13,270	2,353	− 12,309	− 10,917
W. North Central:											
Minnesota	2,547,511	7.2	6.6	18,342	16,814	2,465	20,807	19,279	36,513	+ 15,706	+ 17,234
Iowa	2,496,337	5.3	4.8	13,231	11,982	867	14,098	12,849	8,628	− 5,470	− 4,221
Missouri	3,461,078	5.2	4.7	17,998	16,267	3,102	21,100	19,369	24,629	+ 3,529	+ 5,260
North Dakota	682,828	7.2	6.6	4,916	4,507	11,725	16,641	16,232	134,618	+117,977	+118,386
South Dakota	663,668	6.5	5.9	4,314	3,916	3,148	7,462	7,064	34,138	+ 26,676	+ 27,074
Nebraska	1,350,015	5.8	5.3	7,830	7,155	4,577	12,407	11,732	57,115	+ 44,708	+ 45,383
Kansas	1,809,588	5.8	5.3	10,496	9,591	12,513	23,009	22,104	153,738	+130,729	+131,634
South Atlantic:											
Delaware	233,654	5.0	4.5	1,168	1,051	226	1,394	1,277	1,616	+ 222	+ 339
Maryland	1,529,137	5.0	4.5	7,646	6,881	905	8,551	7,786	8,532	− 19	+ 746
Dist. of Columbia	492,421	5.3	4.8	2,610	2,364	-------	2,610	2,364	-------	− 2,610	− 2,364
Virginia	2,436,693	4.5	4.1	10,965	9,990	1,140	12,105	11,130	9,628	− 2,477	− 1,502
West Virginia	1,588,637	5.7	5.2	9,055	8,261	314	9,369	8,575	2,574	− 6,795	− 6,001
North Carolina	2,740,841	4.5	4.1	12,334	11,237	546	12,880	11,783	5,544	− 7,336	− 6,239
South Carolina	1,770,415	4.3	3.9	7,613	6,905	133	7,746	7,038	1,476	− 6,270	− 5,562
Georgia	3,043,493	4.0	3.6	12,174	10,957	134	12,308	11,091	850	− 11,458	− 10,241
Florida	1,079,637	4.5	4.1	4,858	4,427	-------	4,858	4,427	-------	− 4,858	− 4,427
E. South Central:											
Kentucky	2,481,896	4.5	4.1	11,169	10,176	840	12,009	11,016	4,340	− 7,669	− 6,676
Tennessee	2,416,732	4.1	3.7	9,909	8,942	512	10,421	9,454	3,570	− 6,851	− 5,884
Alabama	2,456,370	4.0	3.6	9,825	8,843	15	9,840	8,858	80	− 9,760	− 8,778
Mississippi	1,784,605	4.0	3.6	7,138	6,425	6	7,144	6,431	32	− 7,112	− 6,339
W. South Central:											
Arkansas	1,843,750	4.0	3.6	7,375	6,638	74	7,449	6,712	678	− 6,771	− 6,034
Louisiana	1,871,705	4.5	4.1	8,423	7,674	-------	8,423	7,674	-------	− 8,423	− 7,674
Oklahoma	2,219,422	6.0	5.5	13,317	12,207	4,720	18,037	16,927	54,874	+ 36,837	+ 37,947
Texas	5,058,089	5.4	4.9	27,314	24,785	2,022	29,336	26,807	25,826	− 3,510	−981
Mountain:											
Montana	637,904	5.8	5.3	3,700	3,381	4,893	8,593	8,274	51,668	+ 43,075	+ 43,394
Idaho	486,597	6.5	5.9	3,163	2,871	1,059	4,222	3,930	17,828	+ 13,606	+ 13,898
Wyoming	219,347	6.3	5.7	1,382	1,250	244	1,626	1,494	2,131	+ 505	+ 637
Colorado	1,012,044	6.0	5.5	6,072	5,566	2,430	8,502	7,996	21,030	+ 12,528	+ 13,034
New Mexico	377,371	7.9	7.2	2,981	2,717	156	3,137	2,873	2,551	− 586	− 322
Arizona	401,016	7.2	6.6	2,887	2,647	32	2,919	2,679	837	− 2,082	− 1,842
Utah	488,562	6.1	5.6	2,980	2,736	420	3,400	3,156	4,413	+ 1,013	+ 1,257
Nevada	77,147	6.1	5.6	471	432	30	501	462	402	− 99	− 60
Pacific:											
Washington	1,467,162	6.0	5.5	8,803	8,069	2,834	11,637	10,903	27,300	+ 15,663	+ 16,397
Oregon	840,362	6.1	5.6	5,126	4,706	1,964	7,090	6,670	15,450	+ 8,360	+ 8,780
California	3,967,278	5.6	5.1	22,217	20,233	1,070	23,287	21,303	4,770	− 18,517	− 16,533
United States	112,786,165	5.31	4.84	598,465	544,769	81,516	679,981	626,285	872,673	+192,692	+246,388

Division of Statistical and Historical Research.

[1] The consumption figures in this column were obtained by a survey in 1911 by the Bureau of Crop Estimates.

[2] The figures in this column shown for the individual States were computed on the ratio between the United States consumption in 1911 (5.31 bushels) and the per capita disappearance during the five years July, 1919–June 30, 1924 (4.838 bushels). The average disappearance for the latter period was 91.11 per cent of the 1911 disappearance.

[3] The seed requirements are based on the spring acreage of 1924 and the 1924 fall sowing according to the December 16, 1924, estimates. The rate of seeding in each State was applied to the acreage in that State.

TABLE 19.—*Wheat: Visible supply in the United States, 1889–1924*

CHICAGO BOARD OF TRADE [1]

[Thousand bushels, i. e., 000 omitted]

Year beginning July 1	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1889	15,301	12,688	14,386	17,853	25,713	31,471	33,756	31,489	28,996	27,116	23,457	22,453
1890	20,174	18,363	17,640	17,059	21,235	24,529	25,603	23,592	22,926	22,484	20,980	17,493
1891	12,583	16,768	19,124	27,895	36,232	43,265	45,908	43,118	41,111	41,036	37,936	27,910
1892	24,262	23,992	36,260	47,901	61,694	72,580	81,238	81,390	79,088	77,654	75,027	71,080
1893	62,316	59,349	56,881	60,528	71,396	78,091	80,228	79,893	75,569	71,458	66,583	59,394
1894	54,657	60,001	66,949	71,413	80,027	85,159	88,561	83,376	78,761	74,308	62,196	52,229
1895	44,561	38,517	35,438	40,768	52,990	63,903	69,842	66,734	64,089	60,322	55,519	50,340
1896	47,199	46,754	45,574	50,116	58,680	58,914	54,651	49,591	43,797	38,612	34,412	26,897
1897	17,583	17,814	14,817	21,104	26,974	34,845	38,816	36,602	34,088	30,223	23,263	22,587
1898	14,701	9,093	7,147	11,263	15,476	24,115	26,893	28,984	29,477	29,987	28,144	26,185
1899	33,587	36,019	34,768	42,143	51,001	55,778	58,291	54,363	54,084	54,204	52,472	44,704
1900	46,442	47,594	50,294	55,409	60,032	62,179	61,408	59,767	57,234	54,749	46,668	36,932
1901	30,793	30,369	27,790	35,304	41,192	52,396	58,929	57,929	54,093	49,615	38,328	28,604
1902	19,760	21,972	20,966	25,624	32,200	45,082	49,738	48,447	47,807	41,958	33,456	24,528
1903	15,970	13,414	13,203	19,489	22,216	30,140	38,204	39,760	35,599	31,727	30,357	20,603
1904	14,055	13,093	12,814	17,576	26,495	36,860	40,619	38,979	35,565	32,327	28,529	20,034
1905	14,274	13,354	12,140	17,896	29,895	36,943	42,951	48,537	47,283	46,468	41,221	30,811
1906	25,892	29,684	30,054	33,352	37,972	41,557	44,727	44,857	44,884	47,208	51,999	49,729
1907	46,539	48,318	49,459	43,750	43,683	43,477	48,481	46,711	42,906	38,798	30,318	22,818
1908	13,832	16,174	16,297	34,281	48,053	48,973	51,759	44,875	38,213	36,142	29,625	19,786
1909	9,756	7,609	9,166	19,442	27,001	31,086	[2] 27,738	26,463	25,515	29,013	26,228	18,647
1910	12,034	12,375	26,457	34,969	40,120	42,989	44,282	43,251	39,868	34,152	27,605	26,838
1911	23,863	41,316	48,057	52,709	65,199	69,948	70,489	60,425	57,080	51,042	41,722	30,847
1912	23,350	18,841	19,586	31,658	41,712	55,400	65,342	64,913	63,786	58,996	47,157	37,940
1913	30,163	37,677	44,530	52,061	55,105	58,868	63,743	60,806	57,021	51,862	43,378	29,775
Av. 1909–1913	19,833	23,564	29,559	38,168	45,827	51,658	54,319	51,172	48,654	45,013	37,218	28,809
1914	13,248	29,744	31,534	51,586	65,922	74,086	72,861	60,252	49,686	39,323	26,439	19,082
1915	7,948	6,582	7,767	15,900	22,639	48,797	67,311	68,458	63,553	57,387	48,864	44,463
1916	42,628	40,889	54,660	57,418	60,703	62,026	59,534	48,721	44,916	39,317	25,756	28,896
1917	14,209	5,819	5,058	7,789	14,908	21,031	18,936	13,869	9,739	5,381	2,194	1,146
1918	785	17,155	48,821	90,623	122,604	121,561	119,711	130,613	118,219	92,546	49,502	23,702
1919	8,681	20,903	56,828	84,909	96,352	89,742	75,363	60,359	50,875	44,787	42,784	37,101
1920	19,799	17,487	20,758	27,391	35,500	43,127	43,063	34,212	28,159	18,463	13,448	8,334
Av. 1914–1920	15,328	19,797	32,204	47,945	59,804	65,767	65,254	59,498	52,64	42,458	29,855	23,246
1921	8,961	24,658	38,741	52,795	54,333	47,763	49,468	42,280	40,055	35,897	31,281	26,341
1922	17,773	19,667	27,349	32,354	32,278	33,428	37,673	46,776	47,507	45,785	44,521	32,981
1923	26,312	36,693	56,541	63,932	69,189	71,808	74,852	67,162	64,072	59,549	51,461	43,111
1924	34,901	41,734	69,119	81,897	89,902	100,363						

BRADSTREET'S [3]

1909	12,771	12,611	15,514	28,589	37,820	41,688	37,949	36,638	34,461	37,558	33,771	24,795
1910	16,396	17,053	38,352	48,437	53,429	57,002	59,369	56,357	50,566	42,697	34,656	32,769
1911	29,639	46,389	54,581	61,500	73,792	81,215	81,501	70,748	66,982	59,826	48,022	35,994
1912	27,615	23,595	26,862	40,998	52,494	67,575	77,471	76,131	73,895	69,000	53,508	43,697
1913	34,420	43,198	51,980	61,485	66,663	72,061	74,854	71,264	66,191	59,931	49,327	33,662
Av. 1909–1913	24,168	28,569	37,458	48,202	56,838	63,908	66,229	62,228	58,419	53,802	43,857	34,183
1914	17,136	36,456	39,964	61,784	76,262	86,332	85,957	81,776	58,923	46,287	31,407	22,871
1915	10,734	9,361	12,679	22,498	33,338	60,678	80,150	77,834	73,748	66,691	57,658	52,512
1916	50,515	49,591	65,754	70,420	75,455	76,191	73,584	59,477	54,160	48,525	32,831	34,876
1917	19,901	11,692	10,315	13,072	22,855	29,633	26,476	20,436	15,484	10,180	6,656	4,379
1918	2,465	20,462	54,236	98,155	131,852	131,584	129,627	140,607	127,207	100,505	55,247	27,626
1919	10,873	25,968	65,479	95,550	107,783	101,058	85,117	68,494	58,632	51,909	47,756	41,233
1920	23,404	20,226	24,195	32,169	41,596	48,273	47,797	38,475	31,945	22,229	17,584	10,598
Av. 1914–1920	19,290	24,822	38,946	56,235	69,877	76,250	75,530	69,586	60,014	49,475	35,591	27,728
1921	9,966	28,727	47,159	62,758	62,767	53,507	56,776	48,802	46,714	42,287	36,644	31,497
1922	20,342	23,077	32,479	38,025	39,023	39,764	43,856	53,823	54,562	51,862	49,521	37,203
1923	29,403	40,526	63,922	72,930	79,034	82,269	84,030	75,111	72,914	66,739	50,383	48,686
1924	38,597	46,193	79,700	92,353	100,712	108,997						

Division of Statistical and Historical Research.

[1] Compiled from the annual reports of the Chicago Board of Trade to December, 1922. January, 1923, to date from the Chicago Daily Trade Bulletin. Reported on the Saturday nearest the first of the month From 1889 to November 28, 1908 stocks at the principal points in Canada were included. The Chicago Board of Trade "visible" includes grain stored east of the Rockies only. It covers 22 interior and seaboard points of large accumulation and grain in transit by canals and lakes.

[2] From the Chicago Daily Trade Bulletin.

[3] Compiled from Bradstreet's. Includes grain stored at approximately fifty interior and seaboard points of accumulation and grain in transit by canals and lakes; also Pacific Coast stocks at Portland, Tacoma and Seattle. Reported on the Saturday nearest the first of the month.

TABLE 20.—*Wheat crop classified by grades,*[1] *crops of 1922–1924*

SPRING WHEAT

State	No. 1			No. 2			No. 3			No. 4			No. 5			Below No. 5		
	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924
	P.ct	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P ct*	*P.ct*	*P.ct*	*P.ct*
Minnesota	49. 4	14. 7	61. 0	24. 2	22. 1	22. 0	14. 5	28. 0	11. 0	7. 7	18. 5	4. 0	3. 1	11. 8	1. 0	1. 1	4. 9	1. 0
North Dakota	53. 5	10. 5	65. 0	26. 4	18. 9	19. 0	12. 9	29. 4	10. 0	4. 8	22. 7	4. 0	1. 9	12. 1	1. 0	. 5	6. 4	1. 0
South Dakota	51. 8	6. 2	67. 0	25. 2	17. 7	22. 0	15. 3	30. 9	8. 0	5. 6	23. 9	2. 0	1. 7	14. 9	1. 0	. 4	6. 4	----
Nebraska	10. 1	4. 0	19. 0	37. 8	14. 4	44. 0	37. 7	19. 0	21. 0	9. 9	26. 8	10. 0	3. 0	18. 7	3. 0	1. 5	17. 1	3. 0
Montana	84. 0	63. 2	84. 0	12. 1	20. 6	10. 0	3. 1	12. 1	5. 0	. 5	3. 8	1. 0	. 3	. 3	----	----	----	----
Colorado	35. 9	25. 5	41. 0	33. 2	27. 5	39. 0	22. 0	18. 0	11. 0	6. 1	10. 7	5. 0	1. 4	8. 2	2. 0	1. 4	10. 1	2. 0
Utah	31. 0	27. 2	19. 0	44. 9	48. 2	55. 0	18. 3	17. 3	19. 0	4. 3	5. 9	5. 0	1. 1	1. 0	1. 0	. 4	. 4	1. 0
Idaho	35. 5	37. 6	40. 0	49. 7	43. 1	46. 0	10. 9	14. 3	10. 0	2. 0	2. 3	3. 0	. 9	1. 0	1. 0	1. 0	1. 7	----
Washington	7. 2	39. 2	12. 0	29. 6	44. 2	35. 0	30. 7	12. 4	28. 0	20. 0	3. 3	15. 0	9. 2	. 4	6. 0	3. 3	. 5	4. 0
Oregon	27. 6	60. 6	47. 0	38. 5	26. 9	40. 0	23. 2	9. 3	10. 0	6. 2	2. 1	2. 0	2. 5	. 5	1. 0	2. 0	. 6	----
United States	52. 1	18. 8	62. 9	26. 4	26. 4	21. 5	13. 5	24. 1	10. 1	5. 3	16. 3	3. 7	2. 0	8. 8	1. 0	. 7	5. 6	. 8

WINTER WHEAT

State	No. 1			No. 2			No. 3			No. 4			No. 5			Below No. 5		
	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924
	P.ct	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*
New York	17. 3	20. 0	14. 0	53. 1	56. 0	60. 0	23. 2	22. 0	20. 0	3. 7	2. 0	4. 0	1. 6	0	2. 0	1. 1	0	----
Pennsylvania	12. 5	14. 0	13. 0	49. 5	55. 0	47. 0	26. 4	21. 0	28. 0	7. 7	7. 0	9. 0	2. 3	2. 0	2. 0	1. 6	1. 0	1. 0
Maryland	2. 5	9. 0	20. 0	31. 5	68. 0	38. 0	25. 9	17. 0	25. 0	17. 5	4. 0	15. 0	9. 2	1. 0	2. 0	13. 4	1. 0	----
Virginia	7. 7	32. 0	24. 0	44. 7	49. 0	50. 0	31. 4	15. 0	17. 0	11. 2	2. 0	5. 0	3. 7	1. 0	2. 0	1. 3	1. 0	2. 0
North Carolina	11. 8	21. 0	12. 0	50. 3	51. 0	42. 0	26. 0	20. 0	24. 0	6. 2	6. 0	11. 0	. 5	1. 0	4. 0	5. 2	1. 0	7. 0
Ohio	16. 4	27. 0	25. 0	44. 1	58. 0	52. 0	25. 9	12. 0	17. 0	9. 2	2. 0	4. 0	3. 1	1. 0	1. 0	1. 3	0	1. 0
Indiana	7. 9	15. 0	14. 0	50. 2	60. 0	59. 0	28. 3	17. 0	20. 0	9. 6	5. 0	5. 0	2. 6	2. 0	1. 0	1. 4	1. 0	1. 0
Illinois	10. 5	17. 0	13. 0	43. 2	55. 0	52. 0	27. 8	19. 0	22. 0	13. 0	6. 0	8. 0	4. 1	2. 0	3. 0	1. 4	1. 0	2. 0
Michigan	22. 7	25. 0	20. 0	54. 1	59. 0	66. 0	15. 5	11. 0	11. 0	4. 9	3. 0	2. 0	1. 5	1. 0	1. 0	1. 3	1. 0	----
Iowa	11. 6	9. 0	11. 0	60. 7	61. 0	58. 0	21. 5	24. 0	20. 0	4. 4	4. 0	7. 0	1. 2	2. 0	3. 0	. 6	0	1. 0
Missouri	6. 2	15. 0	13. 0	28. 2	43. 0	45. 0	33. 7	26. 0	26. 0	19. 0	10. 0	11. 0	8. 2	4. 0	4. 0	4. 7	2. 0	1. 0
Nebraska	13. 1	6. 0	24. 0	45. 7	31. 0	47. 0	25. 4	34. 0	20. 0	10. 9	19. 0	6. 0	3. 8	7. 0	2. 0	1. 1	3. 0	1. 0
Kansas	6. 4	11. 0	45. 0	29. 0	30. 0	35. 0	34. 7	30. 0	12. 0	19. 0	18. 0	5. 0	7. 8	8. 0	2. 0	3. 1	3. 0	1. 0
Kentucky	3. 0	8. 0	6. 0	24. 2	56. 0	47. 0	30. 5	23. 0	30. 0	23. 2	9. 0	14. 0	11. 4	2. 0	2. 0	7. 7	2. 0	1. 0
Tennessee	4. 2	12. 0	15. 0	27. 4	47. 0	58. 0	35. 3	23. 0	17. 0	19. 2	12. 0	6. 0	8. 4	5. 0	3. 0	5. 5	1. 0	1. 0
Texas	18. 6	28. 0	50. 0	17. 7	41. 0	32. 0	20. 4	19. 0	13. 0	14. 9	7. 0	3. 0	13. 3	3. 0	2. 0	15. 1	2. 0	----
Oklahoma	10. 0	54. 0	52. 0	21. 0	21. 0	29. 0	27. 3	12. 0	13. 0	23. 3	7. 0	4. 0	11. 5	4. 0	1. 0	6. 9	2. 0	1. 0
Montana	79. 1	81. 0	77. 0	15. 6	15. 0	17. 0	4. 1	3. 0	5. 0	. 8	1. 0	1. 0	. 4	0	----	0	0	----
Colorado	26. 1	21. 0	34. 0	40. 0	40. 0	38. 0	21. 4	23. 0	15. 0	7. 1	8. 0	7. 0	3. 6	3. 0	3. 0	1. 8	5. 0	3. 0
Idaho	35. 2	46. 0	36. 0	47. 7	35. 0	37. 0	13. 3	15. 0	20. 0	1. 5	3. 0	6. 0	1. 2	1. 0	1. 0	1. 1	0	----
Washington	8. 9	41. 0	22. 0	44. 5	41. 0	42. 0	31. 1	15. 0	28. 0	11. 3	2. 0	7. 0	2. 7	1. 0	1. 0	1. 5	0	----
Oregon	26. 0	47. 0	36. 0	48. 0	37. 0	41. 0	18. 0	13. 0	14. 0	6. 0	2. 0	8. 0	1. 0	1. 0	1. 0	1. 0	0	----
California	55. 2	37. 0	57. 0	24. 6	45. 0	25. 0	12. 8	12. 0	13. 0	4. 4	4. 0	4. 0	1. 9	1. 0	1. 0	1. 1	1. 0	----
United States	13. 3	20. 8	30. 3	38. 0	42. 8	42. 8	27. 6	21. 7	16. 8	13. 1	9. 2	6. 7	5. 2	3. 7	2. 3	2. 8	1. 8	1. 1

Division of Crop and Livestock Estimates.

[1] Based on percentage estimates of about 3,500 mill and elevator operators.

TABLE 21.—*Wheat: Classification of cars graded by licensed inspectors, all inspection points*

Year beginning July 1	Total of all classes and subclasses under each grade, annual inspections 1917–1923													
	Receipts							Shipments						
	No. 1	No. 2	No. 3	No. 4	No. 5	Sample	Total	No. 1	No. 2	No. 3	No. 4	No. 5	Sample	Total
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1917	60,848	91,143	59,421	23,435	15,766	15,402	266,015	17,926	26,559	17,833	6,503	4,299	3,625	76,745
1918	300,264	203,965	63,827	26,660	10,017	18,247	622,980	246,577	87,173	14,106	4,496	1,519	3,181	357,052
1919	45,427	192,003	187,533	101,279	49,423	28,799	604,464	16,602	143,770	86,744	18,460	6,335	4,648	276,559
1920	153,069	241,339	124,184	49,703	38,367	49,675	656,337	44,837	268,752	44,407	9,889	8,930	7,724	384,539
1921	91,844	269,250	147,537	51,763	27,690	59,290	647,374	21,414	255,512	34,243	7,864	4,753	11,662	335,448
1922	138,020	210,527	131,368	48,466	15,626	38,998	583,005	28,387	226,008	37,610	6,421	2,823	6,495	307,744
1923	107,481	163,393	101,759	43,887	24,069	24,984	465,573	45,617	137,406	28,290	5,605	4,978	5,816	227,712
Class	Total inspections, by grade and class, July 1, 1923, to June 30, 1924													
Hard Red Spring	40,739	17,170	19,700	13,426	9,024	2,771	102,830	28,207	11,473	8,100	2,283	1,455	709	52,227
Durum	2,635	13,070	9,204	3,301	1,097	552	29,859	786	14,512	2,336	372	173	101	18,280
Hard Red Winter	41,961	64,632	39,764	17,012	9,803	11,782	184,949	12,464	59,998	13,136	1,952	2,361	2,553	92,464
Soft Red Winter	8,256	30,458	14,413	4,601	1,590	6,030	65,348	2,024	23,114	2,165	365	260	1,257	29,185
White	6,371	17,815	7,128	845	125	449	32,733	768	14,221	184	9		8	15,190
Mixed	7,519	20,247	11,550	4,702	2,430	3,400	49,848	1,368	14,088	2,369	624	729	1,188	20,366
Year beginning July 1—	Total of all classes and subclasses under each grade, annual inspections 1917–1923													
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1917	22.9	34.3	22.3	8.8	5.9	5.8	100	23.4	34.6	23.2	8.5	5.6	4.7	100
1918	48.2	32.7	10.2	4.3	1.6	3.0	100	69.1	24.4	3.9	1.3	0.4	0.9	100
1919	7.5	31.8	31.0	16.7	8.2	4.8	100	6.0	52.0	31.3	6.7	2.3	1.7	100
1920	23.3	36.8	18.9	7.6	5.8	7.6	100	11.7	69.9	11.5	2.6	2.3	2.0	100
1921	14.2	41.6	22.8	8.0	4.3	9.1	100	6.4	76.2	10.2	2.3	1.4	3.5	100
1922	23.7	36.1	22.5	8.3	2.7	6.7	100	9.2	73.5	12.2	2.1	0.9	2.1	100
1923	23.1	35.1	21.8	9.4	5.2	5.4	100	20.0	60.3	12.4	2.5	2.2	2.6	100
Class	Total inspections, by grade and class, July 1, 1923, to June 30, 1924													
Hard Red Spring	39.6	16.7	19.2	13.0	8.8	2.7	100	54.0	22.0	15.5	4.4	2.8	1.3	100
Durum	8.8	43.8	30.8	11.1	3.7	1.8	100	4.3	79.4	12.8	2.0	0.9	0.6	100
Hard Red Winter	22.7	35.0	21.5	9.2	5.3	6.3	100	13.4	64.9	14.2	2.1	2.6	2.8	100
Soft Red Winter	12.6	46.6	22.1	7.1	2.4	9.2	100	6.9	79.2	7.4	1.3	0.9	4.3	100
White	19.4	54.4	21.8	2.6	0.4	1.4	100	5.0	93.6	1.2	0.1		0.1	100
Mixed	15.1	40.6	23.2	9.4	4.9	6.8	100	6.7	69.2	11.6	3.1	3.6	5.8	100

TABLE 22.—*Dockage assessed on wheat at Minnesota markets, 1899–1923*

Year beginning Sept. 1	Number of cars on which dockage is assessed	Amount of wheat in cars [1]	Amount of dockage assessed [2]	Percentage of dockage assessed	Year beginning Sept 1	Number of cars on which dockage is assessed	Amount of wheat in cars [1]	Amount of dockage assessed [2]	Percentage of dockage assessed
	Cars	*Bushels*	*Bushels*	*Per ct.*		*Cars*	*Bushels*	*Bushels*	*Per ct.*
1899	163, 824	212, 971, 200	4, 365, 909. 4	2. 0	1911	103, 399	134, 418, 700	4, 054, 964. 1	3. 0
1900	111, 742	145, 264, 600	3, 558, 982. 7	2. 4	1912	182, 800	237, 640, 000	6, 495, 493. 3	2. 7
1901					1913	137, 483	178, 727, 900	6, 553, 356. 3	3. 7
1902	129, 154	167, 900, 200	3, 190, 103. 8	1. 9	1914	126, 897	164, 966, 100	5, 911, 285. 2	3. 6
1903	111, 015	144, 319, 500	3, 175, 029. 0	2. 2	1915	219, 165	284, 914, 500	10, 826, 751. 0	3. 8
1904	109, 160	141, 908, 000	2, 743, 554. 6	1. 9	1916	94, 942	123, 424, 600	5, 986, 093. 1	4. 8
					1917	88, 830	115, 479, 000	4, 041, 765. 0	3. 5
1905	140, 546	182, 709, 800	5, 298, 584. 2	2. 9	1918	157, 452	204, 687, 600	4, 776, 044. 0	2. 3
1906	134, 298	174, 587, 400	5, 848, 677. 9	3. 3	1919	85, 657	111, 354, 100	5, 010, 934. 5	4. 5
1907	95, 917	124, 692, 100	4, 218, 749. 4	3. 4	1920	127, 976	166, 368, 800	7, 486, 596. 0	4. 5
1908	117, 909	153, 281, 700	3, 525, 479. 1	2. 3	1921	107, 452	139, 687, 600	5, 343, 050. 7	3. 8
1909	150, 699	195, 908, 700	5, 354, 837. 8	2. 7	1922	138, 668	180, 268, 400	7, 589, 299. 6	4. 2
1910	91, 995	119, 593, 500	2, 272, 276. 5	1. 9	1923	97, 469	133, 801, 162	7, 091, 462. 0	5. 3

Division of Statistical and Historical Research. Compiled from Minnesota State Grain Inspection Department data.

[1] Based on 1,300 bushels to the car.

[2] Based on 60 pounds to bushel.

TABLE 23.—*Wheat, and wheat including flour: Domestic, exports from the United States by months, 1910–1924*

[Thousand bushels—i. e., 000 omitted]

WHEAT

Year ended June 30	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1910	2, 783	6, 157	7, 156	8, 566	8, 427	3, 727	1, 428	1, 166	1, 204	2, 953	2, 487	626	46, 680
1911	862	2, 131	2, 226	3, 260	2, 505	3, 409	2, 802	1, 349	1, 883	1, 315	1, 371	616	23, 729
1912	3, 260	6, 253	5, 088	3, 350	2, 299	3, 084	2, 043	1, 243	1, 352	1, 386	603	199	30, 160
1913	545	5, 800	13, 153	15, 255	10, 584	9, 490	8, 441	4, 356	4, 569	6, 590	7, 159	5, 661	91, 603
1914	9, 404	24, 346	11, 971	7, 434	3, 852	5, 727	4, 985	3, 947	3, 457	3, 066	6, 810	7, 395	92, 394
Av. 1910–1914	3, 371	8, 937	7, 919	7, 573	5, 533	5, 087	3, 940	2, 412	2, 493	3, 062	3, 686	2, 900	56, 913
1915	26, 357	24, 341	25, 867	19, 578	19, 182	28, 876	24, 088	24, 432	20, 541	22, 758	14, 227	9, 396	259, 643
1916	7, 956	16, 838	21, 526	18, 040	13, 500	12, 624	13, 461	15, 054	17, 293	16, 506	14, 571	5, 995	173, 274
1917	6, 355	11, 060	13, 108	11, 985	14, 279	14, 473	18, 906	10, 384	7, 885	14, 233	11, 359	15, 804	149, 831
1918	5, 059	5, 170	2, 613	5, 415	4, 878	4, 491	1, 914	1, 048	1, 687	1, 024	353	467	34, 119
1919	225	15, 120	26, 848	21, 319	16, 087	25, 084	9, 943	5, 992	10, 208	17, 338	14, 029	16, 390	178, 583
1920	5, 834	12, 941	17, 090	13, 687	15, 116	9, 520	8, 480	4, 938	6, 939	4, 176	10, 864	12, 846	122, 431
1921	23, 838	27, 694	30, 771	35, 803	26, 035	25, 903	21, 345	18, 469	14, 601	17, 642	25, 932	25, 235	293, 268
Av. 1915–1921	10, 804	16, 166	19, 689	17, 975	15, 582	17, 282	14, 019	11, 474	11, 308	13, 382	13, 048	12, 292	173, 021
1922	24, 842	58, 537	30, 842	18, 206	13, 955	10, 451	10, 038	5, 577	7, 645	4, 856	9, 366	14, 006	208, 321
1923	14, 979	33, 703	25, 987	18, 282	10, 577	9, 676	7, 297	5, 991	4, 291	4, 943	9, 973	9, 252	154, 951
1924	8, 843	14, 198	15, 408	9, 239	4, 148	4, 950	4, 421	3, 095	2, 958	3, 747	2, 811	4, 975	78, 793
1925	4, 049	16, 835	32, 662	45, 112	27, 831	17, 791							

WHEAT, INCLUDING FLOUR, IN TERMS OF GRAIN [1]

1910	4, 629	8, 835	12, 472	13, 898	12, 996	9, 126	4, 973	3, 527	3, 737	5, 330	4, 977	2, 864	87, 364
1911	3, 132	4, 948	6, 185	7, 451	6, 755	8, 043	7, 001	5, 128	5, 617	5, 242	5, 852	3, 958	69, 312
1912	6, 276	10, 176	10, 700	8, 823	6, 576	7, 981	5, 816	5, 031	5, 853	4, 923	4, 385	3, 149	79, 689
1913	3, 008	8, 911	16, 987	20, 746	16, 154	14, 488	13, 446	9, 194	8, 800	10, 819	11, 178	9, 149	142, 880
1914	12, 966	28, 348	17, 513	13, 111	9, 617	10, 621	9, 704	7, 555	6, 953	7, 040	10, 915	11, 247	145, 590
Av. 1910–1914	6, 002	12, 244	12, 771	12, 806	10, 419	10, 052	8, 188	6, 087	6, 192	6, 671	7, 461	6, 074	104, 967
1915	30, 174	27, 618	31, 433	25, 664	25, 807	37, 122	32, 027	31, 428	28, 145	29, 224	20, 288	13, 445	332, 465
1916	11, 661	20, 439	26, 301	23, 769	19, 264	20, 416	20, 892	21, 066	24, 071	22, 424	20, 593	12, 221	243, 117
1917	10, 583	14, 919	18, 160	16, 131	19, 006	18, 689	24, 003	13, 560	12, 439	18, 505	16, 221	21, 358	203, 574
1918	8, 422	9, 736	7, 182	11, 523	10, 614	15, 301	12, 450	10, 492	12, 207	12, 364	10, 915	11, 373	132, 579
1919	11, 154	19, 496	28, 348	24, 531	21, 989	33, 539	22, 103	15, 842	20, 314	31, 129	26, 305	32, 652	287, 402
1920	13, 624	20, 310	25, 029	20, 979	23, 396	15, 428	12, 274	10, 581	16, 881	13, 721	25, 888	21, 754	219, 865
1921	34, 655	32, 674	34, 994	43, 033	30, 989	30, 186	27, 105	23, 074	20, 765	24, 801	31, 624	32, 177	366, 077
Av. 1915–1921	17, 182	20, 742	24, 492	23, 662	21, 593	24, 383	21, 551	18, 006	19, 260	21, 738	21, 691	20, 711	255, 011
1922	30, 413	66, 963	38, 950	25, 211	19, 563	15, 015	15, 011	10, 991	14, 374	10, 449	14, 267	18, 200	279, 407
1923	19, 124	38, 964	31, 839	25, 077	17, 578	16, 428	12, 519	12, 197	10, 725	10, 195	14, 396	12, 881	221, 923
1924	12, 822	19, 929	22, 465	18, 652	12, 147	13, 000	12, 143	10, 019	9, 374	8, 416	7, 206	10, 257	156, 430
1925	7, 601	21, 106	39, 244	53, 538	35, 102	24, 326							

Division of Statistical and Historical Research.

Compiled from the Monthly Summary of the Bureau of Foreign and Domestic Commerce, July, 1910–December, 1924.

[1] Includes exports of flour milled from Canadian wheat imported in bond. Does not include reexports

TABLE 24.—*Wheat, including flour: Exports from the United States, by customs district groups, 1922–1924*

Customs district groups	Year ended June 30								
	Wheat			Wheat flour			Wheat, including flour		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 barrels*	*1,000 barrels*	*1,000 barrels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
Canadian border and Lake ports	31,359	32,371	17,964	84	45	83	31,737	32,571	18,338
Atlantic coast	45,294	53,790	12,987	7,782	6,935	6,249	80,314	84,998	41,106
Gulf coast	86,091	48,239	13,508	3,757	3,439	3,927	102,999	63,716	31,179
Mexican border	1,111	726	1,587	81	92	198	1,474	1,140	2,481
Pacific coast	44,466	19,825	32,747	4,093	4,372	6,796	62,883	39,498	63,326
Total	208,321	154,951	78,793	15,797	14,883	17,253	279,407	221,923	156,430

Division of Statistical and Historical Research.
Compiled from official records of the Bureau of Foreign and Domestic Commerce from export declarations.

TABLE 25.—*Wheat, flour not included: Imports into the United States from Canada, 1914–1925* [1]

[Thousand bushels—i. e., 000 omitted]

Year ended June 30	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1914	4	(2)	(2)	231	104	127	885	175	235	13	73	43	1,890
1915	35	69	7	3	102	5	14	47	35	13	19	21	270
1916	60	441	348	1,755	796	470	386	218	194	258	504	243	5,673
1917	128	394	943	1,507	2,606	838	805	1,337	2,993	3,125	5,459	3,574	23,709
1918	1,954	1,398	840	1,712	5,674	3,732	7,339	27	218	71	958	761	24,684
1919	508	24	27	55	176	168	39	42	44	281	1,474	1,893	4,731
1920	118	28	143	564	404	309	753	534	526	50	410	124	3,963
1921	36	170	1,842	9,800	9,522	11,185	4,504	4,403	2,671	4,564	1,902	89	50,688
1922	713	239	81	878	1,184	2,052	3,120	199	2,673	483	1,231	1,610	14,463
1923	3,070	1,152	782	2,566	3,176	2,616	252	211	345	2,812	946	122	18,050
1924	1,836	596	1,234	2,832	5,264	3,050	2,955	2,413	2,574	2,209	1,364	949	27,276
1925	1,250	46	309	420	348	703							

Division of Statistical and Historical Research. Compiled from Monthly Summary of Foreign Commerce, Bureau of Foreign and Domestic Commerce.

[1] Includes all imports, free, dutiable, or in bond. [2] Less than 500 bushels.

TABLE 26.—*Wheat: Imports from Canada; for consumption, duty paid; for milling in bond and export; and imports on which drawback has been allowed, June 1, 1921, to December 31, 1924.*

Year ended June 30	Total imports from Canada	Imports for consumption (duty paid)	Imports on which drawback was allowed	Imports for milling in bond and export
1922	*Bushels*	*Bushels*	*Bushels*	*Bushels*
June–Sept.	[1] 1,123,947	[1] 676,585	4,638	2,190,180
Oct.–Dec.	4,115,128	2,897,579		
Jan.–Mar.	5,992,151	2,206,737		2,323,332
Apr.–June	3,323,971	2,674,677		1,659,325
Total	14,555,197	8,455,578	4,638	6,172,837
1923				
July–Sept.	5,003,783	2,513,575		2,444,891
Oct.–Dec.	8,322,154	3,165,026		3,998,888
Jan.–Mar.	806,785	1,045,155		1,501,964
Apr.–June	3,879,745	684,394		1,335,044
Total	18,012,467	7,408,150		9,280,787
1924				
July–Sept.	3,666,420	1,052,563	3,201	2,711,185
Oct.–Dec.	11,146,796	5,945,148	9,594	4,440,299
Jan.–Mar.	7,942,481	4,884,572		3,058,703
Apr.–June	4,521,077	1,798,651	5,320	3,694,550
Total	27,276,774	13,680,934	18,115	13,904,737
1925				
July–Sept.	1,595,364	42,856	34,613	1,570,182
Oct.–Dec.	1,469,979			
Total (6 months)	3,065,343			

Division of Statistical and Historical Research. Compiled from records of the Bureau of Foreign and Domestic Commerce. [1] Four months; Emergency tariff became effective May 28, 1921.

TABLE 27.—*Wheat: Production, and inspection for export, by classes, United States, July 1920–Dec. 1924.*

[Thousand bushels—i. e., 000 omitted]

Class [1]	Year beginning July 1								July–December, 1924	
	1920		1921		1922		1923			
	Estimated production [1]	Inspections of United States wheat for export	Estimated production [1]	Inspections of United States wheat for export	Estimated production [1]	Inspections of United States wheat for export	Estimated production [1]	Inspections of United States wheat for export	Estimated production [1]	Inspections of United States wheat for export
Hard Red Spring	138, 893	10, 081	131, 075	20, 145	169, 615	8, 718	126, 876	1, 022	191, 441	8, 293
Durum	52, 180	4, 872	56, 971	8, 697	90, 819	12, 271	55, 256	4, 908	73, 601	3, 152
Hard Red Winter	302, 447	132, 701	290, 053	78, 477	279, 957	51, 654	241, 851	19, 640	313, 524	64, 876
Soft Red Winter	247, 300	34, 281	237, 393	18, 998	247, 882	20, 846	271, 631	9, 810	236, 754	6, 599
White [2]	91, 207	1, 183	99, 413	758	79, 325	13, 602	101, 767	18, 653	57, 353	9, 172
Mixed [3]	.....	68, 615	.....	18, 963	.....	25, 047	.....	5, 435	.....	5, 153
Type sample [4]	.....	26, 546	.....	42, 894	.....	.....	.....	.....	.....	.....
Not classified [5]	.....	87, 798	.....	90, 475	.....	89, 785	.....	96, 962	.....	83, 671
Total	832, 027	366, 077	814, 905	279, 407	867, 598	221, 923	797, 381	156, 430	872, 673	180, 916

Division of Statistical and Historical Research for estimated production by classes; Grain Division for inspections of United States wheat for export.

[1] The spring and winter wheats listed do not include the spring and winter in the white wheats. Production estimates are based on the estimate of percentage classification by States as reported for 1920 and 1923 to the Division of Crop and Livestock Estimates; the percentages for 1921 and 1922 were interpolated from the 1920 and 1923 percentages. The estimated production for 1924 is based on 1923 percentages, and is subject to revision.

[2] White wheat in the Pacific Northwest region consists of both spring and winter wheat; no attempt has been made to classify this wheat as other than white wheat, part of which is spring and part winter.

[3] From July 1, 1921, to June 30, 1923, 70 per cent of the exports of mixed wheat is estimated as durum. Mixed wheat exports in 1920–21 were largely soft and hard winter wheats shipped through Gulf ports; 20,030,000 bushels of durum were estimated mixed with spring wheat in 1920–21.

[4] Prior to July 1, 1922, practically all wheat exported from the Pacific coast was shipped on the basis of "Portland (Oreg.) Chamber of Commerce type sample." Since July 1, 1922, all wheat exported from the Pacific coast has been inspected on the basis of Federal grades and classes.

[5] Exports of wheat other than reported as "Federal inspected" and flour in terms of wheat.

TABLE 28.—*Wheat, Canadian: Shipments through the United States in transit for export, by months, 1910–1925*

[Thousand bushels—i. e., 000 omitted]

Year ended June 30	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1910	149	47	128	2, 271	3, 937	6, 816	4, 115	2, 261	1, 540	1, 407	3, 367	1, 091	27, 129
1911	406	370	169	2, 454	4, 104	2, 853	1, 381	1, 847	2, 932	1, 971	3, 280	2, 425	24, 192
1912	1, 245	1, 556	1, 844	2, 850	6, 818	5, 742	4, 963	3, 767	3, 606	5, 092	7, 645	10, 290	55, 418
1913	4, 799	3, 267	1, 104	823	5, 791	6, 947	9, 225	5, 134	3, 660	3, 243	5, 513	7, 244	56, 750
1914	3, 022	1, 608	576	8, 394	12, 742	10, 301	9, 619	6, 676	6, 500	3, 605	5, 767	2, 833	71, 643
1915	1, 970	693	847	2, 588	2, 665	3, 649	3, 493	3, 616	3, 654	3, 541	2, 928	2, 514	32, 158
1916	1, 786	1, 197	2, 095	14, 156	24, 040	22, 035	17, 440	13, 484	12, 427	9, 450	18, 511	2, 095	138, 716
1917	17, 215	13, 420	7, 912	3, 382	6, 815	4, 791	8, 475	4, 558	7, 512	5, 779	8, 008	17, 087	104, 954
1918	4, 938	3, 238	45	747	3, 772	5, 480	6, 373	3, 239	4, 855	3, 857	1, 568	96	38, 208
1919	207	.....	.....	352	62	3, 541	1, 863	1, 588	2, 083	4, 107	3, 159	.....	16, 962
1920	.....	.....	.....	.....	2, 533	2, 023	1, 553	174	2, 845	1, 429	10	.....	10, 567
1921	.....	.....	.....	399	7, 385	11, 985	10, 423	6, 642	5, 610	3, 747	2, 181	1, 136	49, 508
1922	185	473	1, 262	8, 553	10, 745	14, 060	15, 439	6, 498	9, 362	4, 241	8, 114	4, 255	83, 187
1923	4, 681	2, 995	2, 299	3, 912	17, 619	17, 895	15, 552	13, 773	8, 038	11, 521	5, 498	6, 906	110, 689
1924	5, 798	6, 988	2, 719	11, 377	12, 960	19, 555	9, 828	10, 732	14, 844	9, 791	11, 660	6, 165	122, 417
1925	16, 549	2, 582	4, 068	3, 340	2, 129	5, 928	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Compiled from the official reports of the Bureau of Foreign and Domestic Commerce of the United States.

TABLE 29.—*Wheat, including flour: International trade, average 1910–1914, annual 1922–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Year ended June 30							
	Average, 1910–1914 [1]		1922 [1]		1923		1924, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Algeria	639	5,936	1,698	5,884	4,110	987	1,412	10,365
Argentina	[2] 3	[2] 95,243	----	108,966	----	145,428	----	170,009
Australia [3]	7	49,732	2	116,466	----	49,625	----	82,201
British India	208	49,889	16,728	2,810	586	24,154	[4] 588	[4] 18,825
Bulgaria	----	11,182	([5])	4,477	----	----	----	----
Canada	448	95,828	372	185,768	381	274,886	430	343,781
Chile	[2] 170	[2] 2,593	[3] 5	[3] 1,121	676	608	[6] 31	[6] 1,797
Hungary	7,214	49,116	5	9,097	[7] 224	[8] 4,921	----	[8] 15,377
Rumania	196	54,630	([5])	3,494	([5])	1,595	----	[8 9] 2,535
Russia	556	164,862	----	----	----	[10] 6,700	----	[10] 34,960
United States [3]	1,808	104,967	17,251	279,407	19,945	221,923	28,045	156,430
Yugoslavia	----	----	----	2,793	----	----	----	----
PRINCIPAL IMPORTING COUNTRIES								
Austria	11,402	871	18,739	70	[8] 13,063	[7] 99	[8] 17,269	----
Belgium [3]	72,877	21,965	40,674	4,054	41,267	1,775	43,082	3,396
Brazil	[2] 20,495	----	[3] 20,357	----	21,979	----	[11] 11,554	----
Czechoslovakia	----	----	11,408	208	12,100	1,997	19,487	464
Denmark	7,155	597	4,191	275	6,304	321	9,526	229
Egypt	8,244	59	6,918	328	7,326	20	7,871	----
Finland	----	----	3,268	([5])	4,562	----	4,881	----
France [3]	44,081	1,230	21,659	2,544	44,133	2,779	54,213	2,797
Germany [3]	91,851	23,300	70,555	1,262	42,676	623	29,751	161
Greece	----	----	13,233	5	18,479	----	[8] 17,364	----
Italy	56,784	3,682	101,030	512	112,003	1,776	77,552	7,680
Japan	4,116	28	24,815	51	15,316	[7] 488	77,907	----
Latvia	----	----	721	([5])	[7] 871	[7] 5	----	----
Netherlands	80,702	58,435	22,974	3,286	25,935	3,365	30,762	3,385
Norway	3,674	----	5,090	3	6,619	----	6,524	----
Poland	----	----	1,270	94	[8 12] 2,474	[7] 29	[8 12] 374	----
Portugal	2,630	219	----	----	----	----	----	----
Spain	6,262	70	[3] 9,086	[3] 320	51	191	----	----
Sweden	7,080	23	4,547	699	8,999	701	12,187	316
Switzerland	16,937	14	13,216	([5])	[8] 16,553	[7] 1	[8] 15,682	----
Tunis	1,746	960	645	2,266	[7] 2,001	[8] 550	----	3,557
Union of South Africa	[2] 6,274	[2] 253	2,072	66	5,644	11	[14] 5,491	[14] 2
United Kingdom [3]	219,474	4,493	208,143	5,921	209,290	6,465	225,000	13,247
Other countries	----	----	----	----	141	----	3,336	----
Total countries reported	673,033	800,177	640,672	742,247	643,708	752,023	700,319	871,514

Division of Statistical and Historical Research.
Compiled from official sources and International Institute of Agriculture.

[1] Years ended July 31 as compiled by the International Institute of Agriculture.
[2] Calendar years 1909–1913
[3] Years ended June 30.
[4] Sea trade only.
[5] Less than 500.
[6] Nine months.
[7] Ten months ended May 31, International Institute of Agriculture.
[8] International Institute of Agriculture.
[9] Nine months for wheat.
[10] Commercial source.
[11] Six months.
[12] Ten months for wheat; twelve months for flour.
[13] Eight months for flour.
[14] Ten months.

TABLE 30.—*Wheat: Farm price per bushel, United States, 1909–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	114.0	101.2	94.9	97.2	99.2	101.0	104.2	105.0	104.8	102.2	98.8	96.4	101.3
1910	97.1	97.4	94.8	92.1	89.4	88.4	89.2	87.6	84.6	84.2	85.4	85.3	91.3
1911	83.5	83.8	86.6	90.0	89.4	87.7	89.2	90.6	91.6	96.1	101.2	100.9	88.9
1912	94.4	87.8	84.6	83.6	79.9	76.1	78.0	80.2	79.8	80.0	81.8	82.0	83.2
1913	79.2	77.1	77.5	77.4	78.4	80.4	81.3	82.4	83.6	84.0	84.2	80.6	79.5
Av. 1909–1913	93.6	89.5	87.7	88.1	87.3	86.7	88.4	89.2	88.9	89.3	90.3	89.0	88.8
1914	76.7	84.9	93.4	95.4	97.9	103.2	118.8	131.8	132.6	135.6	135.6	117.2	102.8
1915	104.6	100.8	93.0	92.0	92.5	97.4	108.4	108.4	100.8	100.6	101.2	96.5	98.8
1916	100.0	119.2	133.8	147.4	159.4	155.3	157.6	164.6	172.2	213.0	247.2	234.3	152.2
1917	224.5	219.3	205.2	200.3	200.4	201.4	201.6	202.0	202.6	203.1	203.0	202.8	206.8
1918	203.8	205.0	205.7	205.9	205.1	204.5	206.2	207.8	211.1	222.6	229.8	225.2	208.1
1919	219.6	211.4	207.6	211.4	214.0	223.4	233.8	231.2	230.3	242.6	250.8	256.0	221.6
1920	242.9	225.4	216.5	201.2	165.8	146.4	149.2	148.2	140.4	122.1	119.0	119.8	181.8
Av. 1914–1920	167.4	166.6	165.0	164.8	162.2	161.7	167.9	170.6	170.0	177.1	183.8	178.8	167.4
1921	108.5	103.0	103.4	99.9	93.4	93.0	95.2	107.0	117.0	119.0	118.8	109.6	103.1
1922	99.8	92.6	89.2	94.1	99.4	103.2	104.6	104.4	106.0	108.4	108.2	100.8	98.7
1923	89.6	86.4	91.0	94.2	93.7	94.5	96.7	98.0	98.8	95.8	96.8	98.5	93.2
1924	105.8	116.8	114.2	129.7	133.6	141.1							

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 31.—*Wheat: Farm price per bushel, December 1, 1909–1924, and value per acre 1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Val. per acre 1924[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls*
Me.	110	102	110	103	101	105	109	112	187	235	237	220	230	190	175	170	118	170	44.20
Vt.	120	103	99	98	100	104	100	107	165	236	231	227	200	181	125	145	140	150	30.00
N. Y.	111	96	95	99	93	99	108	101	168	210	215	215	175	170	108	118	110	144	25.92
N. J.	109	98	96	98	96	99	109	106	164	213	215	220	205	176	113	110	110	157	29.04
Pa.	109	92	92	95	91	96	104	104	162	205	214	216	170	168	103	110	100	144	23.76
Del.	104	90	90	96	88	94	109	109	162	208	222	213	171	171	98	108	100	144	23.04
Md.	110	92	91	95	89	95	106	105	171	207	219	215	165	170	103	112	100	145	22.91
Va.	115	97	96	101	96	101	108	108	165	216	219	224	180	174	116	122	110	148	19.39
W. Va.	113	102	102	101	100	104	108	108	160	217	221	220	190	175	117	122	116	147	19.40
N. C.	127	110	102	111	106	111	117	120	176	234	230	233	210	189	144	136	128	160	19.20
S. C.	146	126	123	119	130	129	145	138	189	290	260	258	255	219	208	157	154	170	20.40
Ga.	145	130	114	122	120	126	134	129	186	290	266	263	240	215	175	150	147	169	17.74
Ohio	112	90	91	98	90	96	105	104	169	204	212	212	165	167	108	117	99	145	24.36
Ind.	110	87	89	93	88	93	103	102	169	203	208	210	167	166	106	112	98	142	24.14
Ill.	104	88	89	88	86	91	101	100	165	201	208	210	161	164	100	107	94	136	20.13
Mich.	112	89	88	96	89	95	103	101	167	204	209	210	168	166	104	115	96	138	30.36
Wis.	96	92	90	83	82	89	100	95	160	202	205	215	154	162	97	103	98	128	27.65
Minn.	96	94	92	73	76	86	102	90	162	202	204	250	130	163	97	101	95	130	28.34
Iowa	93	85	88	78	76	84	96	87	156	199	200	200	140	154	88	99	89	127	25.65
Mo.	105	87	88	90	84	91	98	98	165	195	205	209	160	161	99	105	97	133	17.02
N. Dak.	92	90	89	69	73	83	101	87	152	200	203	241	130	159	85	90	86	126	19.53
S. Dak.	90	89	91	69	71	82	94	86	150	196	199	240	115	154	87	92	81	125	18.62
Nebr.	89	80	87	69	71	79	95	84	160	195	197	202	131	152	83	96	83	122	23.30
Kans.	96	84	91	74	79	85	95	89	164	198	199	215	130	156	93	98	91	128	20.86
Ky.	111	93	92	99	96	98	103	105	166	212	214	211	191	172	115	118	108	143	14.30
Tenn.	115	98	96	100	98	101	105	108	169	222	214	222	195	176	120	123	115	147	15.44
Ala.	130	113	120	113	115	118	126	125	185	270	245	245	230	204	153	160	130	162	16.20
Miss.	121	116	100	97	95	106	125	105	175	300	250	250	213	203	130	145	110	150	24.00
Tex.	118	98	100	93	94	101	99	107	173	210	215	200	172	168	100	110	103	129	23.86
Okla.	101	87	92	75	82	87	92	89	167	194	201	205	135	155	86	98	93	124	20.34
Ark.	110	94	90	94	90	96	99	101	163	201	207	202	190	166	100	106	108	133	15.30
Mont.	87	86	77	64	66	76	91	78	161	192	194	235	128	154	85	89	82	124	20.34
Wyo.	99	95	94	80	72	88	89	78	145	200	189	212	135	150	79	82	80	111	16.76
Colo.	93	82	84	73	78	82	87	80	150	193	195	202	135	149	76	89	83	118	16.99
N. Mex.	117	100	100	90	97	101	90	90	150	215	210	200	140	156	105	120	108	125	19.50
Ariz.	139	120	95	110	110	115	125	115	150	210	240	225	262	190	125	115	140	141	38.07
Utah	90	84	70	75	73	78	86	86	152	178	188	210	153	150	75	90	91	130	22.62
Nev.	104	109	95	100	82	98	95	95	140	180	206	214	180	159	130	120	115	150	31.80
Idaho	87	72	66	66	63	71	87	80	146	182	192	205	125	145	72	90	80	131	25.02
Wash.	93	78	71	68	73	77	100	82	143	193	196	214	135	152	86	104	85	130	15.99
Oreg.	93	84	75	72	75	80	102	84	145	182	201	212	130	151	85	108	88	129	18.19
Calif.	111	94	88	93	95	96	104	95	152	200	216	204	180	164	107	115	108	154	23.10
U. S.	98.4	88.3	87.4	76.0	79.9	86.0	98.6	91.9	160.3	200.9	204.2	214.9	143.7	159.2	92.6	100.7	92.3	130.2	20.97

Division of Crop and Livestock Estimates.
[1] Based upon farm price Dec. 1.

TABLE 32.—*Wheat: Weighted average price per bushel of reported cash sales*

NO. 1 DARK NORTHERN SPRING, MINNEAPOLIS, 1917–1924 [1]

Year beginning July 1	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average [2]
1917	------	$2.50	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	------
1918	$2.21	2.29	2.24	2.23	2.25	2.25	2.25	2.29	2.41	2.63	2.68	2.56	2.36
1919	2.72	2.71	2.77	2.84	3.00	3.25	3.34	2.90	2.97	3.23	3.26	3.01	3.00
1920	2.95	2.59	2.64	2.21	1.82	1.73	1.81	1.74	1.72	1.57	1.67	1.74	2.01
1921	1.81	1.59	1.56	1.36	1.30	1.33	1.39	1.58	1.59	1.66	1.71	1.53	1.48
1922	1.57	1.22	1.20	1.21	1.28	1.31	1.28	1.31	1.29	1.35	1.32	1.22	1.26
1923	1.18	1.22	1.26	1.26	1.19	1.19	1.24	1.27	1.26	1.26	1.30	1.37	1.24
1924	1.47	1.38	1.35	1.51	1.54	1.71							

NO. 1 NORTHERN SPRING, MINNEAPOLIS, 1899–1924 [1]

1899	$0.70	$0.70	$0.69	$0.69	$0.65	$0.65	$0.65	$0.65	$0.65	$0.66	$0.66	$0.71	$0.67
1900	.78	.74	.76	.76	.74	.73	.75	.74	.74	.72	.73	.69	.74
1901	.65	.69	.68	.62	.70	.74	.76	.74	.72	.73	.75	.75	.71
1902	.78	.72	.67	.70	.72	.73	.76	.77	.76	.76	.78	.84	.75
1903	.86	.93	.85	.82	.80	.82	.88	.97	.97	.93	.94	.94	.89
1904	.97	1.14	1.17	1.15	1.07	1.09	1.14	1.13	1.11	1.02	1.13	1.10	1.10
1905	1.08	.98	.81	.86	.84	.85	.83	.81	.77	.79	.83	.84	.86
1906	.79	.75	.74	.76	.80	.80	.80	.82	.80	.84	.96	1.01	.82
1907	1.02	1.00	1.08	1.12	1.03	1.07	1.10	1.06	1.07	1.03	1.09	1.08	1.06
1908	1.14	1.12	1.03	1.04	1.06	1.10	1.09	1.13	1.15	1.24	1.31	1.34	1.15
1909	1.29	1.06	1.04	1.04	1.05	1.12	1.14	1.14	1.15	1.11	1.10	1.09	1.09
1910	1.21	1.13	1.09	1.08	1.04	1.03	1.06	1.02	.98	.96	.99	.97	1.05
1911	.99	1.05	1.09	1.10	1.05	1.02	1.06	1.06	1.08	1.10	1.16	1.13	1.07
1912	1.09	.98	.89	.90	.84	.82	.89	.87	.85	.88	.91	.92	.87
1913	.91	.88	.87	.84	.85	.86	.87	.93	.92	.91	.94	.92	.88
Av. 1909–1913	1.10	1.02	1.00	.99	.97	.97	1.00	1.00	1.00	.99	1.02	1.01	.99
1914	.92	1.10	1.12	1.11	1.18	1.20	1.38	1.52	1.49	1.58	1.58	1.35	1.20
1915	1.44	1.18	.97	1.02	1.02	1.14	1.29	1.26	1.14	1.22	1.22	1.11	1.09
1916	1.21	1.64	1.64	1.79	1.95	1.79	1.93	1.86	2.03	2.38	2.96	2.73	1.76
1917	2.66	2.47	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.20
1918	2.17	2.23	2.23	2.19	2.22	2.22	2.21	2.24	2.36	2.56	2.59	2.48	2.25
1919	2.66	2.59	2.56	2.67	2.85	3.07	3.01	2.67	2.84	3.06	3.09	2.93	2.72
1920	2.88	2.56	2.54	2.16	1.79	1.66	1.79	1.72	1.66	1.53	1.57	1.69	2.07
Av. 1914–1920	1.99	1.97	1.89	1.87	1.88	1.89	1.97	1.92	1.96	2.07	2.17	2.07	1.96
1921	1.67	1.48	1.51	1.34	1.25	1.31	1.34	1.51	1.51	1.58	1.61	1.49	1.43
1922	1.49	1.11	1.10	1.15	1.23	1.25	1.23	1.26	1.24	1.30	1.28	1.17	1.20
1923	1.12	1.18	1.21	1.20	1.14	1.16	1.19	1.21	1.21	1.21	1.22	1.25	1.17
1924	1.37	1.31	1.30	1.46	1.48	1.66	------	------	------	------	------	------	------

NO. 2 RED WINTER, CHICAGO, 1899–1924 [3]

1899	$0.72	$0.72	$0.71	$0.72	$0.69	------	$0.67	$0.69	$0.69	$0.70	$0.70	$0.75	------
1900	.77	.77	.76	.77	.74	$0.74	.76	.75	.75	.75	.74	.72	$0.76
1901	.68	.71	.70	.72	.75	.82	.85	.83	.82	.82	.81	.79	.72
1902	.73	.71	.81	.82	.76	.75	.75	.76	.74	.78	.78	.80	.75
1903	.78	.82	.82	.82	.84	.88	.94	1.04	1.03	1.05	1.07	1.05	.83
1904	.97	1.01	1.10	1.19	1.16	------	1.20	------	1.15	1.07	.92	1.04	------
1905	.90	.85	.85	.88	.87	------	.88	.84	.82	.87	.89	.86	------
1906	.78	.73	.72	.74	.74	.74	.74	.76	.77	.79	.93	.95	.77
1907	.92	.87	.97	1.01	.95	.99	1.01	.94	.98	.95	1.03	.92	.90
1908	.92	.96	1.00	1.01	1.05	1.05	1.07	1.20	1.22	1.33	1.48	1.60	.96
1909	1.10	1.04	1.07	1.20	1.18	1.25	1.26	1.23	1.18	1.11	1.11	1.01	1.10
1910	1.07	1.02	.99	.96	.93	.94	.98	.91	.90	.90	.96	.91	1.02
1911	.86	.90	.93	1.00	.96	.96	.97	1.01	1.03	1.09	1.16	1.10	.90
1912	1.05	1.03	1.03	1.06	.99	.86	1.09	.99	.95	1.02	1.03	1.00	1.03
1913	.87	.88	.93	.92	.92	.94	.97	.97	.95	.95	.99	.82	.88
Av. 1909–1913	.99	.97	.99	1.03	1.00	.99	1.05	1.02	1.00	1.01	1.05	.97	.99
1914	.82	.92	1.11	1.12	1.15	1.20	1.39	1.57	1.52	1.59	1.55	1.24	1.08
1915	1.13	1.11	1.08	1.12	1.12	1.23	1.30	1.23	1.13	1.22	1.15	1.05	1.13
1916	1.23	1.43	1.53	1.66	1.85	1.76	1.89	1.74	1.99	2.43	2.94	2.76	1.68
1917	2.50	2.30	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.16	2.17	2.25
1918	2.22	2.21	2.25	2.25	2.24	2.29	2.34	2.28	2.36	2.52	2.76	2.32	2.22
1919	2.23	2.24	2.24	2.24	2.29	2.44	2.64	[4]2.42	[4]2.55	[4]2.63	[4]3.10	2.89	2.24
1920	2.63	2.49	2.53	2.18	[4]2.01	2.02	[4]1.96	1.85	1.65	1.41	1.67	1.47	2.23
Av. 1914–1920	1.82	1.81	1.84	1.82	1.83	1.87	1.96	1.89	1.91	2.00	2.19	1.99	1.83
1921	1.24	1.22	1.29	[4]1.18	[4]1.23	[4]1.18	1.21	1.34	[4]1.38	1.40	1.34	1.18	1.25
1922	1.14	1.07	1.06	1.18	1.27	1.33	1.30	1.35	1.31	1.32	1.28	1.16	1.14
1923	1.00	1.00	1.05	1.11	1.06	1.09	1.13	1.13	1.09	1.06	1.07	1.15	1.02
1924	1.29	1.31	1.31	1.53	1.55	1.80	------	------	------	------	------	------	------

[1] Compiled from Minneapolis Daily Market Record. Prior to the promulgation of the Federal grades, August 1, 1917, the subclass Dark Northern did not exist.

[2] Average of daily prices weighted by carlot sales.

[3] Compiled from the Chicago Daily Trade Bulletin.

[4] Based on small number of sales.

TABLE 32.—*Wheat: Weighted average price per bushel of reported cash sales*—Con.

NO. 2 RED WINTER, ST. LOUIS, 1899–1924 [5]

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Weighted average [7]
1899	$0.71	$0.71	$0.70	$0.72	$0.70	$0.71	$0.71	$0.72	$0.72	$0.72	$0.71	$0.77	$0.72
1900	.75	.73	.76	.74	.73	.72	.74	.74	.75	.74	.75	.69	.74
1901	.66	.71	.71	.72	.74	.84	89	.74	.86	.82	.80	.81	.78	.73
1902	.71	.66	.67	.70	.69	.72	.75	.76	.73	.72	.75	.79	.71
1903	.80	.81	.85	.87	.87	.92	.93	1.04	1.05	1.06	1.08	1.07	.86
1904	.97	1.01	1.15	1.18	1.15	1.15	1.18	1.18	1.15	1.09	1.08	1.05	1.04
1905	.89	.85	.86	.92	.92	.93	.94	.92	.91	.95	.94	.88	.90
1906	.75	.70	.72	.76	.75	.76	.77	.78	.77	.78	.89	.94	.76
1907	.89	.87	.95	1.03	.96	1.00	1.03	1.12	1.02	.99	1.02	.96	.96
1908	.92	.95	1.02	1.03	1.07	1.08	1.11	1.24	1.30	1.36	1.39	1.57	1.04
1909	1.13	1.12	1.14	1.23	1.22	1.28	1.30	1.27	1.23	1.12	1.16	1.02	1.13
1910	1.07	1.02	1.02	1.00	.96	.98	1.03	.96	.93	.90	.94	.88	.99
1911	.84	.88	.94	1.00	.96	.97	1.02	1.01	1.04	1.13	1.21	1.11	.94
1912	1.03	1.04	1.03	1.09	1.04	1.07	1.11	1.09	1.08	1.09	1.04	.99	1.05
1913	.85	.88	.94	.93	.94	.95	.96	.95	.95	.94	.96	.84	.89
Av. 1909–1913	.98	.99	1.01	1.05	1.02	1.05	1.08	1.06	1.05	1.04	1.06	.97	1.00
1914	.87	.93	1.10	1.10	1.11	1.18	1.40	1.57	1.50	1.54	1.50	1.19	1.10
1915	1.17	1.14	1.14	1.21	1.16	1.23	1.34	1.30	1.17	1.22	1.20	1.10	1.20
1916	1.25	1.45	1.60	1.73	1.87	1.83	1.96	1.88	2.05	2.66	3.04	2.65	1.63
1917	2.36	2.32	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.23
1918	2.21	2.21	2.19	2.22	2.22	2.32	2.41	2.38	2.55	2.71	2.60	2.41	2.23
1919	2.22	2.20	2.21	2.24	2.29	2.48	2.70	2.55	2.58	2.76	2.99	2.89	2.30
1920	2.73	2.51	2.58	2.26	2.02	1.99	2.02	1.90	1.66	1.41	1.58	1.50	2.13
Av. 1914–1920	1.83	1.82	1.85	1.84	1.83	1.88	2.00	1.96	1.95	2.06	2.15	1.98	1.84
1921	1.23	1.23	1.36	1.26	1.20	1.21	1.22	1.38	1.42	1.41	1.38	1.18	1.27
1922	1.12	1.09	1.14	1.23	1.29	1.36	1.37	1.39	1.36	1.39	1.33	1.23	1.21
1923	.97	.99	1.09	1.16	1.12	1.14	1.16	1.18	1.14	1.13	1.12	1.16	1.07
1924	1.35	1.38	1.40	1.56	1.63	1.79							

NO. 2 HARD WINTER, KANSAS CITY, 1899–1924 [6]

1899	$0.66	$0.65	$0.65	$0.65	$0.63	$0.64	$0.63	$0.64	$0.64	$0.64	$0.62	$0.66	$0.65
1900 [7]	.69	.66	.67	.68	.67	.66	.68	.68	.69	.70	.70	.67	.68
1901 [7]	.63	.67	.66	.66	.69	.75	.79	.75	.72	.72	.74	.70	.68
1902	.70	.66	.67	.67	.67	.67	.67	.68	.68	.68	.69	.73	.68
1903	.70	.73	.73	.73	.72	.71	.75	.87	.89	.89	.92	.89	.77
1904	.87	.94	1.03	1.06	1.05	1.05	1.07	1.09	1.04	.93	1.01	1.00	.97
1905	.84	.80	.78	.80	.81	.81	.81	.78	.76	.79	.80	.78	.80
1906	.71	.68	.66	.69	.69	.70	.71	.72	.71	.73	.90	.91	.72
1907	.87	.86	.93	1.00	.96	.97	1.00	.95	.98	.97	1.00	.97	.93
1908	.97	.95	.98	.99	1.02	1.03	1.06	1.10	1.15	1.30	1.38	1.37	.99
1909	1.14	1.02	1.02	1.06	1.04	1.10	1.11	1.11	1.10	1.08	1.07	1.08	1.07
1910	1.04	1.00	.99	.95	.91	.93	.95	.90	.88	.88	.90	.88	.98
1911	.87	.93	.95	1.04	1.00	1.00	1.05	1.03	1.05	1.09	1.11	1.09	.97
1912	.92	.89	.88	.88	.83	.84	.87	.86	.86	.88	.87	.88	.88
1913	.82	.83	.87	.84	.83	.84	.85	.86	.88	.87	.90	.85	.84
Av. 1909–1913	.96	.93	.94	.95	.92	.94	.97	.95	.95	.96	.97	.96	.95
1914	.78	.91	1.04	1.02	1.08	1.13	1.34	1.54	1.49	1.54	1.50	1.21	1.05
1915	1.36	1.26	1.07	1.07	1.03	1.12	1.20	1.20	1.05	1.12	1.10	1.00	1.19
1916	1.14	1.41	1.57	1.67	1.85	1.72	1.89	1.82	1.97	2.43	3.01	2.74	1.71
1917	2.68	2.61	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12		2.52
1918	2.20	2.16	2.16	2.16	2.15	2.24	2.31	2.26	2.39	2.62	2.60	2.47	2.19
1919	2.25	2.18	2.24	2.30	2.46	2.63	2.82	2.42	2.49	2.75	2.93	2.76	2.42
1920	2.68	2.45	2.44	2.07	1.76	1.69	1.72	1.62	1.55	1.33	1.47	1.38	1.83
Av. 1914–1920	1.87	1.85	1.81	1.77	1.78	1.81	1.91	1.85	1.87	1.99	2.10		1.85
1921	1.18	1.15	1.22	1.10	1.09	1.09	1.13	1.29	1.34	1.35	1.34	1.17	1.20
1922	1.13	1.04	1.04	1.13	1.17	1.17	1.14	1.15	1.16	1.20	1.16	1.04	1.13
1923	.96	1.01	1.09	1.12	1.09	1.09	1.13	1.11	1.09	1.04	1.06	1.08	1.05
1924	1.20	1.19	1.20	1.37	1.43	1.62							

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[5] Compiled from St. Louis Daily Market Reporter.
[6] Compiled from Kansas City Daily Price Current.
[7] Jan.–Dec., 1901, compiled from daily Kansas City Star.

TABLE 33.—*Wheat: Average price per bushel of daily cash closing prices, 1909–1924*

NO. 2 HARD WINTER, NEW YORK [1]

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1909	$1.31	$1.12	$1.12	$1.20	$1.19	$1.24	$1.26	$1.33	$1.27	$1.19	$1.14	$1.05	$1.20
1910	1.14	1.10	1.06	1.04	1.02	1.02	1.08	1.03	1.00	.99	1.03	.97	1.04
1911	.98	.98	1.04	1.10	1.05	1.07	1.11	1.13	1.13	1.19	1.24	1.20	1.10
1912	1.10	1.03	1.01	1.02	.98	.99	1.06	1.04	1.00	1.03	1.02	1.04	1.03
1913	.99	.97	.98	.95	.98	1.00	.93	1.02	1.02	1.02	1.05	1.00	.99
Av. 1909–1913	1.10	1.04	1.04	1.06	1.04	1.06	1.09	1.11	1.08	1.08	1.10	1.05	1.07
1914	.92	1.01	1.13	1.12	1.23	1.31	1.52	1.72	1.66	1.67	1.65	1.37	1.36
1915	1.36	1.22	1.20	1.24	(2)	(2)	1.40	1.42	1.25	1.29	1.24	1.15	1.28
1916	1.26	1.57	1.68	1.84	2.00	1.87	2.09	2.00	2.16	2.63	3.07	(2)	2.02
1917	2.44	2.46	2.28	2.64	2.81	2.62	2.26	2.26	2.26	2.26	2.26	2.26	2.40
1918	2.31	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.37
1919	2.38	2.38	2.38	2.38	2.38	2.38	2.37	2.37	2.51	3.02	3.09	2.98	2.55
1920	2.92	2.62	2.65	2.33	2.06	1.95	2.00	1.90	1.81	1.59	1.75	1.67	2.10
Av. 1914–1920	1.94	1.95	1.96	1.99	------	------	2.00	2.01	2.00	2.12	2.21	1.97	2.01
1921	1.46	1.36	1.38	1.20	1.16	1.25	1.23	1.43	1.45	1.51	1.49	1.30	1.35
1922	1.32	1.23	1.19	1.33	1.36	1.37	1.32	1.30	1.33	1.37	1.34	1.25	1.31
1923	1.16	1.14	1.16	1.22	1.19	1.22	1.25	1.28	1.24	1.20	1.21	1.26	1.21
1924	1.39	1.43	1.44	1.60	1.64	1.80	------	------	------	------	------	------	------

NO. 1 NORTHERN SPRING, WINNIPEG [3]

1909	$1.31	$1.19	$1.00	$0.97	$0.97	$0.98	$1.03	$1.03	$1.04	$1.03	$0.98	$0.93	$1.04
1910	1.08	1.07	1.03	.98	.92	.90	.94	.93	.90	.90	.95	.97	.96
1911	.95	1.01	1.01	1.00	.99	.95	.95	.97	.98	1.01	1.04	1.06	.99
1912	1.07	1.06	1.00	.91	.85	.80	.82	.84	.85	.89	.93	.96	.92
1913	.97	.95	.89	.81	.83	.84	.85	.88	.90	.90	.93	.94	.89
Av. 1909–1913	1.08	1.06	.99	.93	.91	.89	.92	.93	.93	.95	.97	.97	.96
1914	.90	1.08	1.13	1.11	1.18	1.18	1.36	1.53	1.49	1.57	1.61	1.32	1.29
1915	1.35	1.25	.95	.96	1.02	1.07	1.22	1.26	1.10	1.15	1.17	1.11	1.13
1916	1.18	1.49	1.59	1.72	1.93	1.76	1.80	1.68	1.85	2.33	2.75	2.49	1.88
1917	2.34	2.40	2.25	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.24
1918	2.21	2.21	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
1919	2.16	2.15	2.53	2.53	2.52	2.44	2.40	2.31	2.36	2.40	2.38	2.32	2.38
1920	2.33	2.33	2.45	2.11	1.84	1.67	1.71	1.66	1.68	1.57	1.67	1.69	1.89
Av. 1914–1920	1.78	1.84	1.88	1.84	1.85	1.80	1.85	1.84	1.85	1.92	2.00	1.91	1.86
1921	1.64	1.56	1.33	1.04	1.02	1.05	1.08	1.31	1.37	1.40	1.44	1.31	1.30
1922	1.35	1.17	.99	1.01	1.10	1.08	1.07	1.10	1.10	1.19	1.15	1.12	1.12
1923	1.06	1.11	1.04	.96	.96	.91	.94	.97	.95	.96	1.03	1.12	1.00
1924	1.35	1.42	1.42	1.60	1.64	1.73	------	------	------	------	------	------	------

Division of Statistical and Historical Research.

[1] Compiled from New York Journal of Commerce.

[2] Nominal.

[3] Compiled from Winnipeg Farmers' Advocate, July 1909–September 1923; November 1923–December 1924, from Minneapolis Daily Market Record.

TABLE 34.—*Wheat, good average quality imported red: Average spot price per bushel of 60 pounds at Liverpool, 1909–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1914	1.02	1.04	1.07	1.07	1.11	1.09	1.05	1.28	1.29	1.28	1.38	1.47	1.18
1915	1.67	1.95	1.91	1.94	1.98	1.65	1.63	1.61	1.67	1.71	1.59	1.73	1.75
1916	1.94	1.90	2.00	1.93	1.71	1.55	1.58	1.96	2.00	2.15	2.22	2.39	1.94
1917	2.39	2.43	2.42	2.46	2.46	2.46	2.50	2.50	2.38	2.26	2.26	2.26	2.40
1918	2.32	2.32	2.39	2.32	2.32	2.32	2.32	2.32	2.32	2.39	2.46	2.46	2.36
1919	2.46	2.46	2.43	2.41	2.41	2.39	2.29	2.21	2.16	2.16	2.11	1.95	2.29
1920	1.90	1.75	2.11	2.37	2.34	2.40	2.34	2.20	2.13	2.34	2.53	2.39	2.23
Av. 1914–1920	1.96	1.98	2.05	2.07	2.05	1.98	1.96	2.01	1.99	2.04	2.08	2.09	2.02
1921	2.33	2.14	2.14	2.13	2.18	1.96	1.71	1.59	1.56	1.31	1.26	1.37	1.81
1922	1.37	(1)	1.58	1.58	1.59	1.44	1.49	1.35	1.29	1.44	1.52	1.54	1.47
1923	1.42	1.41	1.40	1.46	(1)	(1)	(1)	1.26	1.22	1.23	1.25	(1)	------
1924	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1.61	1.74	1.77	1.88	------

Division of Statistical and Historical Research. For earlier years 1879–1913, see the U. S. Dept. of Agr. Yearbook 1923, page 630. Compiled from Broomhall's 1921 Yearbook, 1914–1920; from Corn Trade News, 1921–1924. Conversions at current exchange rate.

[1] No quotations.

TABLE 35.—*Wheat: Weighted average price*[1] *per bushel of reported cash sales of all classes and grades combined at markets named, 1918–1924*

MINNEAPOLIS

Year beginning July 1	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	Weighted average[1]
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1918	242.8	221.3	219.0	218.6	220.5	220.0	218.9	221.2	230.5	245.3	251.8	239.8	222.4
1919	248.9	230.1	234.0	240.9	261.6	278.5	276.5	245.6	254.8	285.3	297.0	278.7	257.6
1920	274.6	247.1	244.9	203.9	172.4	163.0	167.8	156.3	151.5	135.1	144.5	146.0	187.9
1921	145.3	132.2	138.6	121.5	117.3	117.7	120.2	138.9	141.3	148.2	149.7	136.5	131.2
1922	140.5	114.2	111.0	113.8	122.3	123.1	119.2	120.8	121.2	126.5	124.8	115.8	119.2
1923	110.7	111.2	114.6	115.3	109.4	108.9	114.1	116.4	116.2	115.3	118.6	125.4	113.9
1924	135.7	133.0	132.8	148.4	150.5	167.3							

KANSAS CITY

1918	220.2	215.5	214.0	213.2	212.4	217.5	223.1	218.6	227.1	252.0	248.0	233.8	218.1
1919	219.3	214.4	215.9	221.2	235.9	252.2	266.3	233.4	241.5	263.5	286.3	273.5	244.9
1920	267.4	245.6	246.0	206.6	176.3	170.2	173.0	164.6	154.6	133.5	147.5	139.7	190.2
1921	117.0	115.0	120.4	109.8	107.6	108.2	111.1	127.4	131.4	132.3	125.9	113.2	118.2
1922	111.0	103.2	104.1	111.1	114.5	116.3	114.0	115.1	115.4	119.7	115.9	104.1	110.8
1923	94.9	99.2	102.6	107.1	101.3	99.9	105.6	106.5	104.2	101.6	102.1	107.3	101.9
1924	121.3	120.3	120.5	138.0	143.9	162.3							

CHICAGO

1918	225.0	223.0	220.6	220.6	220.6	223.2	222.3	220.1	230.8	250.0	252.5	232.8	223.0
1919	223.9	222.2	221.9	225.7	242.0	249.5	272.2	235.5	242.0	289.8	295.8	280.5	226.1
1920	264.9	248.8	249.8	209.9	180.7	173.4	178.6	171.9	157.3	139.7	156.5	142.7	216.3
1921	124.1	119.8	124.4	112.0	107.9	110.5	112.7	128.6	129.7	132.4	132.7	115.9	121.6
1922	113.4	107.0	104.5	113.4	119.0	123.6	117.6	120.6	120.0	124.8	119.3	109.3	112.2
1923	99.1	99.6	101.0	106.8	103.1	105.3	108.6	110.3	109.7	106.1	107.8	113.7	102.5
1924	129.4	125.7	121.5	142.7	145.0	165.3							

ST. LOUIS

1918	221.6	221.0	221.2	222.0	221.7	230.5	230.2	231.2	252.3	262.3	257.8	239.5	223.6
1919	220.7	218.6	218.3	220.9	224.8	224.9	252.5	247.4	253.5	275.8	293.1	283.0	225.2
1920	273.3	249.9	253.1	219.2	197.2	191.2	194.7	183.7	163.8	139.8	155.0	148.2	210.1
1921	120.3	116.3	122.6	111.6	107.7	109.0	115.3	131.3	133.1	133.3	130.6	113.1	120.4
1922	107.4	103.4	107.2	116.7	121.6	126.0	124.5	128.0	125.8	129.6	124.8	114.3	115.8
1923	96.6	97.1	102.6	111.4	106.9	108.6	112.2	113.1	110.3	108.2	109.1	112.6	104.5
1924	131.9	128.8	130.5	147.3	154.2	170.3							

FOUR MARKETS COMBINED

1918	221.2	219.9	218.5	218.3	219.4	220.6	220.7	221.3	232.4	249.2	251.7	238.2	221.7
1919	223.1	221.0	223.6	229.3	246.5	256.8	267.9	240.1	248.6	278.2	292.3	277.0	241.8
1920	270.6	247.3	246.6	205.8	175.1	167.2	172.4	163.2	154.3	135.3	147.6	144.1	193.3
1921	122.9	121.7	128.5	117.3	113.1	113.8	115.8	131.4	136.1	138.5	135.0	122.5	123.7
1922	117.1	107.6	108.6	113.4	120.0	121.3	118.3	120.0	120.4	125.0	122.2	112.6	116.0
1923	99.8	102.7	109.5	112.6	107.3	106.4	111.4	112.7	112.6	111.0	111.6	117.9	108.5
1924	126.2	124.6	128.3	145.0	148.9	166.4							

Division of Statistical and Historical Research. Compiled from daily trade papers of markets named.

[1] The prices in this table are comparable with farm prices in that the farm prices are averages of the several prices reported which cover all classes and grades sold from the farm.

[2] Average of daily prices weighted by carlot sales.

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TABLE 36.—*Wheat, Barletta:*[1] *Average price per bushel of 60 pounds at Buenos Aires, 1912–1924.*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1912	$1.01	$1.00	$1.00	$1.03	$0.96	$0.99	$0.99	$1.01	$1.02	$1.01	$0.96	$0.92	$0.99
1913	.91	1.00	.93	.99	.95	1.02	1.02	1.01	[2]1.07	[3]1.03	[3]1.08	.95	1.00
1914	.95	.99	.98	.95	1.01	.99	1.01	1.22	1.23	[4]1.12	[4]1.24	[4]1.22	1.08
1915	1.26	1.42	1.39	1.44	1.48	1.35	1.33	1.29	1.31	1.36	1.31	1.20	1.34
1916	1.05	1.06	.96	.95	.85	.83	.84	1.06	1.19	1.49	1.74	1.48	1.12
1917	1.65	1.64	1.67	1.72	2.00	2.21	2.23	2.02	2.00	2.02	2.10	1.79	1.92
1918	1.56	1.55	1.58	1.59	1.57	1.56	1.50	1.41	1.42	1.41	1.46	1.49	1.51
1919	1.31	1.31	1.27	1.27	1.33	1.34	1.32	1.94	1.85	1.66	1.71	1.63	1.54
1920	1.65	1.75	2.02	2.55	2.79	2.58	2.85	2.43	2.48	2.58	[3]2.75	1.86	2.36
Av. 1914–1920	1.35	1.39	1.41	1.50	1.58	1.55	1.65	1.62	1.64	1.66	1.76	1.52	1.55
1921	1.76	1.58	1.62	1.46	1.48	1.50	1.45	1.43	1.50	1.22	1.05	1.05	1.42
1922	1.04	1.26	1.32	1.30	1.32	1.22	1.27	1.20	1.16	1.22	1.20	1.22	1.23
1923	1.20	1.22	1.20	1.21	1.17	1.13	1.05	1.00	1.05	1.09	1.13	1.04	1.12
1924	.99	.97	.98	.99	1.02	1.11	1.30	1.40	1.43	1.59	1.60	1.61	1.25

Division of Statistical and Historical Research.

Prices and monthly exchange rates from International Yearbook of Agricultural Statistics, 1922, supplemented by Review of the River Plate. Exchange after July, 1921, from Federal Reserve Bulletin.

[1] Barletta is a semihard wheat. [2] No. 1 Rosario wheat. [3] Description "Pan." [4] New crop.

TABLE 37.—*Wheat, white: Spot price per bushel of 60 pounds at Karachi, India, 1912–1924.*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1912	$0.90	$0.94	$0.94	$0.96	$0.93	$0.89	$0.88	$0.89	$0.88	$0.89	$0.89	$0.89	$0.91
1913	.92	.97	.97	.93	.92	.90	.90	.87	.87	.86	.88	.88	.91
1914	.91	.93	.91	.92	.94	.91	.90	.96	1.08	1.09	1.22	1.23	1.00
1915	1.27	1.43	1.22	1.21	1.07	1.02	1.02	1.06	1.12	1.10	1.09	1.07	1.14
1916	1.09	1.03	.97	.89	.88	.86	.95	1.05	1.03	1.04	1.10	1.15	1.00
1917	1.19	1.14	1.13	1.12	1.04	1.05	1.08	1.07	1.14	1.13	1.22	1.26	1.13
1918	1.22	1.23	1.24	1.24	1.25	1.23	1.26	1.31	1.41	1.57	1.61	1.63	1.35
1919	1.82	1.82	1.91	1.78	2.07	2.01	2.06	2.16	2.14	1.93	2.04	2.16	1.99
1920	2.12	2.09	1.91	1.90	1.74	1.62	[1]1.49	[1]1.35	1.34	1.36	1.32	1.22	1.62
Av. 1914–1920	1.37	1.38	1.33	1.29	1.28	1.24	1.25	1.28	1.32	1.32	1.37	1.39	1.32
1921	1.28	1.29	1.26	1.26	1.33	1.31	1.29	1.52	1.86	1.73	1.57	1.60	1.44
1922	1.50	[2]	[2]	[2]	1.36	1.36	1.25	1.22	1.11	.89	.91	1.17	1.20
1923	1.20	1.12	1.12	1.17	1.13	1.07	1.03	.91	.96	.97	.99	1.01	1.06
1924	.98	.98	.99	.99	1.04	1.05	1.19	1.30	1.35	1.46	1.47	1.49	1.19

Division of Statistical and Historical Research. Compiled from Indian Trade Journal. Converted at par of $0.3244 per rupee to 1919, and current exchange rate as given by Federal Reserve Bulletins 1919 to date.

[1] First week of month, from Review of the Trade of India. [2] Not quoted.

TABLE 38.—*Wheat: Average price per bushel of 60 pounds at Port Adelaide, Australia, 1912–1923.*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1912	$0.88	$0.87	$0.88	$0.96	$0.96	$0.98	$0.96	$0.96	$0.99	$1.00	$0.96	$0.86	$0.94
1913	.85	.86	.86	89	.88	.87	.86	.87	.86	.84	.84	.84	.86
1914	.86	.87	.90	.90	.92	.93	.93	1.00	1.12	1.14	1.21	1.40	1.02
1915	1.48	1.65	1.74	1.76	1.80	1.81	1.82	1.79	1.78	1.41	1.05	1.23	1.61
1916[1]	1.13	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
1917[1]	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
1918[1]	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
1919[1]	1.14	1.19	1.18	1.16	1.16	1.15	1.11	1.07	1.05	1.15	1.12	1.13	1.13
1920[1]	1.19	1.29	1.45	1.50	1.48	1.51	1.48	1.39	1.35	1.33	1.31	1.34	1.38
Av. 1914–1920	1.15	1.20	1.24	1.25	1.25	1.26	1.25	1.24	1.25	1.21	1.16	1.22	1.22
1921[1]	1.69	1.74	1.76	1.77	1.79	1.70	1.63	1.64	1.68	1.74	[2]1.79	[2]1.87	1.73
1922	.99	1.07	1.18	1.15	1.27	1.20	1.19	1.15	1.14	1.15	1.15	1.17	1.15
1923	1.18	1.14	1.12	1.18	1.17	1.12	1.04	.98	1.01	1.01	.98	.94	1.07

Division of Statistical and Historical Research. Compiled from Statistical Register of South Australia, 1920–21 to 1922–23.

[1] The prices from 1916–1921 are those fixed for home consumption, the average prices on the whole transaction of the Wheat Harvest Board during each year being: 1916, $1.13; 1917, $1.14; 1918, $1.14; 1919, $1.31; 1920, $1.70; and 1921, $1.52.

[2] These prices for old wheat; new wheat price; November, $0.93; December, $1.02.

WHEAT FLOUR

TABLE 39.—*Flour, wheat: Average wholesale price per barrel at markets named, 1909–1924*

MINNEAPOLIS—SPRING PATENTS [1]

Year beginning July 1	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1909	$6.21	$5.89	$5.14	$5.29	$5.22	$5.48	$5.58	$5.45	$5.52	$5.38	$5.42	$5.33	$5.49
1910	6.20	5.79	5.75	5.21	5.03	5.01	5.28	4.91	4.75	4.64	4.89	4.81	5.19
1911	4.88	4.88	4.98	5.25	5.05	5.05	5.00	5.10	5.10	5.10	5.43	5.60	5.12
1912	5.43	5.24	4.68	4.63	4.59	4.13	4.26	4.43	4.43	4.43	4.43	4.63	4.61
1913	4.66	4.57	4.45	4.33	4.18	4.15	4.26	4.52	4.54	4.51	4.51	4.51	4.43
Av. 1909–1913	5.48	5.27	5.09	4.94	4.81	4.76	4.88	4.88	4.87	4.81	4.94	4.98	4.97
1914	4.62	5.78	6.02	5.58	5.79	6.01	6.86	7.54	7.16	7.61	7.41	6.78	6.43
1915	6.78	6.42	5.13	5.23	5.28	5.98	6.23	6.13	5.70	5.90	5.79	5.29	5.82
1916	5.68	7.69	8.26	9.08	9.56	8.60	9.00	8.45	9.44	11.33	14.09	13.08	9.52
1917	12.86	13.22	11.15	10.84	10.24	10.07	9.85	10.05	9.89	9.90	9.42	9.89	10.62
1918	10.45	10.53	10.49	10.44	10.41	10.44	10.42	10.69	11.22	12.09	12.52	12.00	10.98
1919	12.15	12.13	11.54	12.03	13.20	14.48	14.97	13.73	13.41	14.69	15.49	14.64	13.54
1920	14.12	13.33	13.02	11.45	9.74	9.28	9.94	9.38	9.10	8.30	9.04	9.40	10.51
Av. 1914–1920	9.52	9.87	9.37	9.24	9.17	9.27	9.61	9.42	9.42	9.97	10.54	10.15	9.63
1921	9.27	8.34	8.62	7.67	7.39	7.26	7.33	8.17	8.27	8.46	8.32	7.71	8.07
1922	7.95	7.22	6.68	6.76	6.88	6.86	6.71	6.72	6.72	7.00	6.80	6.35	6.89
1923	6.21	6.37	6.45	6.43	6.21	6.30	6.44	6.51	6.49	6.56	6.83	7.12	6.49
1924	7.72	7.69	7.52	8.19	8.22	9.03	------	------	------	------	------	------	------

ST. LOUIS—SOFT WINTER PATENTS [2]

1909	$5.80	$4.92	$5.14	$5.75	$5.68	$5.82	$5.77	$5.80	$5.75	$5.40	$5.29	$5.11	$5.52
1910	5.20	4.85	4.76	4.68	4.58	4.58	4.86	4.64	4.52	4.38	4.39	4.36	4.65
1911	4.17	4.25	4.40	4.69	4.68	4.62	4.74	4.70	4.72	5.07	5.54	5.43	4.75
1912	5.26	4.49	4.54	4.70	4.67	4.70	4.84	4.86	4.68	4.59	4.52	4.45	4.69
1913	4.12	3.88	3.98	3.95	4.08	4.14	4.20	4.11	4.02	3.85	3.92	3.74	4.00
Av. 1909–1913	4.91	4.48	4.56	4.75	4.74	4.77	4.88	4.82	4.74	4.66	4.73	4.62	4.72
1914	3.47	4.16	5.04	4.86	4.91	5.03	6.18	6.98	6.57	6.65	6.66	5.56	5.51
1915	5.56	4.87	4.83	5.08	5.18	5.39	5.60	5.79	5.24	5.32	5.20	4.91	5.25
1916	5.24	6.85	7.31	7.84	8.72	8.31	8.67	8.44	8.83	11.29	13.91	12.53	9.00
1917	10.64	10.78	10.36	10.33	10.26	10.28	10.46	10.74	11.40	11.39	10.94	10.72	10.69
1918	10.25	10.25	10.25	10.25	10.25	10.25	11.22	11.65	10.71	11.45	11.41	10.28	10.68
1919	10.80	10.13	9.90	9.95	10.12	11.31	12.08	11.49	11.59	12.34	13.93	13.18	11.40
1920	11.98	11.99	12.09	11.38	10.13	9.44	9.73	9.71	8.76	7.10	7.81	7.98	9.84
Av. 1914–1920	8.28	8.43	8.54	8.53	8.51	8.57	9.13	9.26	9.01	9.36	9.98	9.31	8.91
1921	6.61	6.63	6.94	6.60	6.25	6.25	5.99	6.69	7.05	6.79	7.07	6.48	6.61
1922	5.94	5.75	5.86	6.29	6.50	6.62	6.50	6.62	6.50	6.66	6.53	6.05	6.32
1923	5.59	5.71	5.39	5.71	5.75	5.75	5.93	5.94	5.95	5.93	5.88	6.08	5.80
1924	6.60	7.24	7.00	7.86	8.26	8.94	------	------	------	------	------	------	------

CHICAGO—WINTER PATENTS [3]

1909	$6.08	$5.07	$4.72	$5.28	$5.41	$5.40	$5.48	$5.42	$5.48	$5.27	$5.05	$4.75	$5.28
1910	4.92	4.87	4.72	4.57	4.40	4.41	4.53	4.31	4.09	4.06	4.20	4.16	4.44
1911	4.08	4.12	4.32	4.64	4.61	4.85	4.40	4.58	4.58	4.76	5.21	5.17	4.61
1912	4.86	4.52	4.69	4.52	4.56	4.59	4.62	4.67	4.50	4.48	4.48	4.41	4.58
1913	4.25	4.12	4.16	4.21	4.21	4.22	4.25	4.25	4.25	4.22	4.21	4.24	4.22
Av. 1909–1913	4.84	4.54	4.52	4.64	4.64	4.69	4.66	4.65	4.58	4.56	4.63	4.55	4.63
1914	3.80	4.54	5.36	5.16	5.23	5.22	6.28	7.42	7.01	7.18	7.19	5.69	5.84
1915	5.16	5.24	5.10	5.26	5.23	5.39	5.92	6.11	5.38	5.76	5.54	5.37	5.46
1916	5.23	6.55	7.30	7.78	8.82	8.20	9.09	8.44	9.10	11.20	14.91	13.80	9.20
1917	11.77	12.25	11.74	10.68	10.38	10.44	9.92	10.45	11.00	10.95	10.82	10.88	10.94
1918	10.88	10.68	10.20	10.08	9.58	10.22	10.55	10.42	10.36	11.44	12.99	11.82	10.77
1919	11.02	10.54	10.80	11.35	11.91	13.00	13.68	12.88	12.08	12.30	13.68	13.42	12.22
1920	12.98	11.79	12.22	11.00	10.40	8.78	10.19	9.26	9.05	7.91	7.84	8.76	10.02
Av. 1914–1920	8.69	8.80	8.96	8.76	8.79	8.75	9.38	9.28	9.14	9.53	10.42	9.96	9.21
1921	7.12	7.00	7.01	6.95	6.51	6.44	6.01	6.97	6.81	6.95	7.54	7.11	6.87
1922	6.76	6.10	6.24	6.48	6.44	6.67	6.39	6.20	6.26	6.19	6.02	5.80	6.30
1923	5.31	5.39	5.75	5.74	5.30	5.30	5.30	5.58	5.41	5.26	5.52	5.94	5.48
1924	6.23	6.32	6.43	7.20	7.37	8.10	------	------	------	------	------	------	------

[1] Compiled from the Minneapolis Daily Market Record.
[2] Compiled from St Louis Annual Statements of Trade and Commerce and St. Louis Market Reporter.
[3] Compiled from Chicago Board of Trade and Daily Trade Bulletin.

TABLE 39.—*Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1924*—Continued

CHICAGO—SPRING PATENTS [3]

Year beginning July 1	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1909	$6.17	$5.81	$6.08	$5.92	$6.13	$6.45	$6.41	$6.35	$6.46	$6.28	$6.27	$6.18	$6.21
1910	6.76	6.65	6.37	6.31	6.18	6.28	6.42	6.05	5.56	5.36	5.62	5.44	6.08
1911	5.53	5.83	5.89	6.12	5.95	5.80	5.82	5.86	5.80	5.88	6.38	6.40	5.94
1912	6.10	5.79	5.65	5.36	5.14	4.84	4.60	4.66	4.64	4.71	4.88	4.81	5.10
1913	4.89	4.80	4.73	4.62	4.58	4.65	4.68	4.80	4.86	4.71	4.74	4.72	4.73
Av. 1909–1913	5.89	5.78	5.74	5.67	5.60	5.60	5.59	5.54	5.46	5.39	5.58	5.51	5.61
1914	4.58	5.62	6.18	5.71	5.79	5.90	6.97	7.62	7.41	7.62	7.85	6.62	6.49
1915	6.66	6.76	5.40	5.60	5.69	5.84	6.51	6.74	5.87	6.16	6.11	5.99	6.11
1916	5.96	7.63	8.15	9.84	9.79	9.02	9.54	9.01	9.75	12.02	15.34	17.46	10.29
1917	12.53	13.03	11.46	10.89	10.55	10.45	10.08	10.75	11.25	11.50	11.15	10.88	11.21
1918	10.65	11.00	10.62	10.40	9.58	10.50	10.42	10.28	10.20	11.45	13.10	11.25	10.79
1919	11.62	12.25	11.40	11.52	13.00	13.95	13.88	14.42	13.18	13.75	15.40	14.50	13.24
1920	13.35	13.10	12.42	11.75	10.75	8.32	10.00	8.82	8.75	8.48	8.42	9.60	10.31
Av. 1914–1920	9.34	9.91	9.38	9.39	9.31	9.14	9.63	9.66	9.49	10.14	11.05	10.90	9.78
1921	8.82	9.00	8.10	7.75	7.38	7.32	6.78	7.84	7.55	7.60	8.00	7.65	7.82
1922	7.73	7.25	6.99	6.86	6.78	7.00	6.85	6.68	6.68	6.64	6.69	6.22	6.86
1923	5.80	5.97	6.15	6.18	5.99	5.95	5.98	6.39	6.25	6.12	6.23	6.68	6.14
1924	7.08	7.09	6.97	7.75	7.83	8.50							

NEW YORK—WINTER PATENTS [4]

1909	$6.52	$6.28	$5.43	$5.77	$5.78	$5.74	$5.96	$5.95	$5.96	$5.82	$5.74	$5.40	$5.86
1910	5.44	5.36	5.07	4.92	4.81	4.88	5.02	4.92	4.78	4.63	4.67	4.65	4.93
1911	4.68	4.67	4.71	4.90	4.90	4.90	4.96	5.06	5.08	5.32	6.00	6.00	5.10
1912	5.79	5.28	5.34	5.33	5.33	5.33	5.55	5.75	5.44	5.50	5.50	5.54	5.47
1913	5.58	5.42	4.89	4.91	4.90	4.90	4.92	4.97	5.00	4.88	5.00	4.98	5.03
Av. 1909–1913	5.60	5.40	5.09	5.17	5.14	5.15	5.28	5.33	5.25	5.23	5.38	5.31	5.28
1914	4.90	5.22	5.81	5.80	5.80	5.86	6.79	7.88	7.56	7.39	7.55	6.64	6.43
1915	6.48	6.62	5.68	5.89	5.90	6.20	6.70	6.62	6.28	6.24	5.91	5.48	6.17
1916	5.63	7.34	7.86	8.30	8.90	8.60	9.09	8.87	9.53	11.41	14.57	12.98	9.42
1917	11.72	11.12	10.94	10.64	10.51	10.45	10.44	10.43	10.91	11.00	10.98	10.98	10.84
1918	11.35	10.71	10.40	10.28	10.25	10.53	10.48	10.25	10.55	11.40	11.38	11.19	10.73
1919	11.11	10.53	10.52	10.22	10.18	10.68	10.99	10.98	10.91	11.47	12.90	13.67	11.18
1920	12.46	11.20	11.22	10.14	9.38	8.82	8.87	8.36	8.15	7.00	7.09	7.39	9.17
Av. 1914–1920	9.09	8.96	8.92	8.75	8.70	8.73	9.05	9.06	9.13	9.42	10.05	9.76	9.13
1921	6.50	6.24	6.32	6.02	5.73	5.68	6.00	6.66	6.99	6.57	6.32	5.93	6.25
1922	7.10	6.49	6.57	6.76	6.98	6.79	6.67	6.63	6.56	6.72	6.45	6.34	6.67
1923	5.69	5.93	6.31	6.33	6.20	6.18	6.19	6.16	6.26	6.25	6.47	6.81	6.23
1924	7.24	7.17	7.17	7.97	8.26	8.87							

NEW YORK—SPRING PATENTS [4]

1909	$6.45	$6.31	$5.62	$5.51	$5.56	$5.63	$5.80	$5.76	$5.82	$5.66	$5.62	$5.42	$5.76
1910	6.05	5.78	5.71	5.52	5.33	5.40	5.46	5.25	5.08	5.02	5.23	5.10	5.41
1911	5.13	5.36	5.44	5.42	5.45	5.22	5.42	5.43	5.40	5.54	5.88	5.73	5.45
1912	5.51	5.37	5.11	4.87	4.80	4.60	4.66	4.70	4.80	4.66	4.89	4.95	4.91
1913	4.98	4.98	4.75	4.50	4.52	4.56	4.61	4.76	4.90	4.66	4.72	4.79	4.73
Av. 1909–1913	5.62	5.56	5.33	5.16	5.13	5.08	5.19	5.18	5.20	5.11	5.27	5.20	5.25
1914	4.59	5.78	6.09	5.78	5.83	6.02	7.03	7.78	7.41	7.63	7.79	6.50	6.52
1915	6.82	6.91	6.44	5.58	5.62	6.10	6.69	6.64	5.99	6.32	6.27	5.78	6.26
1916	6.09	7.80	8.36	8.94	9.69	8.99	9.49	9.06	9.80	11.66	14.99	13.68	9.88
1917	12.32	12.46	11.69	11.31	10.93	10.86	10.63	10.63	10.94	11.00	10.98	10.98	11.23
1918	11.41	11.26	11.07	10.92	10.82	10.90	10.64	10.69	11.27	12.09	12.51	11.93	11.29
1919	12.12	12.35	11.73	12.20	13.11	14.25	14.49	13.25	13.07	13.88	14.83	14.20	13.29
1920	13.93	13.06	12.82	11.34	9.77	9.12	9.58	8.98	8.82	8.12	8.61	9.07	10.27
Av. 1914–1920	9.61	9.95	9.74	9.44	9.40	9.46	9.79	9.58	9.61	10.10	10.85	10.31	9.82
1921	9.03	8.48	8.31	7.50	6.97	6.94	6.85	8.05	7.95	7.96	8.18	7.63	7.82
1922	7.69	7.00	6.64	6.85	6.99	6.93	6.68	6.62	6.56	6.79	6.68	6.37	6.82
1923	6.07	6.38	6.40	6.36	6.17	6.20	6.23	6.50	6.39	6.26	6.46	6.84	6.36
1924	7.52	7.48	7.28	7.98	8.03	8.61							

[3] Compiled from Chicago Board of Trade and Daily Trade Bulletin.
[4] Compiled from New York Journal of Commerce.

TABLE 39.—*Flour, wheat: Average wholesale price per barrel at markets named, 1909 to 1924*—Continued

KANSAS CITY—HARD WINTER PATENTS [5]

Year beginning July 1	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	Average
1909	$5.42	$4.72	$4.68	$4.88	$4.68	$4.77	$4.78	$4.78	$4.83	$4.84	$4.84	$4.60	$4.82
1910	4.85	4.70	4.70	4.54	4.46	4.46	4.52	4.30	4.20	4.05	4.26	4.18	4.44
1911	4.06	4.19	4.30	4.65	4.60	4.54	4.80	4.72	4.69	4.79	4.90	4.90	4.60
1912	4.50	4.10	4.10	4.03	3.90	3.86	3.92	3.94	3.88	3.99	4.02	4.15	4.03
1913	4.10	4.07	4.19	4.01	3.95	3.95	3.95	3.95	3.98	4.00	4.00	3.98	4.01
Av. 1909–1913	4.59	4.36	4.39	4.42	4.32	4.32	4.39	4.34	4.32	4.33	4.40	4.36	4.38
1914	3.58	4.23	5.37	5.08	4.98	5.19	6.24	7.02	6.78	6.80	6.68	5.81	5.65
1915	5.58	5.38	4.91	4.90	4.98	5.18	5.75	5.74	5.12	5.20	5.08	4.81	5.22
1916	5.14	6.90	7.40	8.08	9.07	8.02	8.82	8.38	9.30	11.91	14.44	12.84	9.19
1917	11.95	12.41	10.74	10.50	10.31	10.02	10.10	10.25	10.31	10.31	10.38	10.38	10.64
1918	10.59	10.27	10.15	10.14	10.25	9.93	9.83	10.06	10.49	11.94	12.99	12.01	10.72
1919	11.11	10.70	10.98	11.56	12.02	13.52	14.08	12.64	12.26	13.09	14.23	13.37	12.46
1920	12.98	12.25	11.88	10.69	9.15	8.81	9.06	8.65	8.60	7.54	8.15	7.88	9.64
Av. 1914–1920	8.70	8.88	8.78	8.71	8.68	8.67	9.13	8.96	8.98	9.54	10.28	9.59	9.08
1921	7.15	6.61	7.08	6.57	6.05	6.15	6.13	6.85	7.14	7.28	7.44	6.81	6.77
1922	6.71	6.02	6.00	6.14	6.38	6.40	6.20	6.20	6.20	6.33	6.21	5.72	6.21
1923	5.39	5.59	5.66	5.89	5.68	5.68	5.87	5.94	5.96	5.88	6.09	6.31	5.83
1924	6.97	7.08	7.09	7.87	8.20	8.87							

Division of Statistical and Historical Research.

[5] Compiled from Northwestern Miller, Kansas City Daily Price Current, and Kansas City Grain Market Review.

TABLE 40.—*Flour (wheat): Retail price per pound in cities listed and average for the United States, 1913–1924*

NEW YORK

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1913	3.3	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.2	3.2	3.2	3.2	3.2
1914	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.6	3.8	3.7	3.6	3.7	3.4
1915	4.0	4.6	4.5	4.6	4.7	4.4	4.3	4.3	4.0	3.7	3.6	3.7	4.2
1916	4.0	4.1	3.9	3.9	3.9	3.9	3.8	4.6	5.0	5.3	5.8	5.5	4.5
1917	5.6	5.7	5.7	6.9	9.2	8.3	7.6	7.9	7.9	7.8	7.7	7.6	7.3
1918	7.0	7.1	7.8	7.0	7.1	7.2	7.2	7.4	7.3	7.3	7.1	6.9	7.2
1919	6.8	6.8	7.0	7.3	7.8	7.8	7.8	7.8	7.7	7.5	7.7	8.1	7.5
1920	8.5	8.8	8.6	8.7	9.3	9.7	9.8	9.5	9.0	8.3	7.3	6.6	8.7
Average, 1914–1920	5.6	5.8	5.8	5.9	6.5	6.4	6.2	6.4	6.4	6.2	6.1	6.0	6.1
1921	6.7	6.4	6.4	6.0	5.6	6.0	6.1	6.1	5.8	5.5	5.0	5.0	5.9
1922	5.0	5.1	5.4	5.4	5.4	5.5	5.4	5.4	5.0	5.0	4.9	4.9	5.2
1923	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.5	4.6	4.5	4.7	4.8
1924	4.7	4.7	4.7	4.7	4.8	4.8	5.0	5.1	5.4	5.4	5.5	5.6	5.0

CHICAGO

1913	2.8	2.8	2.7	2.7	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.8
1914	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.3	3.4	3.4	3.4	3.4	3.1
1915	3.6	3.9	4.0	4.2	4.4	4.0	3.8	3.8	3.5	3.4	3.3	3.4	3.8
1916	3.5	3.7	3.6	3.5	3.5	3.5	3.5	3.9	4.5	4.9	5.2	5.1	4.0
1917	5.1	5.1	5.3	6.4	8.2	7.8	7.0	7.2	6.9	6.6	6.4	6.1	6.5
1918	6.1	6.3	6.4	6.2	6.4	6.3	6.5	6.5	6.5	6.4	6.3	6.3	6.4
1919	6.1	6.2	6.4	6.8	7.4	7.2	7.2	7.2	7.1	7.1	7.3	7.7	7.0
1920	7.9	7.8	7.7	8.0	8.7	8.5	8.3	7.8	7.6	7.0	6.2	5.5	7.6
Average, 1914–1920	5.0	5.1	5.2	5.4	5.9	5.7	5.6	5.7	5.6	5.5	5.4	5.4	5.5
1921	5.8	5.5	5.6	5.3	5.2	5.4	5.3	5.4	5.1	4.9	4.5	4.4	5.2
1922	4.4	4.7	4.9	4.9	4.9	4.8	4.8	4.7	4.3	4.2	4.2	4.3	4.6
1923	4.2	4.2	4.1	4.1	4.1	4.2	4.0	4.0	4.1	4.1	4.1	4.1	4.1
1924	4.0	4.1	4.1	4.1	4.1	4.2	4.4	4.6	4.7	4.8	4.9	5.1	4.4

TABLE 40.—*Flour (wheat): Retail price per pound in cities listed and average for the United States, 1913–1924*—Continued

MINNEAPOLIS

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1913	2.8	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	2.8	2.8	2.8	2.9
1914	2.8	2.9	3.0	2.9	3.0	3.0	2.9	3.4	3.6	3.6	3.5	3.6	3.2
1915	4.1	4.5	4.4	4.4	4.5	4.0	4.0	3.9	3.4	3.3	3.4	3.6	4.0
1916	3.7	3.9	3.6	3.6	3.6	3.5	3.5	4.4	4.7	5.0	5.5	5.2	4.2
1917	5.3	5.1	5.4	6.3	8.1	7.6	6.7	7.3	6.3	6.1	5.9	5.8	6.3
1918	5.8	5.9	6.0	6.3	5.8	5.9	6.3	6.3	6.3	6.3	6.2	6.2	6.1
1919	6.2	6.2	6.4	6.9	7.2	7.2	7.2	7.2	7.1	7.2	7.4	8.1	7.0
1920	8.5	8.2	8.0	8.3	9.0	8.6	8.2	7.8	7.7	7.0	6.1	5.7	7.8
Average, 1914–1920	5.2	5.2	5.3	5.5	5.9	5.7	5.5	5.8	5.6	5.5	5.4	5.5	5.5
1921	6.1	5.7	5.7	5.4	5.5	5.9	5.9	5.6	5.5	5.3	4.9	4.9	5.5
1922	4.7	5.1	5.3	5.3	5.3	5.1	5.3	5.0	4.6	4.5	4.6	4.7	5.0
1923	4.6	4.7	4.6	4.6	4.6	4.5	4.4	4.4	4.3	4.4	4.2	4.3	4.5
1924	4.3	4.3	4.3	4.4	4.5	4.7	4.9	5.1	5.0	5.1	5.2	5.4	4.8

UNITED STATES (AVERAGE OF LEADING CITIES)

1913	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
1914	3.2	3.3	3.3	3.3	3.3	3.3	3.2	3.5	3.7	3.7	3.7	3.7	3.4
1915	4.1	4.6	4.5	4.5	4.6	4.3	4.1	4.1	3.9	3.7	3.7	3.8	4.2
1916	3.9	4.1	4.0	3.9	3.9	3.9	3.8	4.4	4.9	5.1	5.7	5.5	4.4
1917	5.6	5.6	5.8	6.8	8.8	8.1	7.3	7.8	7.4	7.1	6.9	6.8	7.0
1918	6.6	6.6	6.6	6.6	6.6	6.7	6.7	6.8	6.8	6.7	6.7	6.7	6.7
1919	6.6	6.7	6.8	7.2	7.5	7.5	7.5	7.4	7.3	7.3	7.4	7.7	7.2
1920	8.1	8.1	8.0	8.1	8.7	8.8	8.7	8.4	8.3	7.8	7.3	6.6	8.1
Average, 1914–1920	5.4	5.6	5.6	5.8	6.2	6.1	5.9	6.0	6.0	5.9	5.9	5.8	5.9
1921	6.7	6.5	6.4	5.9	5.7	5.9	5.8	5.7	5.6	5.4	5.1	5.0	5.8
1922	4.9	5.1	5.3	5.3	5.3	5.3	5.2	5.1	4.9	4.8	4.8	4.9	5.1
1923	4.9	4.9	4.8	4.9	4.8	4.8	4.7	4.5	4.5	4.6	4.6	4.5	4.7
1924	4.5	4.6	4.6	4.6	4.6	4.6	4.8	5.1	5.1	5.3	5.4	5.6	4.9

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 41.—*Bread: Average retail price per pound (baked weight), 1913–1924*

NEW YORK

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1913	6.0	6.0	6.0	6.0	6.0	6.2	6.4	6.1	6.0	6.0	6.0	6.1	6.1
1914	6.1	6.1	6.2	6.1	6.1	6.1	6.1	6.4	6.2	6.2	6.3	6.3	6.2
1915	6.4	7.2	6.6	6.6	6.6	6.8	6.9	6.9	6.6	6.6	6.6	6.6	6.7
1916	6.6	6.8	6.6	6.6	6.6	6.6	6.6	6.6	7.1	7.7	7.8	8.1	7.0
1917	8.0	8.1	8.7	8.9	9.8	9.9	9.9	9.9	9.9	9.9	9.9	8.8	9.3
1918	9.1	8.9	8.9	10.0	10.0	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.7
1919	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
1920	10.5	11.1	11.1	11.6	11.8	11.9	11.9	11.9	11.9	11.9	11.9	11.6	11.6
Av. 1914–1920	8.1	8.3	8.3	8.5	8.7	8.7	8.8	8.8	8.8	8.9	8.9	8.8	8.6
1921	11.0	10.7	10.8	10.6	9.9	10.0	10.1	10.2	10.1	10.1	10.0	9.9	10.3
1922	9.8	9.0	8.9	8.9	8.9	9.7	9.7	9.7	9.8	9.8	9.8	9.7	9.5
1923	9.7	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1924	9.4	9.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5

CHICAGO

1913	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
1914	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2	6.2	6.3	6.1
1915	6.4	7.2	7.2	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.6
1916	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	7.3	7.9	8.0	6.8
1917	8.1	8.2	8.2	8.6	9.6	10.5	10.5	10.5	10.5	10.5	10.1	9.0	9.5
1918	9.2	9.6	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1
1919	10.2	10.2	10.2	10.0	10.0	10.0	10.0	10.0	10.0	10.7	10.6	10.7	10.2
1920	10.6	11.6	11.6	11.6	12.3	12.	12.4	12.4	12.4	12.4	12.4	11.5	12.0
Av. 1914–1920	8.2	8.5	8.6	8.5	8.8	8.9	8.9	8.9	8.9	9.1	9.1	8.9	8.8
1921	11.3	11.3	11.3	11.2	9.9	9.9	9.8	9.8	9.8	9.8	9.8	9.8	10.3
1922	9.9	8.9	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.6
1923	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.8	9.7	9.7
1924	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.9	9.9	9.9	9.9	9.8

TABLE 41.—*Bread: Average retail price per pound (baked weight), 1913–1914*—Continued

MINNEAPOLIS

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1913	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
1914	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.9	6.0	6.0	5.7
1915	6.1	6.4	6.4	6.5	6.5	6.5	6.5	6.5	6.5	6.3	6.3	6.3	6.4
1916	6.3	6.4	6.4	6.4	6.4	6.4	6.5	6.5	7.4	7.4	7.5	7.9	6.8
1917	8.0	8.0	8.0	8.0	9.3	10.5	10.5	10.6	10.5	10.4	10.5	9.7	9.5
1918	8.8	8.8	9.1	9.1	9.0	9.0	8.8	8.8	8.8	8.8	8.8	8.8	8.9
1919	9.2	9.2	9.2	9.2	9.2	9.6	9.6	9.6	9.6	9.6	9.6	9.8	9.4
1920	10.6	10.5	10.4	10.4	10.4	11.1	11.1	11.1	11.1	11.1	10.3	10.3	10.7
Av. 1914–1920	7.8	7.8	7.9	7.9	8.1	8.4	8.4	8.4	8.5	8.5	8.4	8.4	8.2
1921	10.3	10.3	10.3	10.3	9.6	9.6	9.6	9.6	8.6	8.6	8.4	8.4	9.5
1922	8.4	8.4	8.4	8.8	8.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.8
1923	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
1924	9.0	9.0	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	9.0	8.9

UNITED STATES (AVERAGE OF LEADING CITIES)

1913	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
1914	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.3	6.4	6.4	6.4	6.5	6.3
1915	6.8	7.1	7.1	7.1	7.2	7.2	7.1	7.1	7.0	7.0	6.9	6.9	7.0
1916	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.7	8.1	8.4	7.8	7.3
1917	7.9	8.0	8.1	8.4	9.5	9.6	9.9	10.2	9.9	9.9	9.9	9.3	9.2
1918	9.4	9.5	9.6	9.8	9.9	10.0	10.0	9.9	9.9	9.8	9.8	9.8	9.8
1919	9.8	9.8	9.8	9.8	9.8	9.9	10.0	10.1	10.1	10.1	10.2	10.2	10.0
1920	10.9	11.1	11.2	11.2	11.5	11.8	11.9	11.9	11.9	11.8	11.6	10.8	11.5
Av. 1914–1920	8.3	8.4	8.4	8.5	8.7	8.8	8.9	8.9	9.0	9.0	9.0	8.8	8.7
1921	10.8	10.6	10.5	10.3	9.9	9.8	9.7	9.7	9.6	9.5	9.3	9.1	9.9
1922	8.8	8.6	8.7	8.7	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.6	8.7
1923	8.7	8.7	8.7	8.7	8.7	8.7	8.8	8.7	8.7	8.7	8.7	8.7	8.7
1924	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.8	8.8	8.8	8.9	8.9	8.8

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 42.—*Bran, wheat: Average price per ton at Minneapolis, 1916–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1916	$18.78	$20.10	$18.54	$18.63	$19.05	$18.32	$17.69	$20.03	$21.71	$24.50	$27.08	$25.93	$20.86
1917	28.75	32.55	34.20	38.54	33.77	26.97	32.15	31.83	30.28	30.55	33.46	38.02	32.59
1918	32.50	32.50	32.85	33.04	31.27	30.74	26.00	29.31	29.06	28.45	27.80	33.49	30.58
1919	47.26	42.83	38.09	39.78	37.39	34.20	37.41	40.38	37.49	36.82	37.94	41.50	39.26
1920	41.98	42.68	46.69	50.26	53.25	50.78	47.83	41.88	38.42	30.63	31.85	28.23	42.94
1921	25.93	21.44	21.64	16.41	15.97	14.80	14.06	13.93	12.97	12.15	14.79	20.63	17.96
1922	20.98	24.75	23.85	22.29	20.91	15.35	15.31	14.06	16.88	21.81	22.65	24.14	20.25
1923	26.20	.....	28.44	27.38	27.10	20.94	19.75	22.65	27.62	28.10	25.59	24.78	.....
1924	24.98	23.66	22.00	20.84	17.66	19.12	22.27	23.43	23.00	24.66	25.62	30.43	23.14

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, average of daily range.

TABLE 43.—*Bran: Price per ton paid by farmers, United States, 1910–1924.*

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
1910	$26.20	$27.00	$27.03	$26.58	$26.10	$25.37	$25.22	$25.19	$24.95	$24.56	$24.45	$24.63
1911	24.92	25.27	24.94	25.48	25.93	25.87	25.80	25.92	26.09	26.52	26.72	26.99
1912	27.39	28.62	29.16	29.73	30.18	29.35	28.41	27.41	26.82	26.58	25.66	25.16
1913	25.24	25.32	24.96	24.69	24.59	24.67	24.65	25.10	26.59	26.52	26.47	26.43
1914	26.53	26.91	27.58	28.50	28.08	27.75	26.36	27.24	27.86	26.71	26.40	26.72
1915	27.91	28.96	28.23	28.28	28.41	27.68	27.47	27.22	26.47	25.81	25.42	25.53
1916	25.93	26.23	26.05	25.97	25.97	26.13	25.81	26.53	27.50	28.48	31.54	32.49
1917	32.76	34.87	38.33	42.07	44.19	40.83	40.40	43.16	39.46	39.23	39.42	42.53
1918	41.32	42.07	42.62	42.82	42.41	42.30	40.69	39.63	39.54	39.38	39.22	38.95
1919	49.78	49.95	47.93	48.24	48.66	47.54	47.14	49.28	49.58	47.70	48.32	48.79
1920	50.23	51.13	51.95	55.26	58.69	59.53	59.91	56.62	55.05	48.43	44.69	41.61
1921	39.74	36.77	35.18	32.15	29.71	29.35	26.83	26.25	25.31	24.22	23.60	26.10
1922	28.08	29.90	32.09	31.94	31.81	30.22	28.29	27.24	26.24	28.25	30.78	31.58
1923	32.53	33.58	35.48	35.86	36.44	35.32	33.27	31.31	32.60	34.84	35.19	34.67
1924	34.67	34.40	34.02	33.41	32.82	31.59	31.61	32.81	33.02	33.40	34.02	34.97

Division of Crop and Livestock Estimates. As reported monthly by country dealers.

TABLE 44.—*Middlings, wheat: Average price per ton at Minneapolis, 1916–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1916	$19.41	$21.61	$20.22	$19.50	$20.06	$20.10	$19.88	$21.48	$22.50	$27.19	$30.81	$27.88	$22.55
1917	28.83	32.55	34.20	39.56	36.15	33.27	41.90	41.78	35.09	36.25	37.40	39.05	36.34
1918	34.50	34.50	34.85	35.04	33.27	32.69	27.61	31.00	30.90	30.77	30.09	36.27	32.62
1919	48.84	44.14	38.56	40.74	44.81	42.90	47.22	53.06	51.46	44.44	41.22	43.13	45.04
1920	43.97	47.28	51.57	54.88	57.77	56.06	54.22	52.56	45.65	30.62	28.86	23.94	45.62
1921	23.47	20.91	20.86	15.38	15.29	14.83	14.07	14.64	13.97	13.16	15.85	20.73	16.89
1922	20.51	24.76	25.54	23.21	21.20	17.13	17.30	16.24	18.07	23.06	23.23	23.71	21.16
1923	25.90	.....	28.31	27.22	28.70	25.25	24.78	25.48	28.16	28.10	25.09	23.80	.....
1924	25.43	23.95	21.65	20.96	18.00	19.92	24.46	25.68	25.27	26.64	27.99	31.44	24.28

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, average of daily range.

RYE

TABLE 45.—*Rye: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Massachusetts	3	3	3	57	54	60	80	73	87
Connecticut	5	5	4	100	90	72	150	112	101
New York	55	58	55	880	945	935	854	860	1,057
New Jersey	61	65	65	1,159	1,157	1,138	985	1,088	1,286
Pennsylvania	220	215	204	3,740	3,655	3,264	3,254	3,326	3,688
Delaware	6	6	6	85	86	81	89	83	101
Maryland	17	17	20	258	269	300	284	261	366
Virginia	40	42	44	460	504	537	414	539	687
West Virginia	10	10	10	120	100	112	114	103	144
North Carolina	60	75	71	480	780	852	576	1,053	1,269
South Carolina	6	7	7	60	74	82	108	128	156
Georgia	18	20	20	171	180	184	231	342	337
Ohio	87	84	80	1,235	1,302	1,280	1,025	1,016	1,421
Indiana	350	299	263	4,200	4,186	3,682	3,318	3,056	3,903
Illinois	256	230	172	4,096	3,450	2,580	3,072	2,588	2,761
Michigan	642	467	364	8,218	6,538	6,006	6,246	4,054	6,366
Wisconsin	489	342	321	7,139	5,062	5,457	5,140	3,290	5,948
Minnesota	1,154	912	620	21,926	12,312	11,780	14,910	6,525	12,722
Iowa	55	51	48	1,084	898	864	759	593	881
Missouri	28	26	20	336	325	270	312	286	284
North Dakota	1,800	1,320	990	28,980	10,296	13,860	17,388	4,942	14,414
South Dakota	506	304	219	9,108	3,496	2,956	5,283	1,713	3,015
Nebraska	188	132	132	2,106	1,584	1,914	1,369	887	1,857
Kansas	71	41	40	788	348	568	552	261	557
Kentucky	20	20	16	230	234	176	253	241	224
Tennessee	20	20	18	180	200	198	214	232	273
Alabama	1	1	1	5	12	10	8	19	16
Texas	13	17	17	117	204	272	146	200	302
Oklahoma	35	37	37	350	444	518	280	400	523
Arkansas	1	1	1	12	9	11	12	11	14
Montana	240	156	125	3,360	1,716	1,750	1,814	875	1,592
Wyoming	35	24	24	490	312	264	255	206	232
Colorado	97	77	74	873	924	740	576	517	629
New Mexico	2	2	2	10	24	40	10	22	40
Utah	12	11	11	120	125	99	72	112	106
Idaho	13	14	14	195	266	154	131	181	188
Washington	19	23	20	190	361	100	180	260	133
Oregon	37	37	35	444	555	280	377	516	381
United States	6,672	5,171	4,173	103,362	63,077	63,446	70,841	40,971	68,061

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 46.—*Rye: Acreage, production, value, exports, etc., in the United States, 1909–1924*

Year	Acreage harvested	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]	Chicago cash price per bushel No. 2 [2]				Domestic exports including rye flour, fiscal year beginning July 1 [3]
							December		Following May		
							Low	High	Low	High	
	1,000 acres	*Bush. of 56 lbs.*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels*
1909	*2,196*	16.1	35,406	72.2	25,548	11.63	72	80	74	80	242,262
1910	2,185	16.0	34,897	71.5	24,953	11.42	80	82	90	113	40,123
1911	2,127	15.6	33,119	83.2	27,557	12.96	91	94	90	95½	31,384
1912	2,117	16.8	35,464	66.3	23,636	11.16	58	64	60	64	1,854,738
1913	2,557	16.2	41,381	63.4	26,220	10.25	61	65	62	67	2,272,492
Av. 1909–1913	2,236	16.1	36,093	70.9	25,583	11.44	72.4	77.0	75.2	83.9	888,200
1914	2,541	16.8	42,779	86.5	37,018	14.57	107½	112½	115	122	13,026,778
1915	3,129	17.3	54,050	83.4	45,083	14.41	94½	98½	96½	99½	15,250,151
1916	3,213	15.2	48,862	122.1	59,676	18.57	130	151	200	240	13,703,499
1917	4,317	14.6	62,933	166.0	104,447	24.19	179	185	180	260	17,186,417
1918	6,391	14.2	91,041	151.6	138,038	21.60	154	164	145½	173	36,467,450
1919	6,307	12.0	75,483	133.2	100,573	15.95	150	182	198	229	41,530,961
1920	4,409	13.7	60,490	126.8	76,693	17.39	144	167	135½	167	47,337,466
Av. 1914–1920	4,330	14.4	62,234	128.9	80,218	18.53	137.0	151.4	152.9	184.4	26,357,532
1921	4,528	13.6	61,675	69.7	43,014	9.50	84	90	97½	111	29,943,852
1922	6,672	15.5	103,362	68.5	70,841	10.62	83½	92½	72	83	51,662,968
1923	5,171	12.2	63,077	65.0	40,971	7.92	69½	72½	65½	69½	19,901,719
1924 [4]	4,173	15.2	63,446	107.3	68,061	16.31	131½	151½	------	------	------

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] Chicago Daily Trade Bulletin.
[3] Compiled from reports of Bureau of Foreign and Domestic Commerce.
[4] Preliminary.

TABLE 47.—*Rye: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Massachusetts	16.2	17.0	16.0	18.5	18.5	17.2	19.0	20.0	18.5	19.0	20.0	23.0	18.0	19.6	15.0	19.0	18.0	20.0
Connecticut	18.7	20.0	18.5	17.5	19.3	18.8	19.0	21.5	19.6	20.5	22.0	20.0	18.0	20.1	19.0	20.0	18.0	18.0
New York	17.0	18.3	16.7	16.5	17.2	17.1	17.7	18.7	18.0	19.0	16.5	16.0	17.5	17.6	15.5	16.0	16.3	17.0
New Jersey	16.3	18.0	16.4	17.5	18.0	17.2	18.5	20.0	19.0	18.5	18.5	16.0	17.5	18.3	17.5	19.0	17.8	17.5
Pennsylvania	15.3	17.0	15.1	17.5	17.5	16.5	18.0	18.0	17.0	17.0	17.0	16.0	16.0	17.0	16.0	17.0	17.0	16.0
Delaware	14.0	15.5	15.0	14.0	14.0	14.5	17.5	15.5	15.0	16.0	14.5	13.0	15.0	15.2	11.0	14.1	14.4	13.5
Maryland	14.1	16.1	14.5	15.5	14.4	14.9	17.0	16.5	15.5	16.0	15.0	14.0	15.4	15.6	14.0	15.2	15.8	15.0
Virginia	12.3	13.5	11.5	12.5	12.3	12.4	13.0	14.5	12.5	15.0	12.0	11.5	12.0	12.9	11.0	11.5	12.0	12.2
West Virginia	13.5	12.9	11.0	13.0	13.5	12.8	14.5	14.0	16.0	13.5	13.7	13.0	11.0	13.7	12.0	12.0	10.0	11.2
North Carolina	9.4	10.0	10.0	9.3	10.3	9.8	10.0	11.5	9.7	10.0	9.0	8.9	9.5	9.8	7.0	8.0	10.4	12.0
South Carolina	9.8	10.0	10.0	9.5	10.5	10.0	11.5	10.0	9.8	10.0	11.2	10.0	11.0	10.5	10.0	10.0	10.5	11.7
Georgia	9.0	10.4	9.5	9.2	9.5	9.5	9.3	9.2	9.5	8.3	8.8	8.9	10.0	9.1	9.0	9.5	9.0	9.2
Ohio	17.2	16.5	15.5	15.5	16.5	16.2	17.0	17.5	14.5	18.0	17.0	16.0	14.4	16.3	13.0	14.2	15.5	16.0
Indiana	16.5	15.8	13.7	14.5	15.2	15.1	16.3	16.0	14.0	15.0	16.5	14.0	14.0	15.1	13.0	12.0	14.0	14.0
Illinois	17.8	17.4	16.8	16.0	16.5	16.9	16.0	18.5	15.5	17.5	19.0	16.5	15.6	16.9	17.0	16.0	15.0	15.0
Michigan	15.5	15.3	14.6	13.3	14.3	14.6	16.0	15.5	14.3	14.0	14.3	13.3	14.7	14.6	13.0	12.8	14.0	16.5
Wisconsin	16.3	16.0	17.0	18.3	17.5	17.0	16.5	18.5	16.2	18.5	17.6	15.8	16.0	17.0	13.6	14.6	14.8	17.0
Minnesota	19.0	17.0	18.7	23.0	19.0	19.3	18.8	19.5	15.0	18.5	20.0	15.0	17.0	17.7	17.5	19.0	13.5	19.0
Iowa	17.8	18.5	18.0	19.0	18.2	18.3	19.0	18.5	17.0	18.0	19.0	15.9	17.0	17.8	16.1	19.7	17.6	18.0
Missouri	15.0	15.0	14.1	14.8	15.0	14.8	14.0	13.5	11.0	14.7	14.0	12.0	12.0	13.0	11.2	12.0	12.5	13.5
North Dakota	18.4	8.5	16.0	18.0	14.4	15.2	17.1	15.0	13.3	9.5	10.5	8.0	10.0	11.9	11.0	16.1	7.8	14.0
South Dakota	17.5	17.0	10.0	19.5	13.2	15.4	17.0	19.5	18.0	16.0	18.0	13.0	13.5	16.4	16.0	18.0	11.5	13.5
Nebraska	16.5	16.0	13.0	16.0	14.5	15.2	16.0	17.5	16.0	15.6	12.9	16.3	14.1	15.5	12.7	11.2	12.0	14.5
Kansas	14.2	14.0	11.0	15.9	14.0	13.8	20.0	16.0	14.5	14.0	14.3	11.0	13.0	14.7	11.3	11.1	8.5	14.2
Kentucky	12.7	13.0	12.0	13.0	12.4	12.6	13.7	12.0	11.2	12.5	13.6	12.0	12.0	12.4	10.0	11.5	11.7	11.0
Tennessee	10.7	11.0	11.9	11.5	12.0	11.4	13.0	10.5	10.0	9.8	10.0	8.0	9.0	10.0	8.0	9.0	10.0	11.0
Alabama	11.3	12.0	10.0	11.5	11.0	11.2	13.0	10.0	13.0	9.5	11.0	9.5	10.9	11.0	12.0	5.0	12.0	10.0
Texas	11.2	11.5	10.0	16.6	15.0	12.9	14.8	17.0	10.0	10.0	5.4	17.0	16.0	12.9	12.0	9.0	12.0	16.0
Oklahoma	13.5	13.7	9.5	12.0	9.5	11.6	16.0	13.5	10.0	10.0	11.0	14.0	15.0	12.8	12.0	10.0	12.0	14.0
Arkansas	10.5	12.0	10.0	10.5	11.5	10.9	10.5	10.5	10.0	13.5	10.5	9.5	10.0	10.6	9.0	12.0	9.0	11.0
Montana	29.0	20.0	23.0	23.5	21.0	23.3	21.0	22.5	20.5	12.7	12.0	3.0	8.0	14.2	11.2	14.0	11.0	14.0
Wyoming	26.0	18.5	20.0	19.0	19.0	20.5	17.0	20.0	15.5	14.0	18.0	9.0	18.0	15.9	21.0	14.0	13.0	11.0
Colorado	22.0	14.0	12.0	19.5	17.0	16.9	17.5	17.5	14.0	16.0	7.0	8.8	11.8	13.2	11.5	9.0	12.0	10.0
New Mexico	------	------	------	------	------	------	------	------	------	------	------	------	------	------	14.0	4.8	12.0	20.0
Utah	22.0	18.5	15.5	15.0	17.0	17.6	17.5	15.5	12.0	8.0	13.0	7.0	8.3	11.6	9.3	10.0	11.4	9.0
Idaho	21.5	20.0	22.5	22.0	22.0	21.6	20.0	20.0	17.0	15.5	15.0	14.0	14.0	16.5	18.0	15.0	19.0	11.0
Washington	21.0	20.5	22.0	20.0	21.0	20.9	19.7	18.2	14.5	12.7	10.0	12.0	9.5	13.8	14.0	10.0	15.7	5.0
Oregon	17.0	15.1	19.5	16.0	17.5	17.0	16.0	18.0	17.0	12.7	11.0	8.4	12.0	13.6	14.2	12.0	15.0	8.0
United States	16.1	16.0	15.6	16.8	16.2	16.1	16.8	17.3	15.2	14.6	14.2	12.0	13.7	14.8	13.6	15.5	12.2	15.2

Division of Crop and Livestock Estimates.

TABLE 48.—*Rye: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average, 1909–1913	1921	1922	1923	Preliminary, 1924	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
NORTH AMERICA										
Canada	117	1,842	2,105	1,448	891	17.9	11.6	15.4	16.0	16.3
United States	2,236	4,528	6,672	5,171	4,173	16.1	13.6	15.5	12.2	15.2
Total North America	2,353	6,370	8,777	6,619	5,064					
EUROPE										
Norway	37	36	30	27	27	26.3	29.0	28.7	27.5	25.7
Sweden	977	913	872	869	654	24.7	29.1	26.0	28.1	18.0
Denmark	[1] 636	559	547	574	465		21.8	26.1	26.4	
Netherlands	557	499	500	519	489	29.5	30.0	34.3	28.1	30.0
Belgium	[1] 672	559	531	573	563	35.2	38.1	34.6	36.3	35.1
Luxemburg	26	21	20	20	20	25.0	21.0	12.5	19.6	15.8
France	[1] 3,095	2,227	2,195	2,215	2,149	17.0	19.9	17.5	16.5	18.6
Spain	1,988	1,786	1,757	1,801	2,147	13.9	15.7	14.9	15.6	13.3
Portugal	[2] 271	573	665	550			8.0	8.0	9.5	
Italy	[1] 346	[1] 327	320	315	309	18.3	19.9	17.4	20.6	19.8
Switzerland	60	57	48	48	48	29.7	27.4	31.0	34.3	30.0
Germany	[1] 12,713	10,539	10,236	10,790	10,526	29.0	25.4	21.0	24.4	22.4
Austria	[1] 1,110	758	834	922	927	21.4	17.4	16.3	17.2	16.6
Czechoslovakia	[1] 2,005	2,181	2,174	2,123	2,073	24.4	24.6	23.5	25.1	22.4
Hungary	[1] 1,608	1,341	1,663	1,620	1,625	19.5	17.3	15.1	19.3	14.1
Yugoslavia	[1] 732	461	487	462	392	12.3	13.4	9.3	12.8	16.5
Bulgaria	[1] 542	466	442	425	414	13.9	13.1	16.9	16.1	10.7
Rumania	[1] [3] 1,286	795	659	668	671	[3] 16.1	11.4	14.0	14.4	9.6
Poland	[1] 12,127	8,866	11,225	11,477	10,915	18.1	18.9	17.6	20.5	13.8
Lithuania	[1] 1,749	1,248	1,369	1,442	1,329	13.9	16.9	17.7	16.6	14.2
Latvia	[1] 888	561	584	649	658	14.7	17.5	11.7	16.6	14.7
Esthonia	[1] 486	353	392	402	390	16.7	16.7	14.8	16.1	14.6
Finland	589	583	586	583	578	17.8	20.1	18.0	16.2	19.6
Russia, including Russia in Asia	[1] 61,913	47,927	45,658	53,498		12.0	8.4	12.5		
Total Europe comparable 1909–1913	107,013	83,636	83,794	92,572						
Total Europe comparable 1924	44,829	35,136	37,471	38,524	37,369					
Total Northern Hemisphere comparable 1909–1913	109,366	90,006	92,571	99,191						
Total Northern Hemisphere comparable 1924	47,182	41,506	46,248	45,143	42,433					

Country	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25	Average, 1909–1913	1921	1922	1923	1924
SOUTHERN HEMISPHERE	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Chile	5	4	4	3		22.2	14.5	15.5	19.3	
Argentina	85	242	366	297	321	19.3	7.0	9.6	14.9	
Australia	9	4				12.7	12.5	12.5	12.5	
New Zealand	[4] 4	1	1			[4] 28.5	32.0	18.0	18.0	
Total Southern Hemisphere comparable 1909–1913	103	251								
Total Southern Hemisphere comparable 1924	85	242	366	297	321					
Total world comparable 1909–1913	109,469	90,257								
Total world comparable 1924	47,267	41,748	46,614	45,440	42,754					

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Estimated for present territory. [2] Three-year average. [3] Four-year average. [4] One year only.

TABLE 49.—*Rye: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Average, 1909–1913	1921	1922	1923	Preliminary, 1924
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada	2,094	21,455	32,373	23,232	14,500
United States	36,093	61,675	103,362	63,077	63,446
Total North America, comparable 1909–1913	38,187	83,130	135,735	86,309	77,946
EUROPE					
Norway	974	1,043	862	742	695
Sweden	24,100	26,558	22,678	24,399	11,755
Denmark	[1] 19,104	12,204	14,284	15,146	
Netherlands	16,422	14,987	17,140	14,571	14,661
Belgium	[1] 23,644	21,273	18,384	20,787	19,737
Luxemburg	651	441	250	392	315
France	[1] 52,501	44,392	38,412	36,517	39,874
Spain	27,636	28,118	26,252	28,075	28,575
Portugal	[2] 2,300	4,564	5,294	5,222	6,027
Italy	[1] 6,317	6,519	5,563	6,484	6,106
Switzerland	1,783	1,559	1,488	1,646	1,433
Germany	[1] 368,337	267,648	206,049	263,037	236,120
Austria	[1] 23,785	13,161	13,589	15,836	15,397
Czechoslovakia	[1] 63,538	53,735	51,097	53,338	46,395
Hungary	[1] 31,377	23,177	25,147	31,274	22,858
Yugoslavia	[1] 9,004	6,170	4,523	5,906	6,450
Bulgaria	[1] 7,539	6,095	7,453	6,862	4,414
Rumania	[1] [2] 20,644	9,081	9,206	9,607	6,456
Poland	[1] 218,943	167,558	197,372	234,726	150,517
Lithuania	[1] 24,283	21,047	24,249	23,890	18,824
Latvia	[1] 13,061	9,806	6,845	10,770	9,669
Esthonia	[1] 8,129	5,908	5,797	6,550	5,695
Finland	10,490	11,692	10,530	9,448	11,321
Russia, including Russia in Asia	[1] 743,519	403,127	569,259		
Total Europe, comparable 1909–1913	1,718,081	1,159,863	1,281,723		
Total Europe, comparable 1924	955,458	744,532	698,180	810,080	663,303
Total Northern Hemisphere, comparable 1909–1913	1,756,268	1,242,993	1,417,458		
Total Northern Hemisphere, comparable 1924	993,645	827,662	833,915	896,389	741,249

Country	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE					
Chile	111	58	62	58	
Argentina	640	1,692	3,526	4,368	
Australia	114	50			
New Zealand	[4] 114	32	18		
Total Southern Hemisphere, comparable 1909–1913	979	1,832			
Total all countries, comparable 1909–1913	1,757,247	1,244,925			
Total all countries, comparable 1924	993,645	827,662	833,915	896,389	741,249

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Estimated for present boundaries.
[2] Estimated on basis of acreage and average yield of 8.9 bushels per acre.
[3] Four-year average.
[4] One year only.

TABLE 50.—*Rye: World production, 1894–1924*

[Thousand bushels—i. e., 000 omitted]

Year	Production in countries reporting all years 1894–1924	Production as reported	Estimated world totals, preliminary	Selected countries			
				Russian Empire [1]	Germany	Austria	France
1894	598, 680	1, 615, 256	1, 630, 057	931, 156	328, 447	82, 872	74, 926
1895	555, 602	1, 407, 233	1, 422, 636	772, 711	304, 113	64, 889	71, 833
1896	599, 039	1, 472, 487	1, 492, 092	789, 562	335, 967	73, 781	69, 766
1897	553, 480	1, 277, 277	1, 289, 029	654, 281	321, 656	63, 051	47, 737
1898	623, 328	1, 437, 887	1, 450, 476	737, 501	355, 577	79, 686	66, 921
1899	607, 429	1, 595, 285	1, 607, 186	911, 633	341, 547	85, 267	67, 223
1900	574, 361	1, 563, 841	1, 579, 937	920, 134	336, 621	64, 792	59, 397
1901	584, 998	1, 412, 160	1, 431, 740	754, 927	321, 346	75, 514	58, 386
1902	620, 234	1, 619, 875	1, 638, 557	919, 019	373, 764	82, 481	45, 660
1903	654, 390	1, 653, 033	1, 665, 588	911, 944	389, 919	81, 129	58, 127
1904	656, 528	1, 744, 033	1, 750, 938	1, 008, 440	396, 071	91, 684	52, 669
1905	668, 874	1, 499, 862	1, 507, 134	737, 443	378, 200	98, 185	58, 586
1906	669, 999	1, 429, 513	1, 440, 852	667, 605	378, 945	99, 245	50, 888
1907	659, 599	1, 541, 662	1, 553, 063	815, 086	384, 146	86, 451	50, 402
1908	725, 304	1, 597, 515	1, 605, 055	790, 098	422, 688	113, 308	51, 691
1909	765, 781	1, 758, 609	1, 702, 744	903, 622	446, 763	114, 433	55, 689
1910	701, 725	1, 676, 414	1, 680, 193	875, 135	413, 802	108, 938	43, 883
1911	714, 883	1, 579, 536	1, 582, 591	708, 650	427, 776	104, 114	46, 749
1912	747, 850	1, 898, 177	1, 900, 437	1, 056, 837	456, 600	117, 112	48, 746
1913	779, 689	1, 889, 313	1, 892, 513	1, 011, 316	481, 169	106, 469	50, 055
1914	670, 362	1, 618, 879	1, 624, 341	[2] 869, 657	410, 478	74, 555	43, 884
1915	591, 387	1, 585, 620	1, 590, 294	[2] 909, 943	360, 310	60, 674	33, 148
1916	561, 476	593, 750	1, 494, 975	----------	351, 826	50, 233	33, 351
1917	439, 541	470, 433	1, 228, 503	----------	[3] 274, 677	[3] 10, 922	[3] 25, 669
1918	471, 435	513, 509	1, 170, 187	----------	[3] 262, 832	[3] 10, 604	[3] 30, 100
1919	439, 039	517, 015	1, 057, 894	----------	[3] 240, 161	[3] 9, 035	[3] 30, 577
1920	389, 664	615, 305	970, 356	[3] 368, 877	[3] 194, 255	[3] 10, 098	[3] 34, 492
1921	489, 509	1, 248, 899	1, 248, 950	[3] 403, 127	[3] 267, 648	[3] 13, 161	[3] 44, 392
1922	456, 400	1, 423, 610	1, 424, 426	[3] 569, 259	[3] 206, 049	[3] 13, 589	[3] 38, 412
1923	475, 764	918, 679	1, 494, 688	----------	[3] 263, 037	[3] 15, 836	[3] 36, 517
1924	----------	743, 084	----------	----------	[3] 236, 129	[3] 15, 397	[3] 39, 874

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Includes all Russian territory reporting for years named.

[2] Excludes Poland.

[3] New boundaries, and therefore not comparable with earlier years.

TABLE 51.—*Rye: Monthly marketings by farmers, 1917–1923*

Year beginning July	Percentage of year's receipts as reported by about 3,500 mills and elevators												
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season
1917	2. 8	14. 8	20. 5	17. 1	11. 3	7. 6	5. 8	6. 4	7. 6	3. 4	1. 7	1. 0	100. 0
1918	5. 6	11. 3	14. 9	14. 5	12. 2	9. 5	8. 4	4. 9	6. 3	4. 8	3. 4	4. 2	100. 0
1919	6. 2	15. 0	13. 3	12. 4	7. 8	9. 1	8. 5	4. 7	6. 2	6. 4	4. 3	4. 1	100. 0
1920	7. 3	20. 7	18. 1	12. 2	8. 8	7. 0	6. 6	4. 7	4. 3	3. 7	3. 3	3. 3	100. 0
1921	13. 9	20. 8	17. 6	10. 6	6. 3	5. 9	4. 5	4. 8	4. 9	4. 0	4. 2	2. 5	100. 0
1922	10. 7	20. 5	14. 8	12. 3	10. 2	8. 7	6. 5	5. 3	4. 0	2. 9	2. 2	1. 9	100. 0
1923	5. 3	18. 8	19. 2	14. 2	9. 4	8. 5	5. 4	5. 9	3. 5	2. 5	3. 0	4. 3	100. 0

Division of Crop and Livestock Estimates.

TABLE 52.—*Rye: Receipts at markets named, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning July	Minneapolis	Duluth	Chicago	Milwaukee	Omaha	Fort William and Port Arthur[1]
1909	2,444	902	1,362	965	.....	.....
1910	1,518	134	1,121	1,033	.....	.....
1911	2,453	759	2,077	2,582	.....	.....
1912	5,943	2,341	3,299	2,336	.....	.....
1913	5,538	1,357	3,206	2,836	.....	.....
Average 1909–1913	3,579	1,099	2,213	1,950	.....	.....
1914	5,737	4,323	3,274	3,608	.....	.....
1915	6,774	4,216	5,651	3,872	.....	.....
1916	7,118	2,812	5,459	3,050	1,048	.....
1917	11,923	3,482	3,766	2,947	1,121	212
1918	16,467	16,115	8,467	4,472	1,782	970
1919	9,325	17,027	6,119	4,094	1,630	1,172
1920	5,428	14,631	4,132	3,607	1,409	2,832
Average 1914–1920	8,967	8,944	5,267	3,664	.....	.....
1921	4,754	17,446	4,235	2,282	2,048	5,297
1922	15,111	42,619	7,585	3,241	1,916	11,552
1923	13,336	16,922	2,952	1,449	736	6,837
1923						
July	347	868	63	51	31	.....
August	1,500	1,401	360	127	146	.....
September	1,392	3,098	228	110	175	1,341
October	1,010	1,679	127	164	255	975
November	791	1,415	925	110	74	873
December	899	1,201	154	218	.....	750
1924						
January	5,272	852	172	98	.....	258
February	601	601	250	260	55	38
March	450	574	287	144	.....	22
April	247	555	65	35	.....	459
May	250	1,718	99	34	.....	642
June	577	2,960	222	98	.....	615
July	427	1,994	2,210	129	.....	618
August	1,257	1,527	1,304	168	.....	246
September	1,577	11,228	648	350	165	1,576
October	2,386	12,409	1,135	887	339	1,302
November	715	5,105	2,386	343	167	805
December	431	2,054	894	263	76	363

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, Chicago Daily Trade Bulletin, Grain Dealers' Journal, and Canadian Statistics.

[1] Crop year begins in September.

TABLE 53.—*Rye: Classification of cars graded by licensed inspectors, all inspection points*

Year beginning July	Total of each grade, annual inspections, 1923–1924											
	Receipts						Shipments					
	1	2	3	4	Sample	Total	1	2	3	4	Sample	Total
1923–24[1]												
Cars	14,394	13,532	3,872	1,061	473	33,332	22,068	8,481	132	89	26	30,796
Per cent	43.2	40.6	11.6	3.2	1.4	100	71.7	27.5	.4	.3	.1	100

TABLE 57.—*Rye, No. 2: Weighted average price per bushel, 1909–1924*

CHICAGO

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Weighted average[1]
1909	$0.79	$0.71	$0.72	$0.73	$0.74	$0.77	$0.81	$0.81	$0.79	$0.79	$0.77	$0.76	$0.76
1910	.77	.75	.74	.76	.79	.81	.84	.82	.89	.95	1.02	.90	.84
1911	.84	.85	.91	.97	.95	.93	.94	.92	.91	.94	.93	.83	.91
1912	.74	.72	.69	.69	.64	.61	.64	.62	.60	.62	.62	.62	.65
1913	.63	.66	.67	.65	.64	.63	.61	.62	.61	.62	.65	.63	.64
Av. 1909–1913	.75	.74	.75	.76	.75	.75	.77	.76	.76	.78	.80	.75	.76
1914	.64	.84	.95	.92	1.02	1.10	1.19	1.23	1.17	1.17	1.19	1.17	1.05
1915	1.08	1.00	.96	1.01	.99	.97	1.01	.97	.93	.96	.98	.98	.99
1916	.98	1.13	1.20	1.33	1.47	1.41	1.43	1.46	1.61	1.87	2.20	2.40	1.54
1917	2.27	1.90	1.86	1.84	1.78	1.82	2.01	2.39	2.84	2.64	2.20	1.80	2.11
1918	1.73	1.67	1.63	1.63	1.68	1.59	1.61	1.38	1.61	1.73	1.59	1.46	1.61
1919	1.55	1.54	1.40	1.38	1.42	1.66	1.76	1.56	1.72	1.99	2.13	2.27	1.70
1920	2.04	1.90	1.99	1.69	1.59	1.61	1.63	1.47	1.46	1.35	1.47	1.32	1.62
Av. 1914–1920	1.47	1.43	1.43	1.40	1.42	1.45	1.52	1.49	1.62	1.67	1.68	1.63	1.52
1921	1.27	1.07	1.04	.86	.79	.86	.81	.97	1.02	1.04	1.06	.90	.97
1922	.82	.73	.72	.78	.87	.88	.87	.86	.83	.86	.78	.70	.81
1923	.65	.67	.70	.72	.71	.70	.73	.72	.69	.66	.67	.76	.70
1924	.84	.93	1.03	1.26	1.31	1.41							

MINNEAPOLIS

1909	.76	.67	.66	.68	.69	.72	.77	.76	.74	.73	.71	.69	.70
1910	.73	.73	.71	.72	.74	.77	.79	.78	.84	.88	1.01	.87	.77
1911	.79	.80	.85	.92	.88	.87	.90	.88	.89	.89	.87	.79	.86
1912	.69	.64	.62	.63	.58	.56	.58	.57	.55	.57	.57	.56	.60
1913	.57	.61	.61	.56	.54	.55	.55	.56	.56	.57	.60	.59	.58
Av. 1909–1913	.71	.69	.69	.70	.69	.69	.72	.71	.72	.73	.75	.70	.70
1914	.58	.80	.89	.87	1.01	1.06	1.15	1.24	1.12	1.11	1.16	1.12	.98
1915	1.02	.97	.90	.96	.93	.92	.96	.95	.89	.93	.94	.94	.94
1916	.93	1.15	1.20	1.26	1.44	1.38	1.42	1.42	1.58	1.80	2.26	2.37	1.35
1917	2.20	1.75	1.84	1.81	1.77	1.83	1.93	2.24	2.91	2.74	2.30	1.85	1.93
1918	1.84	1.68	1.60	1.58	1.62	1.57	1.54	1.34	1.54	1.71	1.55	1.45	1.58
1919	1.54	1.48	1.39	1.36	1.38	1.66	1.73	1.53	1.70	1.95	2.08	2.14	1.60
1920	2.09	1.92	1.85	1.66	1.48	1.49	1.58	1.44	1.42	1.28	1.37	1.26	1.61
Av. 1914–1920	1.46	1.39	1.38	1.36	1.38	1.42	1.47	1.45	1.59	1.65	1.67	1.59	1.43
1921	1.15	1.00	.99	.80	.72	.78	.75	.95	.97	.97	1.02	.86	.92
1922	.76	.69	.66	.71	.81	.83	.82	.80	.76	.81	.76	.64	.75
1923	.61	.62	66	66	.64	.65	.67	.66	.63	.61	.63	.70	.65
1924	.83	.86	.95	1.21	1.23	1.33							

Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin and Minneapolis Daily Market Record.

[1] Average of daily prices weighted by carlot sales.

GRAINS OTHER THAN BREAD GRAINS

CORN

TABLE 58.—*Corn: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre[1]	Chicago cash price per bushel, No. 2 mixed[2]				Domestic exports, including corn meal, fiscal year beginning July 1[3]	Imports, fiscal year beginning July 1[3]	Per cent of crop exported
							December		Following May				
							Low	High	Low	High			
	1,000 acres	*Bu. of 56 lbs. shelled*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels*	*Bushels*	*P. ct.*
1909	98, 885	26. 1	2, 572, 336	58. 6	1, 507, 185	15. 32	62½	66	56	63	38, 128, 498	----------	1. 5
1910	104, 035	27. 7	2, 886, 260	48. 0	1, 384, 817	13. 31	45½	50	52¼	55¼	65, 614, 522	----------	2. 3
1911	105, 825	23. 9	2, 531, 488	61. 8	1, 565, 258	14. 79	68	70	70¼	82½	41, 797, 291	53, 425	1. 7
1912	107, 083	29. 2	3, 124, 746	48. 7	1, 520, 454	14. 20	47½	54	55¼	60	50, 780, 143	903, 062	1. 6
1913	105, 820	23. 1	2, 446, 988	69. 1	1, 692, 092	15. 99	64	73½	67	72½	10, 725, 819	12, 367, 369	. 4
Average 1909–1913	104, 229	26. 0	2, 712, 364	56. 6	1, 533, 961	14. 72	57. 5	62. 7	61. 4	66. 6	41, 409, 255	2, 664, 771	1. 5
1914	103, 435	25. 8	2, 672, 804	64. 4	1, 722, 070	16. 65	62¼	68¼	50½	56	50, 668, 303	9, 897, 939	1. 3
1915	106, 197	28. 2	2, 994, 793	57. 5	1, 722, 680	16. 22	69½	75	69	78½	39, 896, 928	5, 208, 407	2. 6
1916	105, 296	24. 4	2, 566, 927	88. 9	2, 280, 729	21. 66	88	96	152	174	66, 753, 294	2, 267, 299	1. 6
1917	116, 730	26. 3	3, 065, 233	127. 9	3, 920, 228	33. 58	160	190	150	170	49, 073, 263	3, 196, 420	. 9
1918	104, 467	24. 0	2, 502, 665	136. 5	3, 416, 240	32. 70	135	155	160½	185	23, 018, 822	3, 311, 211	. 6
1919	97, 170	28. 9	2, 811, 302	134. 5	3, 780, 597	38. 91	142	160	189	217	16, 728, 746	10, 229, 249	2. 2
1920	101, 699	31. 5	3, 208, 584	67. 0	2, 150, 332	21. 14	70¼	86	59	66	70, 905, 781	5, 743, 384	5. 9
Average 1914–1920	104, 999	27. 0	2, 831, 758	95. 8	2, 713, 268	25. 84	103. 9	118. 6	118. 6	135. 2	45, 289, 120	5, 693, 428	1. 6
1921	103, 740	29. 6	3, 068, 569	42. 3	1, 297, 213	12. 50	46¾	51½	59½	65	179, 490, 442	124, 591	5. 8
1922	102, 846	28. 3	2, 906, 020	65. 8	1, 910, 775	18. 58	69½	77½	78	87½	96, 896, 221	137. 529	3. 3
1923	104, 324	29. 3	3, 053, 557	72. 6	2, 217, 229	21. 25	69¾	87	76¼	81	23, 135, 200	227, 704	. 8
1924[4]	105, 012	23. 2	2, 436, 513	98. 7	2, 405, 468	22. 91	113	135½	----	----	----------	----------	----

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based upon farm price Dec. 1.
[2] Chicago Daily Trade Bulletin. Contract to 1915.
[3] Compiled from reports of Bureau of Foreign and Domestic Commerce.
[4] Preliminary.

TABLE 59.—*Corn: Percentage reduction from full yield per acre from stated causes, as estimated by crop reporters, 1909–1923*

Year	Adverse weather conditions								Plant diseases	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic[1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	13. 9	7. 3	1. 5	1. 0	0. 5	1. 6	0. 7	25. 8	0. 2	2. 3	0. 4	0. 3	0. 6	29. 6
1910	13. 9	3. 0	. 8	. 9	. 4	1. 6	. 5	21. 3	. 2	2. 4	. 4	1. 2	. 5	26. 0
1911	23. 4	1. 6	(2)	. 4	. 2	3. 4	. 1	29. 6	. 2	2. 3	. 2	. 4	1. 0	33. 7
1912	8. 7	4. 6	. 9	1. 7	. 5	1. 0	. 3	18. 1	. 3	4. 8	. 3	2. 3	. 5	26. 3
1913	27. 1	1. 2	. 4	1. 0	. 3	3. 1	. 4	33. 7	. 1	3. 7	. 2	. 4	. 8	38. 9
1914	20. 8	1. 3	. 4	. 4	. 5	2. 1	. 4	26. 1	. 1	3. 6	. 1	. 2	. 5	30. 6
1915	3. 0	11. 9	2. 1	6. 9	. 6	. 2	1. 1	26. 5	. 3	2. 1	. 1	. 2	. 7	29. 9
1916	18. 5	5. 8	1. 7	1. 7	. 4	1. 7	1. 1	31. 3	. 3	2. 0	. 1	. 6	. 4	34. 7
1917	12. 1	2. 9	. 6	13. 5	. 6	1. 2	. 3	31. 6	. 2	1. 4	. 1	. 2	. 3	33. 8
1918	22. 1	. 9	. 5	2. 0	. 4	6. 3	3. 3	32. 8	. 3	2. 6	. 1	1. 5	. 4	37. 7
1919	10. 8	7. 3	1. 4	. 1	. 3	1. 0	. 4	21. 4	. 3	3. 1	. 1	. 2	. 3	25. 4
1920	5. 4	3. 3	. 6	. 7	. 5	. 3	. 4	11. 3	. 3	3. 7	. 1	. 3	. 2	15. 9
1921	10. 6	1. 1	. 3	. 2	. 4	1. 0	. 6	14. 1	. 8	3. 5	-------	. 1	. 2	18. 7
1922	14. 2	2. 8	. 5	. 2	1. 0	1. 0	. 2	19. 3	. 3	3. 0	. 1	. 2	. 1	23. 0
1923	9. 9	4. 2	. 7	2. 7	. 6	. 7	1. 1	19. 9	. 6	2. 4	. 1	. 1	. 3	23. 4

Division of Crop and Livestock Estimates.

[1] Includes all other climatic.

[2] Less than 0.05 per cent.

TABLE 60.—*Corn: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Maine	19	18	18	779	684	756	779	766	1,028
New Hampshire	27	26	28	1,161	1,092	1,232	871	1,212	1,051
Vermont	85	93	90	3,570	3,627	4,230	3,249	3,990	4,991
Massachusetts	61	63	61	2,440	2,709	2,745	2,294	3,115	3,541
Rhode Island	13	12	12	520	456	504	624	524	706
Connecticut	77	76	76	3,465	3,116	3,268	3,326	3,334	3,922
New York	798	758	743	28,329	24,559	24,519	23,513	24,559	28,687
New Jersey	231	236	236	9,702	9,440	8,024	6,791	8,968	9,308
Pennsylvania	1,573	1,541	1,547	69,212	61,640	55,692	49,833	56,092	65,717
Delaware	189	183	175	5,557	6,057	4,725	3,890	4,906	5,292
Maryland	642	642	598	25,680	25,231	18,538	17,462	20,689	20,577
Virginia	1,896	1,914	1,766	52,248	55,506	37,086	41,276	52,176	46,728
West Virginia	604	616	542	20,536	20,944	15,176	17,250	20,735	18,818
North Carolina	2,577	2,603	2,473	51,540	58,508	44,514	45,871	59,739	55,197
South Carolina	2,062	1,980	1,901	29,899	32,670	21,862	26,012	34,304	26,890
Georgia	4,385	4,034	4,115	52,620	49,215	50,203	45,253	52,660	56,227
Florida	775	820	845	10,850	10,250	12,282	9,440	10,250	13,722
Ohio	3,823	3,899	3,650	149,097	159,859	94,900	98,404	118,296	98,696
Indiana	4,765	5,003	4,603	176,305	192,616	116,916	98,731	119,422	109,901
Illinois	8,819	8,695	9,175	313,074	337,312	293,000	187,844	219,253	278,920
Michigan	1,720	1,686	1,686	60,716	58,167	43,836	40,680	45,370	46,406
Wisconsin	2,209	2,253	2,280	98,200	83,361	57,980	61,929	66,689	60,879
Minnesota	3,979	4,297	4,512	121,307	154,692	126,336	73,532	94,362	107,396
Iowa	10,864	10,776	10,884	466,880	436,428	304,752	261,173	270,585	283,419
Missouri	6,250	6,562	6,562	178,125	196,860	170,612	121,125	145,676	163,788
North Dakota	780	842	1,137	21,450	28,207	22,740	11,368	15,232	17,282
South Dakota	3,861	4,208	4,545	110,038	145,176	99,990	55,019	75,492	79,992
Nebraska	7,226	8,244	8,400	182,400	272,052	203,280	105,792	144,188	184,985
Kansas	5,698	5,629	5,818	98,391	122,149	130,905	60,019	78,175	113,887
Kentucky	3,145	3,300	3,234	88,060	94,050	80,850	60,761	79,942	82,467
Tennessee	3,280	3,018	3,169	75,440	73,941	69,718	59,598	69,505	75,295
Alabama	3,636	3,150	3,245	50,904	44,100	42,185	45,814	47,698	51,466
Mississippi	2,855	2,327	2,443	49,962	33,742	29,316	42,468	36,104	36,988
Louisiana	1,706	1,604	1,652	29,002	24,702	18,998	24,072	25,937	21,848
Texas	5,729	5,000	4,000	114,580	92,500	78,200	95,101	92,500	86,020
Oklahoma	3,200	3,264	3,200	57,600	37,536	65,600	40,320	32,656	58,364
Arkansas	2,250	2,000	2,200	43,875	31,000	36,300	37,294	31,310	38,841
Montana	228	365	511	5,540	9,490	9,198	2,936	6,168	9,106
Wyoming	112	150	165	2,688	4,050	2,310	1,613	2,835	2,171
Colorado	1,145	1,505	1,565	18,320	37,626	15,650	12,091	24,456	13,772
New Mexico	236	221	210	3,210	3,624	4,200	2,632	3,443	4,620
Arizona	39	33	31	1,170	990	930	1,346	1,188	1,162
Utah	32	31	28	781	772	728	664	733	1,056
Nevada	1	1	1	21	23	27	22	29	33
Idaho	52	73	80	1,976	3,066	2,800	1,561	2,361	3,164
Washington	67	74	70	2,747	2,738	2,345	2,884	2,601	2,626
Oregon	69	71	70	2,277	2,485	2,135	2,072	2,236	2,583
California	116	128	110	4,176	4,480	3,850	4,176	4,838	5,313
United States	102,846	104,324	105,012	2,906,020	3,053,557	2,436,513	1,910,775	2,217,229	2,405,468

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 61.—*Corn: Yield per acre, by States, 1909–1924.*

State.	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
Maine	38.0	46.0	44.0	40.0	38.0	41.2	46.0	41.0	43.0	37.0	45.0	55.0	45.0	44.6	50.0	41.0	38.0	42.0
New Hampshire	35.1	46.0	45.0	46.0	37.0	41.8	46.0	45.0	46.0	40.0	45.0	46.5	45.0	44.8	53.0	43.0	42.0	44.0
Vermont	37.0	43.0	41.0	40.0	37.0	39.6	47.0	46.0	43.0	45.0	38.0	46.5	47.0	44.6	55.0	42.0	39.0	47.0
Massachusetts	38.0	45.5	44.0	45.0	40.5	42.6	47.0	47.0	42.0	45.0	52.0	52.5	40.0	46.5	48.0	40.0	43.0	45.0
Rhode Island	33.2	40.0	45.0	41.5	36.5	39.2	42.0	43.0	31.0	42.0	44.0	45.0	40.0	41.0	46.0	40.0	38.0	42.0
Connecticut	41.0	53.2	48.5	50.0	38.5	46.2	46.0	50.0	43.0	50.0	50.0	50.0	40.0	47.0	52.0	45.0	41.0	43.0
New York	36.0	38.3	38.5	38.6	28.5	36.0	41.0	40.0	30.0	31.0	36.0	43.0	40.0	37.3	46.0	35.5	32.4	33.0
New Jersey	32.7	36.0	36.8	38.0	39.5	36.6	38.5	38.0	40.0	42.0	41.0	40.0	44.0	40.5	47.0	42.0	40.0	34.0
Pennsylvania	32.0	41.0	44.5	42.5	39.0	39.8	42.5	38.5	39.0	30.0	40.0	47.0	45.0	41.6	48.0	44.0	40.0	36.0
Delaware	31.0	31.8	34.0	34.0	31.5	32.5	36.0	31.5	34.0	34.0	31.0	30.0	37.5	33.4	37.0	29.4	33.1	27.0
Maryland	31.4	33.5	36.5	36.5	33.0	34.2	27.0	35.0	32.0	39.0	35.0	41.0	38.5	37.8	39.0	40.0	39.3	31.0
Virginia	23.2	25.5	24.0	24.0	26.0	24.5	20.5	28.5	28.0	27.0	28.0	28.0	30.0	27.1	25.0	28.0	29.0	21.0
West Virginia	31.4	26.0	25.7	33.8	31.0	29.6	31.0	31.5	30.5	30.0	31.0	34.0	34.0	31.7	34.0	34.0	34.0	28.0
North Carolina	16.8	18.6	18.4	18.2	19.5	18.3	20.3	21.0	18.5	20.0	21.0	19.0	22.5	20.3	19.5	20.0	22.5	18.0
South Carolina	16.7	18.5	18.2	17.9	19.5	18.2	18.5	16.5	15.5	15.5	19.0	17.0	16.0	16.9	17.4	16.0	14.6	16.5	11.5
Georgia	13.9	14.5	16.0	16.8	15.5	14.7	14.0	15.0	15.5	15.0	16.0	15.0	14.5	15.0	15.0	15.0	12.0	12.2	12.2
Florida	12.6	13.0	14.6	13.0	15.0	13.6	16.0	15.0	15.0	15.0	16.0	15.0	13.5	15.1	14.0	14.0	12.5	14.5
Ohio	39.5	36.5	38.6	42.8	37.5	39.0	39.1	41.5	31.5	38.0	36.0	43.0	43.4	38.9	41.0	39.0	41.0	26.0
Indiana	40.0	39.3	36.0	40.3	36.0	38.3	33.0	38.0	34.0	36.0	33.0	37.0	40.5	35.9	36.0	37.0	38.5	25.4
Illinois	35.9	39.1	33.0	40.0	27.0	35.0	29.0	36.0	29.5	38.0	35.5	36.0	34.6	34.1	34.0	35.5	37.5	32.0
Michigan	35.4	32.4	33.0	34.0	33.5	33.7	36.0	32.0	27.5	21.5	30.0	37.0	39.0	31.9	39.0	35.5	34.5	26.0
Wisconsin	33.0	32.5	36.3	35.7	40.5	35.6	40.5	23.0	36.0	22.0	40.2	45.0	43.2	35.7	46.2	44.5	37.0	26.0
Minnesota	34.8	32.7	38.7	34.5	40.0	35.1	35.0	23.0	33.5	30.0	40.0	40.0	37.5	34.1	41.0	33.0	36.0	28.0
Iowa	31.5	36.3	31.0	43.0	34.0	35.2	38.0	30.0	36.5	37.0	36.0	41.6	46.0	37.9	42.0	45.0	40.5	28.0
Missouri	26.4	33.0	26.0	32.0	17.5	27.0	22.0	29.5	19.5	35.0	20.0	27.0	32.0	26.4	30.0	28.5	30.0	26.0
North Dakota	31.0	14.0	25.0	26.7	28.8	25.1	28.0	14.0	20.5	9.0	19.0	33.0	24.0	21.9	28.0	27.5	33.5	20.0
South Dakota	31.7	25.0	22.0	30.6	25.5	27.0	26.0	29.0	28.5	28.0	34.0	28.5	30.0	29.1	32.0	28.5	34.5	22.0
Nebraska	24.8	25.8	21.0	24.0	15.0	22.1	24.5	30.0	26.0	27.0	17.7	26.2	33.8	26.5	28.0	25.0	33.0	24.2
Kansas	19.9	19.0	14.5	23.0	3.2	15.9	18.5	31.0	10.0	13.0	7.1	15.2	26.5	17.3	22.2	19.3	21.7	22.5
Kentucky	29.0	29.0	26.0	30.4	20.5	27.0	25.0	30.0	28.0	31.5	26.0	24.0	30.5	27.9	25.6	28.0	28.5	25.0
Tennessee	22.0	25.9	26.8	26.5	20.5	24.3	24.0	27.0	26.0	29.0	24.0	21.4	28.0	25.6	25.8	23.0	24.5	22.0
Alabama	13.5	18.0	18.0	17.2	17.3	16.8	17.0	17.0	12.5	16.0	14.6	14.5	15.7	15.3	14.5	14.0	14.0	18.0
Mississippi	14.5	20.5	19.0	18.3	20.0	18.5	18.5	19.0	14.0	20.5	17.0	15.0	16.0	17.1	18.0	17.5	14.5	12.0
Louisiana	23.0	23.6	18.5	18.0	22.0	21.0	19.3	20.5	21.0	18.0	16.0	17.5	19.2	18.8	19.5	17.0	15.4	11.5
Texas	15.0	20.6	9.5	21.0	24.0	18.0	19.5	23.5	19.0	11.0	10.0	30.6	26.0	19.9	25.2	20.0	18.5	17.0
Oklahoma	17.0	16.0	6.5	18.7	11.0	13.8	12.5	29.5	13.5	8.5	7.5	24.0	28.0	17.6	25.0	18.0	11.5	20.5
Arkansas	18.0	24.0	20.8	20.4	19.0	20.4	17.5	28.0	17.7	24.0	13.0	18.0	23.4	19.5	22.0	19.5	15.5	16.5
Montana	35.0	23.0	26.5	25.5	31.5	28.3	28.0	28.0	25.0	12.5	21.0	4.0	12.1	18.7	20.0	24.3	26.0	18.0
Wyoming	28.0	10.0	15.0	23.0	29.0	21.0	25.0	25.0	22.0	20.0	25.0	16.0	24.0	22.4	22.0	24.0	27.0	14.0
Colorado	24.2	19.9	14.0	20.8	15.0	18.8	23.0	24.0	15.5	20.0	17.5	15.0	20.5	19.4	14.5	16.0	25.0	10.0
New Mexico	31.3	23.0	24.7	22.4	18.5	24.0	28.0	26.0	21.0	20.0	25.0	21.6	21.7	23.3	22.0	13.6	16.4	20.0
Arizona	32.1	32.5	33.0	33.0	28.0	31.7	32.0	30.0	35.6	27.0	28.0	29.0	22.0	29.0	29.0	30.0	30.0	30.0
Utah	31.4	30.3	35.0	30.0	34.0	32.1	35.0	34.0	33.0	25.0	28.0	19.2	21.9	28.0	24.6	24.4	24.9	26.0
Nevada		30.0	30.5	30.0	34.0	31.1	36.0	35.0	34.0	30.0	32.0	26.9	32.0	32.3	29.1	21.1	23.3	27.0
Idaho	30.6	32.0	30.0	32.8	32.0	31.5	31.0	35.0	35.0	31.0	40.0	32.0	36.0	34.3	35.0	38.0	42.0	35.0
Washington	27.8	28.0	28.5	27.3	28.0	27.9	27.0	27.0	37.0	37.0	38.0	38.0	36.0	34.0	40.0	41.0	37.0	33.5
Oregon	30.7	25.5	28.5	31.5	28.5	28.9	30.0	35.0	33.5	30.0	31.0	26.5	31.0	31.0	30.0	33.0	35.0	30.5
California	34.8	37.5	36.0	37.0	33.0	35.7	36.0	41.0	32.0	32.0	35.0	32.0	39.0	34.4	35.0	36.0	35.0	35.0
United States	26.1	27.7	23.9	29.2	23.1	26.0	25.8	28.2	24.4	26.3	24.0	28.9	31.5	27.0	29.6	28.3	29.3	23.2

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TABLE 62.—*Corn: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre [1]				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
NORTH AMERICA										
Canada	309	297	318	318	295	56.0	50.2	37.5	42.8	34.0
United States	104,229	103,740	102,846	104,324	105,012	26.0	29.6	28.3	29.3	23.2
Mexico	[2] 6,093	2,545	4,284	.....	.....	21.9	24.0	19.6	.....	.....
Guatemala	.....	310	455	457	.....	.....	18.3	11.9	17.2	.....
Total North America comparable with 1909–1913	110,631	106,582	107,448	.....	.....	.....	.....	.....	.....	.....
Total North America comparable with 1924	104,538	104,037	103,164	104,642	105,307	.....	.....	.....	.....	.....
EUROPE										
France	[3] 1,160	814	790	845	834	19.4	12.8	16.0	15.0	21.7
Spain	1,134	1,178	1,159	1,166	1,137	23.4	21.1	23.2	20.5	21.3
Portugal	.....	714	761	.....	.....	.....	15.9	15.3	.....	.....
Italy	[3] 4,090	3,717	3,811	3,790	3,756	25.1	24.8	20.2	23.5	26.2
Switzerland	3	5	4	4	4	.....	.....	.....	.....	.....
Germany	[2] 6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Austria	[3] 190	112	148	144	.....	23.8	22.5	23.5	24.0	.....
Czechoslovakia	[3] 376	385	392	397	389	22.3	24.5	25.2	26.8	24.5
Hungary	[3] 2,192	2,167	2,445	2,459	2,469	27.7	14.6	19.9	20.0	32.4
Yugoslavia	[3] 4,786	4,646	4,722	4,452	.....	24.9	15.9	19.0	18.3	.....
Greece	[3] 454	494	.....	.....	.....	21.7	15.3	.....	.....	.....
Bulgaria	[3] 1,492	1,421	1,313	1,364	1,465	17.6	11.5	11.8	19.7	18.6
Rumania	[3] 9,644	8,510	8,411	8,413	8,949	20.0	13.0	18.4	18.0	17.6
Poland	[3] 164	132	183	189	190	17.2	17.2	15.2	20.3	.....
Russia, including Ukraine and Northern Caucasia	[3] 2,031	3,101	5,306	3,430	.....	17.9	14.5	12.6	19.2	.....
Total Europe comparable with 1909–1913	27,722	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Europe comparable with 1924	20,255	18,329	18,508	18,627	19,193	.....	.....	.....	.....	.....
AFRICA										
Morocco	.....	612	535	668	.....	.....	9.6	8.5	7.2	.....
Algeria	34	13	18	16	18	17.6	11.8	12.7	14.4	13.3
Tunis	43	55	16	44	41	5.3	6.4	1.9	6.3	5.0
Egypt	1,778	2,086	2,035	1,865	.....	36.1	32.2	32.7	35.1	.....
Total Africa comparable with 1909–1913	1,855	2,154	2,069	1,925	.....	.....	.....	.....	.....	.....
Total Africa comparable with 1924	77	68	34	61	59	.....	.....	.....	.....	.....
ASIA										
India, British	[4] 5,898	6,164	6,290	5,908	.....	14.0	13.5	15.6	12.9	.....
Russia (Asiatic)	1,215	.....	11	10	.....	.....	.....	.....	.....	.....
Japanese Empire:										
Japan	133	153	140	.....	.....	25.5	27.7	24.7	.....	.....
Chosen	156	225	227	.....	.....	14.3	14.3	12.8	.....	.....
Philippines	[5] 812	1,344	1,359	1,378	.....	9.2	11.7	10.8	13.1	.....
Total Asia comparable with 1909–1913	8,214	.....	8,027	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1909–1913	148,422	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1924	124,870	122,434	121,706	123,330	124,589	.....	.....	.....	.....	.....
SOUTHERN HEMISPHERE										
Chile	56	69	79	70	80	26.0	24.4	22.5	24.0	25.8
Uruguay	551	494	547	677	569	10.9	9.3	8.6	9.6	11.4
Argentina	8,710	8,090	7,344	7,851	8,465	22.0	28.5	24.0	22.4	32.7
Union of South Africa	[3] 2,290	3,493	4,599	.....	.....	14.6	13.6	7.7	.....	.....
Southern Rhodesia	[3] 161	186	182	221	230	11.4	23.4	13.0	24.3	12.9
Java and Madura	.....	4,884	3,690	3,886	4,028	.....	12.2	12.7	12.6	12.4
Australia	353	284	305	.....	.....	28.5	25.6	25.7	.....	.....
New Zealand	[4] 5	12	11	10	9	.....	41.8	.....	.....	.....
Total Southern Hemisphere comparable with 1909–1913	12,126	12,628	13,067	.....	.....	.....	.....	.....	.....	.....
Total Southern Hemisphere comparable with 1924	.....	13,735	11,853	12,715	13,381	.....	.....	.....	.....	.....
World total comparable with 1909–1913	160,548	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable with 1924	124,870	136,169	133,559	136,045	137,970	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. For each year is shown the acreage producing the crop harvested during the calendar year.

[1] Yield per acre not computed when acreage is less than 12,000 acres.
[2] One year only.
[3] Estimated for present territory.
[4] Two-year average.
[5] Four-year average.

TABLE 63.—*Corn: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada	17,297	14,904	13,798	13,608	10,042
United States	2,712,364	3,068,569	2,906,020	3,053,557	2,436,513
Mexico	133,362	61,020	83,762	101,320	106,293
Guatemala	[1] 5,090	5,674	5,412	7,874	.....
Total North America comparable with 1909–1913	2,868,111	3,150,167	3,008,992	3,176,359	.....
Total North America comparable with 1924	2,863,021	3,144,493	3,003,579	3,168,485	2,552,848
EUROPE					
France	[2] 22,467	10,393	12,676	12,673	18,110
Spain	26,548	24,897	26,832	23,924	24,244
Portugal	.....	11,374	11,664	.....	.....
Italy	[2] 102,676	92,325	76,830	89,204	98,421
Switzerland	113	218	185	165	157
Austria	[2] 4,520	2,521	3,477	3,450	.....
Czechoslovakia	[2] 8,398	9,432	9,884	10,620	9,531
Hungary	[2] 60,813	31,703	48,725	49,247	80,088
Yugoslavia	[3] 111,897	73,788	89,796	81,349	106,293
Greece	[2] 9,860	7,541	.....	7,572	.....
Bulgaria	[2] 26,277	16,380	15,479	26,866	27,265
Rumania	[2] 193,209	110,933	154,735	151,405	157,184
Poland	[4] 2,822	2,266	2,775	3,831	.....
Russia, including Ukraine and Northern Caucasia	[2] 36,392	45,100	67,067	65,777	.....
Total Europe comparable with 1909–1913	606,002	427,497	.....	.....	.....
Total Europe comparable with 1924	552,398	370,069	435,142	445,453	521,293
AFRICA					
Morocco	.....	5,900	4,564	4,805	.....
Algeria	598	153	229	230	239
Tunis	228	354	31	283	205
Egypt	64,273	67,165	66,460	65,449	.....
Total Africa comparable with 1909–1913	65,099	67,672	66,720	65,962	.....
Total Africa comparable with 1924	826	507	260	513	444
ASIA					
India, British	[3] 82,620	83,320	98,320	76,088	.....
Russia (Asiatic)	[3] 15,793	.....	.....	.....	.....
Japanese Empire:					
Japan	3,391	4,241	3,456	.....	.....
Chosen	2,236	3,208	2,902	.....	.....
Philippines	[4] 7,461	15,718	14,651	18,030	.....
Total Asia comparable with 1909–1913	111,501	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1909–1913	3,650,713	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1924	3,416,245	3,515,069	3,438,981	3,614,451	3,074,585
SOUTHERN HEMISPHERE					
Chile	1,455	1,685	1,777	1,677	2,062
Uruguay	6,026	4,600	4,722	6,519	6,499
Argentina	191,698	230,420	176,171	176,105	276,756
Union of South Africa	[4] 33,517	47,669	35,195	68,410	.....
Southern Rhodesia	[1] 1,834	4,360	2,367	5,377	2,964
Java and Madura	.....	59,618	46,787	49,113	49,890
Australia	10,057	7,259	7,840	.....	.....
New Zealand	[3] 265	501	488	506	460
Total Southern Hemisphere comparable with 1909–1913	244,852	296,494	228,560	.....	.....
Total Southern Hemisphere comparable with 1924	.....	301,184	232,312	239,297	338,631
World total comparable with 1909–1913	3,895,565	.....	.....	.....	.....
World total comparable with 1924	.....	3,816,253	3,671,293	3,853,748	3,413,216

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. For each year is shown the production during the calendar year.

[1] *One year only.* [2] *Estimated for present territory.* [3] *Two-year average.* [4] *Four-year average.*

TABLE 64.—*Corn: World production, 1900–1924*

[Thousand bushels—i. e., 000 omitted]

Year	Production in countries reporting all years 1900–1923	Production as reported	Estimated world totals (preliminary)	Three selected countries		
				United States	Italy	Argentina
1900	2,657,479	3,145,539	3,445,529	2,505,148	87,969	55,611
1901	1,784,780	2,328,087	2,637,787	1,613,528	100,455	98,841
1902	2,755,097	3,274,417	3,552,137	2,619,499	71,028	84,018
1903	2,640,948	3,133,418	3,417,243	2,346,897	88,990	148,946
1904	2,673,669	3,066,601	3,389,736	2,528,662	90,545	175,187
1905	2,920,433	3,464,564	3,743,794	2,748,949	97,285	140,707
1906	3,042,894	3,703,932	3,980,577	2,807,662	92,904	194,910
1907	2,667,113	3,354,363	3,628,813	2,512,066	88,412	71,768
1908	2,702,729	3,206,956	3,705,956	2,544,957	95,845	136,055
1909	2,740,791	3,390,685	3,703,585	2,572,336	99,289	177,155
1910	3,056,689	3,709,655	3,951,255	2,886,260	101,722	175,187
1911	2,683,121	3,547,596	3,790,396	2,531,488	93,518	27,676
1912	3,287,886	4,220,154	4,329,454	3,124,746	98,668	295,849
1913	2,616,156	3,557,132	3,743,632	2,446,988	108,388	196,642
1914	2,844,850	3,939,799	4,041,799	2,672,804	104,967	263,135
1915	3,174,515	3,990,557	4,142,557	2,904,793	121,824	325,178
1916	2,699,694	3,176,062	3,475,462	2,566,927	81,547	161,133
1917	3,197,869	3,719,215	4,049,715	3,065,233	82,771	58,839
1918	2,615,641	3,279,232	3,469,832	2,502,665	76,590	170,660
1919	2,935,630	3,671,630	3,962,630	2,811,302	85,846	224,239
1920	3,343,224	4,292,421	4,437,421	3,208,584	89,298	258,686
1921	3,198,858	4,044,444	4,054,444	3,068,569	92,325	230,420
1922	3,026,064	4,027,438	4,065,238	2,906,020	76,830	176,171
1923	3,183,038	4,205,958	4,288,058	3,053,557	89,204	176,105
1924		3,128,634		2,436,513	98,421	276,756

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TABLE 65.—*Corn: Farm stocks, shipments, and quality, United States, 1897–1924*

Year beginning Nov. 1	Old stocks on farms Nov. 1 [1]	Crop			Total supplies	Stocks on farms Mar. 1 following [1]	Shipped out of county where grown [1]
		Quantity	Quality [2]	Proportion merchantable [1]			
	1,000 bush.	*1,000 bush.*	*Per cent*	*Per cent*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1897	320,488	2,144,553	66.3	86.8	1,861,838	2,465,041	878,063	472,426
1898	156,330	2,261,119	83.8	82.2	1,858,027	2,417,449	937,016	478,991
1899	134,995	2,454,628	87.2	86.7	2,127,460	2,589,623	904,586	420,739
1900	106,198	2,505,148	85.5	86.8	2,175,608	2,611,346	927,423	585,701
1901	116,016	1,613,528	73.7			1,729,544	471,609	166,612
1902	31,494	2,619,499	80.7	76.0	1,991,866	2,650,993	1,091,534	580,139
1903	137,602	2,346,897	83.1	75.6	1,774,099	2,484,499	871,712	440,719
1904	83,379	2,528,662	86.2	84.5	2,136,927	2,612,041	972,077	565,287
1905	83,105	2,748,949	90.6	88.3	2,427,996	2,832,054	1,124,905	696,365
1906	122,732	2,807,662	89.9	89.3	2,567,596	3,020,394	1,287,066	690,490
1907	129,786	2,512,066	82.8	77.2	1,939,877	2,641,851	931,503	470,046
1908	69,251	2,544,957	86.9	88.2	2,244,571	2,614,208	999,285	565,510
1909	77,403	2,572,336	84.2	82.7	2,126,965	2,649,739	980,848	620,057
1910	113,919	2,886,260	87.2	86.4	2,492,763	3,060,179	1,165,378	661,777
1911	123,824	2,531,488	80.6	80.1	2,027,922	2,655,312	884,059	517,766
1912	64,764	3,124,746	85.5	85.0	2,664,907	3,189,510	1,200,642	680,831
1913	137,972	2,446,988	82.2	80.1	1,961,058	2,584,960	866,352	422,059
1914	80,046	2,672,804	85.1	84.5	2,259,755	2,752,850	910,894	498,285
1915	96,009	2,904,793	77.2	71.1	2,127,965	3,090,802	1,116,559	560,824
1916	87,908	2,566,927	83.8	83.9	2,164,487	2,664,835	782,303	450,589
1917	84,448	3,065,233	75.2	60.0	1,837,728	3,099,681	1,253,290	578,027
1918	114,678	2,502,665	85.6	82.4	2,062,041	2,617,343	855,269	362,589
1919	69,835	2,811,302	89.1	87.1	2,448,204	2,881,137	1,045,575	470,338
1920	139,083	3,208,584	89.6	86.9	2,789,720	3,347,667	1,564,832	705,481
1921	285,769	3,068,569	84.0	87.5	2,684,634	3,354,388	1,805,589	587,893
1922	177,287	2,906,020	85.0	88.3	2,567,044	3,088,307	1,098,306	518,779
1923	83,856	3,053,557	79.4	80.8	2,467,763	3,137,413	1,158,947	600,745
1924 [3]	102,429	2,436,513	63.2			2,538,942		

Division of Crop and Livestock Estimates.

[1] Based on reported percentage of entire crop on farms, proportion merchantable, and per cent shipped out of county where grown.

[2] 1909–10 to 1920–21, quality reported as per cent of a high medium grade; 1921, per cent of merchantable quality.

[3] Preliminary.

TABLE 66.—*Corn: Monthly marketings by farmers, United States, 1917–1923*

Year beginning July	Percentage of year's receipts as reported by about 3,500 mills and elevators												
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season
1917	5.3	4.0	3.4	3.8	8.8	12.2	14.2	16.1	13.7	7.1	5.6	5.8	100.0
1918	6.7	6.9	8.4	6.7	7.3	12.0	15.0	7.2	7.5	8.2	8.0	6.1	100.0
1919	4.5	5.6	4.9	5.6	9.2	15.0	12.9	9.5	8.7	5.9	7.6	10.6	100.0
1920	5.4	5.6	6.9	5.3	7.1	11.3	14.3	11.7	8.9	5.6	8.5	9.4	100.0
1921	4.9	7.3	8.6	6.7	6.6	12.4	13.8	12.4	7.5	4.7	7.6	7.5	100.0
1922	6.8	7.5	9.1	8.2	8.7	13.6	10.7	11.0	6.6	5.3	6.1	6.4	100.0
1923	6.8	7.2	6.1	5.6	10.4	12.3	12.9	13.3	7.4	6.1	5.9	6.6	100.0

Division of Crop and Livestock Estimates.

TABLE 67.—*Corn: Receipts and shipments, 11 primary markets, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning Nov. 1	Chicago		Milwaukee		Minneapolis		Duluth		St. Louis		Toledo	
	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments
1909	88,428	66,011	6,535	5,893	6,564	5,047	883	943	22,913	16,383	4,001	1,840
1910	113,808	92,652	7,895	7,625	8,948	5,370	1,697	1,697	23,766	15,423	6,236	3,290
1911	108,431	73,940	9,410	6,506	5,422	3,204	12	12	25,176	15,492	4,121	2,037
1912	131,702	94,311	11,613	7,887	6,258	4,374	492	492	22,762	12,257	2,906	1,845
1913	84,838	57,528	15,804	10,727	10,710	8,776	878	362	16,961	10,119	4,560	2,314
Av. 1909–1913	105,459	76,888	10,251	7,728	7,581	5,366	792	701	22,316	13,935	4,383	2,273
1914	116,348	80,256	19,609	16,985	14,699	11,997	3,036	3,036	18,626	10,206	4,582	2,594
1915	101,325	62,148	9,887	6,943	5,661	3,927	(1)	(1)	17,974	8,678	4,656	1,422
1916	78,723	40,497	12,755	8,081	9,550	7,779	32	6	21,312	13,191	2,882	1,190
1917	98,786	34,540	12,374	7,006	16,715	9,636	177	170	25,354	16,130	2,609	1,160
1918	61,366	32,019	6,784	3,697	6,621	4,773	6	(1)	19,219	11,956	1,127	549
1919	87,641	37,236	14,652	7,079	9,192	6,384	5	(1)	27,595	15,975	2,122	1,298
1920	167,241	113,374	27,455	21,823	12,066	8,483	4,834	3,777	25,924	17,044	3,194	1,349
Av. 1914–1920	101,633	57,153	14,788	10,316	10,643	7,568	.....	.....	22,286	13,311	3,025	1,366
1921	186,815	115,700	25,630	22,168	15,920	12,048	14,111	14,034	33,809	22,713	3,994	1,795
1922	115,960	65,890	15,280	11,748	7,531	4,828	688	639	29,856	20,243	3,149	1,118
1923	101,108	48,440	17,088	11,097	18,436	13,711	9,570	8,886	39,215	24,016	4,090	1,445
1923												
November	7,905	8,484	1,557	610	2,254	1,299	272	188	2,690	848	379	98
December	12,046	4,360	2,710	1,597	3,930	2,719	1,316	846	4,524	1,968	370	99
1924												
January	9,469	5,651	1,111	914	1,637	1,284	561	29	4,629	3,045	452	154
February	14,740	5,309	3,409	1,094	3,367	2,155	1,952	.....	5,393	3,535	750	296
March	9,267	4,353	2,486	1,244	2,202	1,398	2,030	25	2,862	2,169	468	280
April	4,157	3,277	720	1,854	830	1,048	274	143	3,589	2,056	278	190
May	5,018	3,035	483	1,185	487	1,253	495	4,197	3,080	1,900	389	152
June	5,901	3,252	851	561	944	809	719	2,176	2,835	2,196	181	106
July	4,926	2,880	941	427	977	696	187	510	3,711	2,149	176	81
August	7,736	3,376	1,020	515	639	292	587	325	1,933	1,429	144	44
September	10,677	4,266	1,072	654	763	414	157	447	2,172	1,243	184	8
October	9,276	5,197	743	1,112	416	344	120	.....	2,397	1,492	319	17
November	6,347	2,364	199	206	382	530	7	236	1,411	690	242	93
December	12,023	2,878	439	198	1,340	888	13	6	2,731	1,324	455	289

TABLE 67.—*Corn: Receipts and shipments, 11 primary markets, 1909-1924*—Con.

Year beginning Nov.	Detroit		Kansas City		Peoria		Omaha		Indianapolis		Total	
	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments
1909	2,477	1,412	15,102	12,873	15,387	11,009	(1)	(1)	(1)	(1)	162,290	121,411
1910	3,860	1,930	16,026	13,395	16,477	11,141	(1)	(1)	(1)	(1)	198,713	152,522
1911	2,857	1,888	19,646	14,971	19,041	14,292	20,817	15,404	13,687	1,947	228,621	149,753
1912	2,757	1,615	16,992	10,614	17,923	11,202	22,618	17,732	15,974	3,637	252,177	166,006
1913	2,835	1,636	27,494	19,192	14,723	6,651	37,108	33,040	14,118	5,183	230,029	155,528
Av. 1919–1923	2,957	1,696	19,052	14,209	16,710	10,859	.....	.....	.....	.....	214,366	149,044
1914	4,058	3,021	16,396	11,914	16,736	6,831	24,599	23,117	15,087	6,498	253,776	176,455
1915	4,726	3,139	25,837	22,459	35,948	13,722	21,496	15,948	22,790	11,073	250,300	149,459
1916	3,192	2,425	12,743	8,469	31,533	11,870	29,820	25,179	24,421	14,801	226,963	134,088
1917	4,361	717	31,366	24,481	36,176	17,062	46,159	36,355	20,583	9,206	294,660	156,463
1918	1,633	626	16,146	10,345	18,511	10,530	21,805	21,197	15,905	7,130	169,123	102,822
1919	1,671	481	11,218	5,034	22,449	17,660	23,227	18,604	19,991	7,170	219,763	116,921
1920	1,663	261	14,137	9,742	16,091	9,823	20,012	17,356	17,505	6,353	310,122	209,385
Av. 1914–1920	3,043	1,524	18,263	13,206	25,349	12,500	26,731	22,537	19,469	8,890	246,387	149,370
1921	2,454	903	16,063	10,242	24,116	18,295	29,583	26,047	21,665	7,053	374,160	250,998
1922	1,957	289	15,499	7,239	21,157	16,278	22,730	20,266	18,317	6,161	252,124	154,699
1923	1,683	253	21,136	13,605	17,730	10,573	27,495	27,170	17,536	5,881	275,082	165,677
1923												
November	225	2	1,763	628	1,579	1,137	1,404	773	2,363	475	21,791	9,527
December	339	16	2,718	1,306	2,611	1,874	3,484	2,600	1,474	519	35,472	17,904
1924												
January	283	18	3,031	1,814	1,339	728	4,019	3,159	1,887	466	28,418	17,262
February	343	34	3,518	1,565	1,866	1,061	4,082	4,465	2,326	551	42,346	19,993
March	207	38	2,102	1,330	1,076	664	2,877	3,355	1,352	625	27,709	15,481
April	58	69	1,922	1,741	1,205	624	2,311	3,374	955	353	16,289	14,659
May	44	39	1,497	1,490	1,017	506	1,372	2,181	915	420	14,797	16,358
June	33	20	1,035	1,380	1,075	693	1,412	1,702	1,044	462	16,030	13,357
July	5	7	1,421	720	1,345	674	1,150	1,103	1,617	385	16,456	9,632
August	14	.....	1,031	764	1,170	590	1,764	1,457	965	530	16,993	9,313
September	62	2	668	555	1,649	949	2,104	1,937	1,197	484	20,705	10,959
October	70	8	430	312	1,798	1,073	966	1,064	1,451	611	17,986	11,230
November	19	5	1,740	411	1,369	678	502	430	1,940	558	14,158	6,200
December	58	3	4,747	583	1,949	1,132	1,459	543	2,178	777	27,392	8,451

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the Chicago Board of Trade Annual Reports.

[1] No report.

TABLE 68.—*Corn: Visible supply in United States, first of month, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1909	2,653	3,289	8,465	9,764	13,480	13,778	10,603	5,940	5,146	3,770	2,750	5,011
1910	3,510	1,545	5,099	9,145	11,794	11,166	7,047	4,685	7,482	7,100	6,724	6,339
1911	1,703	2,054	5,140	6,900	14,257	15,914	7,490	5,699	8,204	2,451	1,823	3,101
1912	2,689	1,525	5,879	9,717	17,918	21,494	7,270	2,549	11,479	6,389	2,612	7,308
1913	6,206	2,028	12,126	16,505	18,374	18,812	9,380	4,409	7,589	3,203	3,923	5,461
Av. 1909–1913	3,352	2,088	7,342	10,406	15,165	16,233	8,358	4,656	7,980	4,583	3,566	5,444
1914	3,114	3,382	19,708	34,156	41,238	32,877	20,203	12,795	5,225	2,306	2,382	3,444
1915	3,288	4,387	8,919	14,773	24,605	27,697	21,004	14,505	6,870	5,167	3,330	5,093
1916	2,361	2,677	5,838	10,671	12,931	11,974	7,173	2,629	3,277	2,841	2,371	1,163
1917	1,277	1,932	3,155	4,623	8,939	19,016	16,111	13,038	11,487	9,466	5,232	5,503
1918	4,733	2,216	2,415	5,549	4,483	2,514	4,245	2,600	4,038	2,461	956	2,163
1919	1,484	1,477	2,921	3,575	4,951	5,669	5,035	2,740	4,364	6,152	2,564	7,587
1920	10,085	4,597	5,409	14,297	22,333	32,896	23,018	15,103	24,304	14,584	11,500	11,765
Av. 1914–1920	3,763	2,953	6,909	12,521	17,069	18,949	13,837	9,059	8,509	6,140	4,048	5,245
1921	18,891	15,518	23,279	30,778	44,792	46,889	35,564	27,046	29,337	19,509	7,314	12,206
1922	8,806	11,072	16,760	21,058	27,529	28,742	22,339	6,734	3,866	2,373	1,587	2,052
1923	809	2,690	8,799	9,379	18,898	26,074	17,978	12,288	8,279	4,887	5,070	7,154
1924	8,097	7,563	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research.
Compiled from the Chicago Daily Trade Bulletin. Reported on Saturday nearest the first of each month.

TABLE 69.—*Corn: Classification of cars graded by licensed inspectors, all inspection points*

Year beginning November	Total of all classes and subclasses under each grade, annual inspections, 1917–1923															
	Receipts								Shipments							
	1	2	3	4	5	6	Sample	Total	1	2	3	4	5	6	Sample	Total
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1917	2,281	18,714	58,562	56,240	45,610	44,621	98,844	324,872	510	11,589	54,975	31,687	13,037	16,141	32,218	160,157
1918	12,661	34,727	40,872	41,491	28,832	16,061	19,638	194,282	2,339	29,368	39,532	15,985	5,670	5,616	7,425	105,935
1919	28,517	47,961	38,774	56,647	27,313	9,188	13,058	221,458	5,966	39,323	30,781	15,381	4,908	2,351	3,419	102,129
1920	68,550	88,875	64,237	63,081	21,176	9,420	8,738	324,077	34,785	141,483	49,905	10,774	1,774	2,449	3,172	244,342
1921	30,970	197,254	115,207	42,880	21,963	15,979	4,951	429,204	9,854	229,539	48,887	7,270	5,321	4,992	1,436	307,299
1922	21,580	141,563	98,932	24,261	4,270	3,526	3,711	297,843	3,338	131,026	38,408	2,767	666	933	639	177,777
1923	3,038	59,578	111,899	69,352	35,901	15,404	10,741	305,913	978	59,649	79,354	15,055	3,138	2,185	2,131	162,490
Class	Total inspections by grade and class Nov. 1, 1923, to Oct. 31, 1924															
White	647	12,995	19,330	12,482	5,689	1,843	1,294	54,280	255	14,200	10,070	2,519	270	162	129	27,605
Yellow	1,305	29,782	58,863	40,213	24,182	10,181	6,387	170,913	226	30,167	50,477	8,181	1,871	1,049	739	92,710
Mixed	1,086	16,801	33,706	16,657	6,030	3,380	3,060	80,720	497	15,282	18,807	4,355	997	974	1,263	42,175

Year beginning November	Total of all classes and subclasses under each grade, annual inspections, 1917–1923															
	Receipts								Shipments							
	1	2	3	4	5	6	Sample	Total	1	2	3	4	5	6	Sample	Total
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1917	0.7	5.8	18.0	17.3	14.1	13.7	30.4	100	0.3	7.2	34.3	19.8	8.2	10.1	20.1	100
1918	6.5	17.9	21.0	21.4	14.8	8.3	10.1	100	2.2	27.7	37.3	15.1	5.4	5.3	7.0	100
1919	12.9	21.7	17.5	25.6	12.3	4.1	5.9	100	5.8	38.5	30.1	15.1	4.8	2.3	3.4	100
1920	21.2	27.4	19.8	19.5	6.5	2.9	2.7	100	14.3	57.9	20.4	4.4	.7	1.0	1.3	100
1921	7.2	46.0	26.8	10.0	5.1	3.7	1.2	100	3.2	74.7	16.0	2.3	1.7	1.6	.5	100
1922	7.2	47.5	33.2	8.2	1.4	1.2	1.3	100	1.9	73.7	21.6	1.5	.4	.5	.4	100
1923	1.0	19.5	36.6	22.7	11.7	5.0	3.5	100	.6	36.7	48.8	9.3	1.9	1.4	1.3	100
Class	Total inspections by grade and class, Nov. 1, 1923, to Oct. 31, 1924															
White	1.2	23.9	35.6	23.0	10.5	3.4	2.4	100	0.9	51.4	36.5	9.1	1.0	0.6	0.5	100
Yellow	.8	17.4	34.4	23.5	14.2	6.0	3.7	100	.3	32.5	54.5	8.8	2.0	1.1	.8	100
Mixed	1.3	20.8	41.8	20.6	7.5	4.2	3.8	100	1.2	36.2	44.6	10.3	2.4	2.3	3.0	100

TABLE 70.—*Corn, including meal: International trade, average 1910–1914, annual 1922–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Year ended June 30							
	Average [1] 1910–1914		1922		1923		1924 Preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	[2] 2	[2] 115,749	----	112,553	----	122,875	----	128,313
Bulgaria [3]	[2] 44	9,234	(4)	[2] 2,195	(4)	[2] 1,664	----	----
China [2]	[5] 38	[5] 148	356	119	69	487	17	852
Rumania [3]	[6] 264	[6] 46,998	(4)	19,729	----	9,421	----	[7] 26,196
Russia	299	28,354	----	----	[2] [8] 3,168	----	----	[8] 5,246
Union of South Africa	[2] 143	[2] 3,932	(4)	16,827	2	7,111	[9] 8	[9] 21,100
United States [10]	2,699	41,409	125	179,490	138	96,596	228	23,135
Yugoslavia [2] [3]	----	----	96	12,490	----	451	----	----
PRINCIPAL IMPORTING COUNTRIES								
Austria [3]	----	----	4,188	[2] 34	3,546	[2] 5	3,107	----
Austria-Hungary	15,458	283	----	----	----	----	----	----
Belgium [10]	25,818	8,238	21,945	5,525	15,992	406	16,460	502
Canada	10,693	33	15,467	87	10,364	156	9,249	68
Czechoslovakia	----	----	[2] 6,880	(4)	2,417	21	4,010	----
Cuba [2]	2,746	(4)	3,089	----	3,183	----	----	----
Denmark	11,777	(4)	20,683	----	15,005	----	12,554	----
Egypt	504	63	[2] 1	[2] 254	537	47	[11] 66	[11] 17
France [10]	19,793	88	19,628	186	21,980	161	21,629	79
Germany [10]	32,056	2	56,182	37	26,822	2	5,811	14
Greece	----	----	373	----	822	----	----	----
Hungary [3]	----	----	[2] 42	(12)	[2] 235	(12)	----	----
Italy	14,771	268	13,753	20	20,584	29	10,334	636
Mexico	1,120	[13] 7	----	----	----	----	----	----
Netherlands	30,377	8,641	40,235	324	30,916	298	29,354	181
Norway	[13] 1,992	----	3,975	----	3,316	----	3,636	----
Poland [3]	----	----	1,159	38	123	----	----	----
Portugal	1,838	11	----	----	----	----	----	----
Spain	9,799	51	12,963	4	16,486	1	----	----
Sweden	1,656	26	3,340	----	1,899	----	3,065	----
Switzerland [3]	3,984	1	5,481	----	4,995	(4)	3,641	----
Tunis	442	8	[2] 772	[2] 21	[2] 396	[2] 11	----	----
United Kingdom [10]	80,441	[2] 115	83,025	[2] 65	72,590	[2] 111	63,591	----
Uruguay [2] [3]	5	201	266	209	81	124	----	----
Other countries	319	210	713	[14] 206	2,083	[14] 2,018	4,227	[14] 2,080
Total	268,470	264,070	315,787	350,413	257,735	241,095	190,987	208,386

Division of Statistical and Historical Research. Official sources except where otherwise noted. Maicena or maizena is included as "Corn and corn meal."

[1] Years ended July 31, from International Institute of Agriculture.
[2] Year ended December 31.
[3] International Institute of Agriculture.
[4] Less than 500.
[5] Four-year average.
[6] Three-year average.
[7] Nine months.
[8] Commercial source.
[9] Ten months.
[10] Year ended June 30, from original sources.
[11] Six months.
[12] Included in "Other countries."
[13] One year only.
[14] Hungary and British India.

TABLE 71.—*Corn: Farm price per bushel, December 1, 1909–1924, and value per acre, 1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre 1924[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dols.*
Me	80	71	90	75	87	81	88	85	119	228	167	195	128	144	77	100	112	130	57.12
N. H	76	69	82	75	81	77	82	76	115	217	160	170	145	136	75	75	111	134	58.96
Vt	73	66	80	72	81	74	81	84	110	213	170	175	126	137	76	91	110	118	55.46
Mass	81	70	83	77	85	79	95	80	120	215	170	172	125	138	77	94	118	129	58.05
R. I	97	83	95	88	99	92	98	100	138	236	180	180	180	160	110	120	115	140	58.80
Conn	75	68	83	77	85	78	89	85	120	215	171	180	140	143	90	96	107	120	51.60
N. Y	74	63	77	70	81	73	83	78	110	198	175	166	116	132	67	83	100	117	38.61
N. J	71	60	71	68	75	69	76	75	100	170	150	153	85	116	53	70	95	116	39.44
Pa	70	60	68	63	72	66	73	70	97	153	155	147	100	114	55	72	91	113	42.48
Del	68	52	61	51	59	56	62	62	89	140	136	145	75	101	45	70	81	112	30.24
Md	65	58	63	55	65	61	68	61	89	140	135	140	81	102	49	68	82	111	34.41
Va	74	65	73	71	76	72	81	71	93	153	160	169	100	118	69	79	94	126	26.46
W. Va	74	68	77	65	80	73	83	74	101	170	180	164	116	127	75	84	99	124	34.72
N. C	85	76	82	83	88	83	86	77	110	170	177	185	113	131	78	89	102	124	22.32
S. C	90	82	91	85	97	89	92	87	113	192	195	197	116	142	74	87	105	123	14.14
Ga	86	78	83	86	91	85	85	78	100	160	165	160	105	122	53	86	107	112	13.68
Fla	83	85	80	79	82	82	80	73	90	140	138	140	100	109	53	87	100	112	16.24
Ohio	56	46	58	45	63	54	61	59	90	136	130	121	68	95	41	66	74	104	27.04
Ind	50	40	54	42	60	49	58	51	84	125	119	125	59	89	37	56	62	94	23.88
Ill	52	38	55	41	63	50	61	54	84	110	120	130	59	88	38	60	65	98	30.40
Mich	61	53	65	57	67	61	67	68	95	182	130	138	82	109	48	67	78	106	27.56
Wis	60	52	60	51	60	57	65	68	92	168	130	125	77	103	46	63	80	105	27.30
Minn	49	45	53	37	53	47	52	62	80	110	111	120	51	84	31	56	61	85	23.80
Iowa	49	36	53	35	60	47	55	51	80	108	122	120	47	83	30	56	62	93	26.04
Mo	59	44	60	46	74	57	68	57	90	114	143	138	64	96	40	68	74	96	24.96
N. Dak	55	58	60	43	52	54	58	67	84	151	130	140	72	100	34	53	54	76	15.20
S. Dak	50	40	53	37	56	47	50	49	77	120	110	119	42	81	26	50	52	80	17.60
Nebr	50	36	55	37	65	49	59	47	78	120	128	122	41	84	27	58	58	91	22.02
Kans	54	45	63	40	78	56	63	51	90	125	149	140	44	95	31	61	64	87	19.58
Ky	62	53	63	55	76	62	64	56	87	121	146	155	82	102	55	69	85	102	25.50
Tenn	70	56	61	61	77	65	68	58	94	120	145	157	87	104	52	79	94	108	23.76
Ala	85	71	78	79	89	80	80	69	102	125	148	159	98	112	62	90	108	122	15.86
Miss	81	63	72	71	77	73	73	65	98	138	151	160	102	112	56	85	107	128	15.12
La	69	55	70	68	77	68	75	64	94	146	161	150	85	111	65	83	105	115	13.22
Tex	76	63	80	64	82	73	74	58	104	167	176	118	84	112	54	83	100	110	18.70
Okla	55	51	70	41	72	58	64	46	93	147	164	127	54	99	32	70	87	89	18.24
Ark	72	58	72	67	78	69	80	64	98	140	180	164	97	118	57	85	101	107	17.66
Mont	86	95	80	70	77	82	76	69	93	175	135	165	80	113	67	53	65	99	17.82
Wyo	78	66	76	64	80	73	70	67	90	175	140	165	56	109	50	60	70	94	13.16
Colo	70	60	78	50	73	66	60	55	90	125	135	142	70	97	31	66	65	88	8.80
N. Mex	90	90	84	75	75	83	80	73	113	188	180	151	110	128	90	82	95	110	22.00
Ariz	100	110	97	100	110	103	120	115	140	190	210	200	170	164	100	115	120	125	37.50
Utah	87	84	81	75	70	79	75	80	115	170	181	180	150	132	76	85	95	148	37.70
Nev	87	100	90	98	118	99	110	93	125	150	210	140	160	141	120	105	125	121	32.67
Idaho	75	71	85	70	68	74	72	65	100	155	183	165	100	120	50	78	77	113	30.55
Wash	86	75	79	77	80	79	73	77	100	162	170	185	125	127	86	105	95	112	37.52
Oreg	80	80	80	75	70	77	82	82	95	150	155	155	130	121	84	91	90	121	36.90
Calif	91	80	90	85	88	87	87	88	124	185	193	179	120	139	77	100	108	138	48.30
U. S	58.6	48.0	51.8	48.7	69.1	57.2	64.4	57.5	88.9	127.9	136.5	134.5	67.0	96.7	42.3	65.8	72.6	98.7	22.91

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 72.—*Corn: United States, farm price per bushel, 15th of month, 1909–1924*

Year beginning November	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	60.0	60.1	63.8	65.6	65.7	64.5	64.4	65.7	66.7	66.8	63.7	56.8	63.7
1910	50.3	48.1	48.6	49.0	49.3	50.8	53.4	57.6	62.9	65.8	65.8	65.2	53.6
1911	63.2	62.0	63.4	65.6	68.8	75.2	81.0	81.8	80.2	78.4	73.9	64.3	69.6
1912	53.6	48.8	49.8	51.4	53.0	55.2	58.7	61.9	64.3	70.4	75.4	73.0	57.0
1913	69.9	69.4	69.0	68.7	69.9	71.4	73.6	75.2	76.2	79.2	79.8	74.4	71.9
Av. 1909–1913	59.4	57.7	58.9	60.1	61.3	63.4	66.2	68.4	70.0	72.1	71.7	66.7	63.2
1914	67.5	65.3	69.5	74.0	75.1	76.4	77.8	77.8	78.3	78.1	73.9	66.2	72.7
1915	59.7	59.8	64.4	67.4	69.2	71.3	73.2	74.8	77.4	81.5	83.0	83.6	70.1
1916	87.0	89.4	92.9	98.4	107.2	132.0	155.4	162.4	180.6	186.0	175.3	160.6	124.2
1917	137.0	131.4	136.8	146.6	154.0	154.6	154.1	153.1	156.7	162.7	162.6	149.9	147.6
1918	138.4	140.6	141.4	137.6	143.4	156.1	166.9	173.8	183.8	188.3	169.6	143.6	152.1
1919	134.0	137.4	143.6	147.6	153.6	164.1	177.4	185.4	174.6	159.7	138.5	104.3	150.1
1920	77.2	66.8	64.6	63.4	63.8	61.2	61.0	62.4	62.0	59.0	53.6	46.0	62.6
Av. 1914–1920	100.1	98.7	101.9	105.0	109.5	116.5	123.7	127.1	130.5	130.8	122.4	107.7	111.3
1921	41.7	42.8	44.6	50.3	55.8	58.3	60.6	61.9	63.3	63.6	62.2	62.2	53.4
1922	64.3	67.6	70.2	72.5	75.3	79.6	84.0	85.8	87.0	87.0	86.2	84.8	76.6
1923	78.3	72.2	73.6	76.5	77.2	78.2	78.6	80.8	98.3	107.4	109.7	108.9	83.1
1924	99.6	105.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 73.—*Corn, No. 3, yellow: Weighted average price per bushel of reported cash sales, 1899–1924*

CHICAGO[1]

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Weighted average[2]
1899	$0.31	$0.30	$0.30	$0.32	$0.36	$0.39	$0.38	$0.40	$0.41	$0.40	$0.40	$0.42	$0.36
1900	.37	.35	.36	.37	.39	.42	.43	.42	.48	.56	.56	.56	.43
1901	.60	.64	.62	.59	.59	.62	.62	.63	.65	.60	.59	.60	.62
1902	.53	.46	.43	.43	.41	.41	.46	.49	.51	.53	.51	.45	.47
1903	.44	.44	.43	.46	.46	.49	.49	.50	.49	.52	.53	.55	.49
1904	.48	.43	.42	.44	.47	.48	.50	.55	.57	.54	.53	.53	.48
1905	.45	.42	.42	.42	.40	.42	.47	.49	.52	.54	.47	.46	.44
1906	.43	.42	.41	.43	.43	.44	.52	.53	.54	.57	.64	.65	.50
1907	.59	.58	.53	.54	.63	.65	.73	.72	.76	.81	.80	.77	.68
1908	.63	.59	.64	.65	.66	.69	.73	.75	.72	.70	.69	.59	.65
1909	.59	.59	.64	.63	.61	.57	.60	.59	.62	.64	.58	.50	.59
1910	.49	.45	.45	.45	.45	.50	.54	.55	.63	.65	.67	.73	.53
1911	.68	.61	.62	.64	.68	.78	.79	.75	.68	.79	.74	.65	.71
1912	.52	.46	.46	.48	.49	.55	.57	.60	.62	.74	.75	.70	.53
1913	.72	.66	.62	.62	.64	.67	.70	.72	.71	.82	.79	.73	.70
Av., 1909–1913	.60	.55	.56	.56	.57	.61	.64	.64	.65	.73	.71	.66	.61
1914	.67	.64	.71	.74	.72	.75	.77	.74	.78	.81	.74	.65	.70
1915	.63	.69	.74	.74	.73	.76	.75	.74	.81	.85	.86	.96	.79
1916	.98	.92	.98	1.00	1.09	1.40	1.59	1.70	1.99	2.06	2.10	2.03	1.11
1917	2.21	1.77	1.77	1.81	1.70	1.65	1.60	1.62	1.70	1.72	1.58	1.41	1.63
1918	1.33	1.45	1.43	1.27	1.53	1.62	1.74	1.78	1.92	1.95	1.55	1.41	1.62
1919	1.46	1.47	1.51	1.46	1.58	1.69	2.02	1.89	1.58	1.58	1.31	.91	1.59
1920	.77	.74	.65	.63	.62	.57	.60	.63	.60	.56	.53	.45	.62
Av., 1914–1920	1.15	1.10	1.11	1.09	1.14	1.21	1.30	1.30	1.34	1.36	1.24	1.12	1.15
1921	.47	.47	.48	.55	.57	.58	.62	.61	.64	.62	.64	.69	.55
1922	.71	.73	.70	.72	.73	.79	.82	.84	.88	.88	.89	1.04	.73
1923	.82	.71	.76	.78	.77	.77	.77	.82	1.09	1.17	1.14	1.10	.88
1924	1.11	1.20	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

[1] Compiled from Chicago Daily Trade Bulletin.

[2] Average of daily prices weighted by car lot sales.

TABLE 73.—*Corn, No. 3, yellow: Weighted average price per bushel of reported cash sales, 1899–1924*—Continued.

KANSAS CITY[1]

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Weighted average
1899	$0.29	$0.28	$0.29	$0.31	$0.32	$0.38	$0.38	$0.37	$0.38	$0.37	$0.38	$0.38	$0.33
1900[3]	.34	.34	.35	.36	.37	.42	.41	.41	.48	.59	.57	.59	.41
1901[3]	.66	.68	.64	.61	.61	.63	.64	.60	.63	.53	.56	.52	.63
1902	.41	.38	.39	.39	.38	.36	.41	.54	.48	.46	.45	.40	.40
1903	.39	.37	.40	.43	.42	.47	.50	.49	.51	.49	.49	.49	.45
1904	.47	.42	.42	.46	.46	.46	.47	.50	.53	.50	.50	48	.46
1905	.42	.41	.40	.39	.40	.44	.47	.48	.50	.46	.44	.42	.43
1906	.38	.38	.39	.40	.41	.40	.51	.50	.51	.50	.57	.58	.43
1907	.51	.50	.53	.55	.59	.63	.69	.71	.75	.72	.74	.69	.54
1908	.60	.57	.57	.60	.63	.67	.73	.72	.67	.63	.65	.60	.62
1909	.59	.62	.65	.61	.59	.55	.62	.60	.62	.62	.55	.49	.59
1910	.47	.43	.44	.42	.44	.47	.52	.55	.67	.62	.66	.71	.49
1911	.67	.62	.66	.65	.71	.81	.80	.75	.75	.76	.71	64	.69
1912	.45	.45	.47	.47	.50	.56	.58	.59	.62	.75	.75	.72	.55
1913	.72	.66	.65	.63	.66	.69	.73	.71	.70	.81	.78	.70	.67
Av. 1909–1913	.58	.56	.57	.56	.58	.62	.65	.64	.67	.71	.69	.65	.60
1914	.64	.65	.73	.73	.71	.75	.75	.74	.76	.76	.70	.59	.72
1915	.62	.67	.70	.71	.68	.72	.72	.72	.78	.82	.84	.91	.69
1916	.95	.89	.95	.90	1.16	1.41	1.58	1.68	2.01	1.78	1.96	1.91	1.06
1917	2.02	1.66	1.65	1.74	1.66	1.59	1.61	1.54	1.63	1.76	1.66	1.45	1.63
1918	1.47	1.52	1.42	1.34	1.48	1.66	1.74	1.79	1.92	1.93	1.64	1.42	1.56
1919	1.51	1.51	1.49	1.45	1.56	1.71	1.91	1.82	1.58	1.57	1.28	.88	1.60
1920	.67	.69	.60	.58	.57	.52	.56	.56	.51	.46	.49	.38	.59
Av. 1914–1920	1.13	1.08	1.08	1.08	1.12	1.19	1.27	1.26	1.31	1.30	1.22	1.08	1.12
1921	.43	.42	.45	.53	.54	.57	.59	.59	.60	.58	.59	.64	.54
1922	.73	.71	.70	.71	.73	.82	.85	.85	.84	.83	.86	.95	.74
1923	.78	.67	.73	.73	.72	.76	.75	.86	1.04	1.09	1.10	1.08	.78
1924	1.07	1.15											

Division of Statistical and Historical Research.

[1] Compiled from the Kansas City Daily Price Current. Prior to May 11, 1903, the prices were obtained under mixed corn.
[3] 1901, compiled from the Kansas City Star.

TABLE 74.—*Corn, No. 3, yellow: Weighted average price per bushel of reported cash sales, 1909–1924*

ST. LOUIS

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Weighted average[1]
1909	$0.58	$0.61	$0.65	$0.63	$0.60	$0.58	$0.62	$0.59	$0.63	$0.62	$0.55	$0.49	$0.61
1910	.47	.44	.45	.44	.45	.48	.53	.55	.65	.63	.66	.72	.48
1911	.65	.61	.60	.64	.70	.80	.79	.74	.74	.76	.73	.64	.70
1912	.48	.46	.48	.48	.50	.57	.58	.60	.64	.73	.75	.71	.52
1913	.73	.67	.63	.62	.66	.68	.71	.71	.73	.83	.79	72	.68
Av. 1909–1913	.58	.56	.56	.56	.58	.62	.65	.64	.68	.71	.70	.66	.60
1914	.66	.65	.72	.74	.72	.76	.77	.74	.78	.78	.74	.64	.72
1915	.64	.68	.75	.75	.73	.75	.74	.74	.81	.86	.86	.93	.75
1916	.96	.91	.98	.99	1.12	1.45	1.63	1.67	1.94	1.75	2.04	1.91	1.11
1917	2.00	1.75	1.76	1.82	1.68	1.66	1.62	1.60	1.69	1.75	1.63	1.45	1.67
1918	1.40	1.50	1.44	1.33	1.54	1.62	1.74	1.78	1.99	1.93	1.52	1.42	1.59
1919	1.49	1.49	1.51	1.48	1.60	1.73	2.00	1.87	1.62	1.57	1.30	.92	1.64
1920	.79	.74	.64	.63	.62	.57	.62	.61	.59	.54	.52	.46	.60
Av. 1914–1920	1.13	1.10	1.11	1.11	1.14	1.22	1.30	1.29	1.35	1.31	1.23	1.10	1.15
1921	.47	.48	.48	.54	.58	.57	.61	.60	.65	.61	.63	.69	.57
1922	.71	.72	.70	.73	.74	.80	.84	.86	.86	.92	.90	1.00	.75
1923	.82	.71	.77	.78	.78	.79	.78	.86	1.09	1.19	1.15	1.10	.87
1924	1.12	1.20											

Division of Statistical and Historical Research. Compiled from the St. Louis Daily Market Reporter.

[1] A average of daily prices weighted by car lot sales.

TABLE 75.—*Corn, all classes and grades combined: Weighted average price per bushel of reported cash sales at markets named, 1918–1924*

CHICAGO

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Weighted average.[3]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cents.*
1918	118.6	138.6	131.4	122.0	144.2	160.1	174.0	173.7	191.8	193.2	166.6	140.0	150.4
1919	143.8	141.6	144.9	139.5	155.1	159.7	197.4	183.3	155.3	154.9	132.2	95.9	144.1
1920	78.8	72.5	62.1	59.9	60.7	54.5	61.2	59.1	59.4	56.2	53.2	46.2	56.6
1921	46.7	47.1	47.3	54.0	57.1	58.2	61.4	60.0	63.7	62.0	63.0	69.0	56.9
1922	71.1	72.4	70.1	72.5	72.8	79.3	81.8	84.0	87.1	88.2	88.8	102.4	78.1
1923	76.1	69.8	74.4	75.2	74.4	76.4	76.7	82.6	109.1	117.2	114.9	110.0	86.0
1924	109.3	115.3											

ST. LOUIS

1918	126.5	139.7	134.5	126.1	143.5	160.2	174.8	179.1	193.0	194.8	155.8	141.9	151.5
1919	146.4	144.5	147.4	142.5	155.3	171.8	194.9	186.8	160.6	158.1	129.3	93.5	155.4
1920	82.1	71.9	62.1	61.2	60.7	56.2	59.9	60.5	60.7	54.3	51.6	45.4	57.5
1921	46.0	47.8	47.5	54.7	57.7	57.9	61.3	60.0	64.0	61.4	62.5	69.9	57.6
1922	71.4	72.6	71.0	73.5	74.3	80.1	84.2	86.1	87.4	87.0	89.9	101.5	79.6
1923	76.9	69.4	74.6	75.8	75.5	77.5	77.3	85.7	107.8	113.8	114.4	109.4	86.7
1924	108.6	117.7											

OMAHA

1918	131.6	142.8	136.0	123.6	142.4	159.3	167.6	170.7	186.1	184.0	152.2	136.1	151.2
1919	139.3	135.6	135.9	131.9	146.3	161.7	181.4	175.5	149.3	150.3	118.2	81.4	147.6
1920	70.7	60.7	54.7	52.2	53.1	47.6	52.6	53.6	50.3	45.3	42.5	36.2	50.0
1921	39.4	39.2	40.8	49.5	51.2	51.9	54.2	54.4	57.1	53.7	55.8	64.0	50.9
1922	68.4	66.8	65.8	67.5	68.9	77.2	80.1	80.5	80.0	79.6	82.8	94.3	73.3
1923	68.8	62.5	68.1	68.3	67.5	69.8	70.5	79.8	101.3	107.0	106.8	102.8	76.0
1924	101.8	114.4											

KANSAS CITY

1918	139.5	148.8	136.5	127.9	147.9	165.1	172.6	176.7	189.5	189.0	155.2	141.7	152.0
1919	138.3	141.0	142.1	136.5	149.1	166.9	185.1	171.1	149.5	146.2	126.8	86.1	147.5
1920	67.1	63.3	58.5	57.1	56.8	51.1	57.0	55.5	52.4	45.6	45.3	39.0	53.8
1921	41.8	42.1	43.7	52.9	54.0	55.0	57.4	57.0	56.0	55.2	58.9	68.9	53.2
1922	72.5	70.5	69.8	71.4	72.7	81.9	84.0	84.2	83.0	81.5	86.6	95.3	77.7
1923	73.9	65.1	71.4	71.5	70.5	73.8	73.6	84.9	102.3	107.4	108.9	104.8	77.9
1924	105.2	114.2											

MINNEAPOLIS

1918	130.9	136.6	128.1	115.8	131.2	155.8	162.5	160.0	176.7	184.0	152.6	138.1	140.8
1919	140.6	134.5	135.5	132.3	146.3	161.1	179.4	172.3	143.2	129.0	123.1	89.5	141.2
1920	67.0	60.4	53.6	50.6	52.1	47.4	51.2	51.8	51.3	50.7	47.0	40.3	50.5
1921	41.4	39.9	41.2	50.3	50.5	51.4	54.9	54.5	58.1	56.6	58.2	65.3	50.1
1922	68.9	65.3	63.3	65.8	66.7	72.6	77.9	76.3	79.1	81.9	82.9	90.4	71.7
1923	72.3	64.9	69.9	72.6	71.1	71.7	70.9	79.1	102.7	112.1	111.1	106.4	75.7
1924	104.8	106.4											

CINCINNATI[1]

1919			147.5	145.9	159.3	173.8	196.0	191.5	164.4	159.0	137.9	102.7	
1920	80.3	69.7	65.7	65.5	63.9	57.8	63.9	63.4	65.3	63.6	55.4	50.8	61.6
1921	49.5	49.2	49.1	55.8	60.8	60.5	64.5	62.2	68.2	65.4	65.6	73.1	59.7
1922	69.9	74.0	73.8	76.3	77.3	85.7	87.0	88.9	92.1	92.5	93.6	99.5	82.7
1923	73.5	67.6	75.7	76.9	74.8	78.9	78.3	84.8	110.6	120.5	120.4	112.0	81.8
1924	107.9	116.1											

SIX MARKETS COMBINED[2]

1918	122.5	140.4	133.0	123.0	143.1	160.6	172.2	173.9	189.9	191.5	156.1	139.9	150.3
1919	143.2	140.4	143.2	137.9	153.1	163.8	191.7	181.0	154.8	153.2	130.1	94.3	146.5
1920	76.5	68.6	60.3	58.1	58.8	52.9	58.9	58.3	57.5	54.0	51.9	45.2	55.5
1921	45.6	45.7	46.0	53.3	55.4	56.5	59.6	59.3	62.1	60.1	62.3	69.4	55.7
1922	70.8	71.6	69.2	71.6	72.4	79.0	82.1	83.1	85.6	86.4	88.3	100.3	77.4
1923	74.9	67.5	72.8	73.7	72.7	74.7	75.4	82.7	106.6	114.4	113.7	109.2	83.0
1924	108.3	114.4											

These prices are comparable with farm prices.

Division of Statistical and Historical Research. Compiled from Chicago Daily Trade Bulletin, St. Louis Daily Market Reporter, Omaha Daily Price Current, Kansas City Grain Market Review, Minneapolis Daily Market Record, Cincinnati Daily Trade Bulletin.

[1] No reports until January, 1920.

[2] From November, 1918, through December, 1919, inclusive, Cincinnati is not included.

[3] Average of daily prices weighted by car lot sales.

TABLE 76.—*Corn, American mixed: Average spot price per bushel of 56 pounds at Liverpool, 1912–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1912	$0.92	$0.95	$0.94	$0.95	$0.95	$0.95	$0.93	$0.99	$0.99	$0.99	$0.91	$0.86
1913	.82	.82	.81	.82	.82	.82	.82	.90	.95	.89	.90	.91
1914	.91	.91	.91	.91	.91	.92	.93	1.13	1.11	1.04	1.00	.98
1915	1.04	1.11	1.10	1.09	1.13	1.08	1.10	1.18	1.16	1.16	(1)	1.23
1916	1.40	1.47	1.43	1.43	1.47	1.28	1.37	1.44	1.41	1.48	1.71	1.83
1917	1.95	2.00	2.05	1.98	2.03	2.05	2.05	2.05	2.05	2.05	2.05	2.05
1918	2.16	2.16	2.16	2.16	2.16	2.16	2.34	2.52	2.52	2.52	2.53	2.53
1919	2.11	2.11	1.65	1.63	1.63	1.61	1.55	(1)	(1)	(1)	(1)	(1)
1920	(1)	1.93	2.14	2.16	2.04	2.06	(1)	(1)	(1)	1.63	1.58	1.38
1921	1.49	1.15	1.13	1.01	.95	.97	.98	.92	.85	.71	.78	.85
1922	.81	.90	.85	.83	.84	.84	.98	.92	.90	1.00	1.00	1.00
1923	.99	1.00	1.00	1.06	1.07	1.09	.95	1.16	1.16	(1)	(1)	(1)
1924	1.06	1.15	1.13	1.06	1.08	1.00	1.12	[2]1.12	(1)	(1)	(1)	(1)

Division of Statistical and Historical Research. Compiled from Broomhall's Corn Trade News. For rate of exchange used in conversion from shillings see Table 764, p. 1183.

[1] No quotations. [2] Quotation for Aug. 6 only.

TABLE 77.—*Corn: Spot price per bushel of 56 pounds at Buenos Aires, 1912–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1912	(1)	(1)	(1)	$0.58	$0.53	$0.52	$0.51	$0.52	$0.50	$0.51	$0.52	$0.53	$0.52
1913	$0.54	$0.54	$0.54	.56	.55	.55	.55	.55	.62	.59	.58	.58	.56
1914	.55	.56	.56	.54	.59	.55	.57	[2].56	.55	.49	.53	.54	.55
1915	.54	.61	.56	.57	.54	.50	.51	.49	.51	.51	.54	.52	.53
1916	.56	.60	.56	.51	.45	.43	.45	.51	.55	.70	1.03	.93	.61
1917	1.07	1.07	.99	1.03	1.27	1.46	1.43	1.27	.87	.85	.95	.88	1.10
1918	.79	.79	.74	.59	.53	.57	.64	.68	.65	.63	.63	.63	.66
1919	.57	.52	.47	.55	.55	.55	.96	1.07	.91	.79	.74	.71	.70
1920	.70	.71	.83	1.03	1.13	1.10	.96	.90	.92	.83	.77	.82	.89
Av. 1914–1920	.68	.69	.67	.69	.72	.74	.79	.78	.71	.69	.74	.72	.72
1921	.88	.91	.91	.78	.61	.63	.65	.66	.65	.58	.61	.63	.71
1922	.63	.73	.79	.77	.75	.71	.78	.78	.76	.74	.70	.74	.74
1923	.80	.82	.81	.80	.77	.75	.73	.69	.74	.78	.81	.79	.77
1924	.78	.82	.77	.67	.65	.57	.68	.85	.93	1.05	1.06	1.07	.83

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics 1912-1921. Subsequently Review of the River Plata. Average of weekly quotations. For rate of exchange used in conversion from shillings see Table 764, p. 1183.

[1] No quotations. [2] Interpolation, no quotation.

TABLE 78.—*Corn, yellow, La Plata: Spot price per bushel of 56 pounds at Liverpool, 1912–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1912	(1)	(1)	(1)	(1)	$0.97	$0.87	$0.71	$0.75	$0.78	$0.72	$0.68	$0.67	$0.77
1913	$0.71	$0.75	$0.76	$0.74	.72	.69	.67	.67	.70	.66	.63	.67	.70
1914	.65	.66	.68	.68	.74	.76	.78	.97	.93	.83	.78	.83	.77
1915	.98	1.06	1.02	1.06	1.11	.97	.92	.90	.85	.94	1.06	1.19	1.00
1916	1.40	1.44	1.42	1.43	1.47	1.33	1.45	1.54	1.39	1.48	1.69	1.81	1.49
1917	[3]1.89	1.92	2.00	2.16	(1)	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.11
1918	2.23	2.23	2.23	2.23	2.23	2.23	2.42	2.61	2.61	2.61	2.61	2.61	2.40
1919	2.04	2.04	1.75	1.74	1.74	1.72	1.65	1.66	1.69	1.68	1.65	1.52	1.74
1920	[3]1.49	[4]1.77.	[4]1.96	1.97	1.81	1.67	1.53	1.43	1.60	1.49	1.15	1.25	1.59
1921	1.28	1.22	1.30	1.28	1.18	1.09	1.05	.93	.83	.72	.78	.88	1.04
1922	.92	1.08	1.08	1.03	1.06	1.01	1.10	1.10	1.09	1.08	.96	1.00	1.04
1923	.99	1.04	1.05	1.09	1.14	1.10	1.02	.94	.98	.97	.96	1.02	1.02
1924	1.03	1.15	1.11	1.07	1.12	1.00	.94	1.04	1.14	1.24	1.21	1.22	1.11

Division of Statistical and Historical Research. Compiled from International Yearbook of Agricultural Statistics, 1912-1921. Subsequently Broomhall's Corn Trade News.
For rate of exchange used in conversion from shillings, see Table 764, p. 1183.

[1] Not quoted. [2] Trading in maize controlled Jan. 5, 1917. [3] Afloat price. [4] Nominal.

OATS

TABLE 79.—*Oats: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage harvested	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]	Chicago, cash price per bushel, No 2 white [2]				Domestic exports, including oatmeal, fiscal year beginning July 1	Imports, fiscal year beginning July 1 [3]
							December		Following May			
							Low	High	Low	High		
	1,000 acres	*Bush. of 32 lbs.*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels*	*Bushels*
1909	*35,159*	30.4	1,068,289	40.6	433,869	12.34	40	45	36½	43½	2,548,726	1,034,511
1910	37,548	31.6	1,186,341	34.4	408,388	10.88	31	32½	31⅞	36	3,845,850	107,318
1911	37,763	24.4	922,298	45.0	414,663	10.98	46½	47⅛	50½	58	2,677,749	2,622,357
1912	37,917	37.4	1,418,337	31.9	452,469	11.93	31	31⅜	35⅝	43	36,455,474	723,899
1913	38,399	29.2	1,121,768	39.2	439,596	11.45	37⅛	40¼	37	42½	2,748,743	22,273,624
Av. 1909–1913	37,357	30.6	1,143,407	37.6	429,797	11.51	37.2	39.4	38.2	44.6	9,655,306	5,352,342
1914	38,442	29.7	1,141,060	43.8	499,431	12.99	46⅛	49⅜	50½	56	100,609,272	630,722
1915	40,996	37.8	1,549,030	36.1	559,506	13.65	40⅛	44	39½	49½	98,960,481	665,314
1916	41,527	30.1	1,251,837	52.4	655,928	15.80	46⅜	54	59⅕	74	95,105,698	761,644
1917	43,553	36.6	1,592,740	66.6	1,061,474	24.37	70¼	80¼	72	79½	125,090,611	2,591,077
1918	44,349	34.7	1,538,124	70.9	1,090,322	24.59	68	74½	67¼	74¼	109,004,734	551,355
1919	40,359	29.3	1,184,030	70.4	833,922	20.66	78⅜	89	100½	117¼	43,435,994	6,043,834
1920	42,491	35.2	1,496,281	46.0	688,311	16.20	47	52	36⅝	43¼	9,391,096	3,795,638
Av. 1914–1920	41,674	33.4	1,393,300	55.3	769,842	18.47	56.9	63.4	60.9	70.5	83,085,412	2,148,512
1921	45,495	23.7	1,078,341	30.2	325,954	7.16	34½	42½	37¼	45	21,236,742	1,733,282
1922	40,790	29.8	1,215,803	39.4	478,948	11.74	43¾	50	43	47½	25,413,330	293,208
1923	40,981	31.9	1,305,883	41.4	541,137	13.20	43	49½	47	50½	8,795,933	4,244,047
1924 [4]	42,452	36.3	1,541,900	48.0	739,495	17.42	53¾	69	----	----	----------	----------

Division of Crop and Livestock Estimates. Figures in italics are census returns. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Based on Dec. 1 price.
[2] Chicago Daily Trade Bulletin. Quotations are for contract 1906–1915.
[3] Oatmeal not included in 1909.
[4] Preliminary.

TABLE 80.—*Oats: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1, price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Maine	120	125	121	4,560	4,625	4,477	2,143	2,590	2,910
New Hampshire	18	18	18	684	675	702	410	432	512
Vermont	90	75	68	3,060	2,625	2,584	1,714	1,654	1,783
Massachusetts	10	9	8	340	315	272	214	198	190
Rhode Island	1	1	1	31	32	30	19	19	22
Connecticut	11	10	10	308	290	290	200	180	203
New York	1,059	1,017	946	31,770	32,747	34,056	16,203	18,011	21,115
New Jersey	72	68	67	2,232	1,632	2,144	1,228	898	1,372
Pennsylvania	1,170	1,170	1,030	39,780	33,930	37,080	19,094	17,644	22,990
Delaware	7	7	7	161	182	210	92	109	139
Maryland	58	59	61	1,740	1,758	2,074	887	949	1,327
Virginia	166	163	187	3,320	3,586	4,394	1,959	2,259	3,164
West Virginia	200	196	184	4,600	4,704	4,784	2,668	2,964	3,492
North Carolina	220	300	258	4,620	6,600	4,644	3,095	4,884	3,901
South Carolina	406	447	360	9,744	10,728	7,704	7,405	8,797	7,473
Georgia	474	521	234	8,532	9,378	3,978	6,399	7,971	3,779
Florida	37	33	31	481	396	465	370	317	418
Ohio	1,472	1,516	1,577	39,744	52,302	64,657	17,885	23,536	33,622
Indiana	1,506	1,739	1,843	31,626	48,692	70,034	12,650	18,990	33,616
Illinois	3,860	3,860	4,092	110,010	135,100	163,680	42,904	52,689	76,930
Michigan	1,498	1,528	1,600	50,932	48,896	67,200	20,882	21,025	32,256
Wisconsin	2,465	2,539	2,590	101,558	92,166	103,600	39,608	39,631	49,728
Minnesota	4,021	4,200	4,500	142,746	155,400	193,500	45,679	52,836	83,205
Iowa	5,874	5,774	5,774	217,925	209,019	248,282	76,274	77,337	109,244
Missouri	1,200	1,380	1,518	19,200	34,500	41,745	8,448	15,525	21,290
North Dakota	2,388	2,388	2,746	78,804	54,924	93,364	20,489	15,379	33,611
South Dakota	2,400	2,304	2,650	74,400	78,336	98,050	23,808	24,284	39,220
Nebraska	2,408	2,456	2,456	56,106	81,048	76,136	19,076	27,556	32,738
Kansas	1,494	1,338	1,531	27,639	34,922	39,806	11,332	15,016	18,709
Kentucky	234	225	230	4,282	4,725	5,336	2,398	2,646	3,575
Tennessee	229	205	225	4,122	4,305	4,950	2,185	2,583	3,416
Alabama	277	277	197	5,540	4,709	2,955	4,155	3,767	2,571
Mississippi	125	120	118	2,375	2,280	2,124	1,568	1,733	1,805
Louisiana	56	56	53	1,249	1,232	1,060	862	838	880
Texas	1,455	1,370	1,438	33,465	43,840	48,892	18,406	24,989	28,846
Oklahoma	1,500	1,200	1,440	30,000	24,000	38,880	13,500	12,480	20,606
Arkansas	264	250	275	6,600	5,750	5,500	3,762	3,565	3,520
Montana	660	673	673	21,120	22,209	19,854	7,814	8,439	9,331
Wyoming	158	165	169	4,898	5,610	5,239	1,959	2,637	3,039
Colorado	185	226	260	4,625	7,232	6,500	2,081	3,327	3,770
New Mexico	53	58	64	827	1,160	1,536	480	812	922
Arizona	20	19	20	620	570	700	422	456	567
Utah	86	81	77	3,354	3,062	3,080	1,576	1,776	2,156
Nevada	2	3	3	74	106	102	56	86	73
Idaho	162	170	184	6,156	7,820	6,624	2,832	3,441	3,842
Washington	202	210	218	7,918	11,970	8,611	4,592	5,985	5,080
Oregon	267	270	270	6,675	10,530	8,370	3,805	4,738	5,106
California	150	162	70	5,250	5,265	1,645	3,360	3,159	1,431
United States	40,790	40,981	42,452	1,215,803	1,305,883	1,541,900	478,948	541,137	739,495

Division of Crop and Livestock Estimates

[1] Preliminary.

TABLE 81.—*Oats: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	37.0	42.4	38.5	34.6	40.0	38.5	41.0	40.0	36.0	29.0	40.0	34.0	41.8	37.4	35.0	38.0	37.0	37.0
New Hampshire	31.5	42.8	33.8	39.0	35.0	36.4	38.0	38.0	37.0	38.0	38.0	33.0	39.0	37.3	35.0	38.0	37.5	39.0
Vermont	32.2	41.5	35.0	43.0	39.0	38.1	42.5	43.0	32.0	36.0	41.0	29.5	35.0	37.0	33.0	34.0	36.0	38.0
Massachusetts	31.0	35.5	35.0	34.0	35.0	34.1	37.0	36.0	32.0	37.0	40.0	33.0	34.0	35.6	31.0	34.0	35.0	34.0
Rhode Island	25.0	35.0	29.0	28.6	26.0	28.7	27.5	33.0	27.0	31.0	42.0	30.0	28.0	31.2	28.0	31.0	32.0	30.0
Connecticut	27.5	36.8	35.1	30.7	28.0	31.6	29.0	32.5	30.0	33.0	38.0	29.5	30.0	31.7	30.0	28.0	29.0	29.0
New York	28.2	34.5	29.5	30.8	33.5	31.3	31.5	40.5	26.0	35.0	41.0	25.5	38.5	34.0	24.0	30.0	32.2	36.0
New Jersey	25.5	37.1	28.5	27.6	29.0	29.5	29.0	32.5	30.0	34.0	40.0	30.0	32.0	32.5	24.0	31.0	24.0	32.0
Pennsylvania	26.0	35.2	28.3	33.1	31.0	30.7	30.0	38.0	31.0	35.0	39.0	31.0	39.0	34.7	28.5	34.0	29.0	36.0
Delaware	25.5	33.8	30.0	30.5	30.5	30.1	27.0	33.5	30.0	32.0	35.0	23.0	33.0	30.5	28.0	23.0	26.0	30.0
Maryland	25.4	30.0	27.0	30.0	28.0	28.1	27.0	34.0	29.5	31.0	33.0	28.0	32.5	30.7	27.0	30.0	29.8	34.0
Virginia	19.0	22.0	20.0	22.2	21.5	20.9	15.5	25.0	23.5	24.5	23.0	22.0	21.9	22.2	20.5	20.0	22.0	23.5
West Virginia	22.0	25.2	22.0	28.0	24.0	24.2	20.0	29.0	23.0	27.0	27.0	21.0	27.0	24.9	22.0	23.0	24.0	26.0
North Carolina	16.5	18.2	16.5	18.6	19.5	17.9	17.5	23.0	17.5	16.0	17.0	16.7	22.0	18.5	18.0	21.0	22.0	18.0
South Carolina	21.0	21.0	20.4	21.5	23.5	21.5	20.0	19.0	18.0	15.0	22.0	23.0	24.0	20.1	24.0	24.0	24.0	21.4
Georgia	19.0	18.2	21.5	20.8	22.0	20.3	20.0	19.5	19.5	16.0	20.0	20.0	21.0	19.4	21.0	18.0	18.0	17.0
Florida	17.0	16.2	13.5	17.2	18.0	16.4	18.0	20.0	15.0	14.0	18.0	15.0	17.0	16.7	13.0	13.0	12.0	15.0
Ohio	32.5	37.2	32.1	44.0	30.2	35.2	30.5	41.0	28.0	44.0	44.0	33.0	44.2	37.8	23.0	27.0	34.5	41.0
Indiana	30.5	35.4	28.7	40.1	21.4	31.2	28.5	40.0	30.0	42.0	42.0	32.0	41.0	36.5	24.0	21.0	28.0	38.0
Illinois	36.6	38.0	28.8	43.3	28.8	34.1	29.3	45.0	38.5	52.0	44.0	30.0	39.5	39.8	26.5	28.5	35.0	40.0
Michigan	30.5	34.0	28.6	34.9	30.0	31.6	33.5	42.0	30.0	36.0	40.0	25.0	39.6	35.2	18.2	34.0	32.0	42.0
Wisconsin	35.0	29.8	29.8	37.3	36.5	33.7	27.0	46.5	37.0	44.0	46.6	33.4	44.8	39.9	24.3	41.2	36.3	40.0
Minnesota	33.0	28.7	22.8	41.7	37.8	32.8	28.0	43.0	26.5	37.0	41.0	28.0	37.5	34.4	24.0	35.5	37.0	43.0
Iowa	27.0	37.8	25.5	44.2	34.5	33.8	33.0	40.0	37.0	47.0	42.0	34.6	39.0	38.9	26.0	37.1	36.2	43.0
Missouri	27.0	33.6	14.8	33.0	21.2	25.9	21.5	26.0	25.0	40.0	29.0	27.0	30.5	28.4	20.0	16.0	25.0	27.5
North Dakota	32.0	7.0	23.5	41.4	25.7	25.9	28.0	40.0	21.5	15.0	23.5	15.5	24.0	23.9	19.0	33.0	23.0	34.0
South Dakota	30.0	23.0	7.4	33.8	26.5	24.1	27.5	42.0	30.5	34.0	39.0	29.0	34.0	33.7	22.0	31.0	34.0	37.0
Nebraska	25.0	28.0	13.9	24.4	26.5	23.6	32.0	32.0	35.5	38.0	22.2	32.8	34.6	32.4	27.1	23.3	33.0	31.0
Kansas	28.2	33.3	15.0	32.0	19.5	25.6	33.5	26.5	23.5	31.0	22.0	28.1	30.7	27.9	20.5	18.5	26.1	26.0
Kentucky	22.3	25.0	18.4	26.9	19.8	22.5	21.0	26.0	21.0	26.0	24.0	22.5	23.5	23.4	19.0	18.3	21.0	23.2
Tennessee	20.0	23.0	19.5	21.7	21.0	21.0	23.0	24.5	21.0	25.0	25.0	18.5	19.8	22.4	20.5	18.0	21.0	22.0
Alabama	16.5	18.5	19.2	20.0	20.5	18.9	22.0	19.0	17.5	18.0	19.0	18.0	18.0	18.8	22.0	20.0	17.0	15.0
Mississippi	16.0	19.2	18.4	17.4	20.0	18.2	23.0	21.5	18.0	19.0	20.0	16.0	17.0	19.2	20.0	19.0	19.0	18.0
Louisiana	20.0	21.5	21.0	20.8	22.0	21.1	23.0	25.0	19.0	22.3	25.0	22.0	23.0	22.8	23.0	22.3	22.0	20.0
Texas	18.7	35.0	25.1	36.0	32.5	29.5	25.0	35.5	28.5	26.0	14.7	42.0	22.0	27.7	18.0	23.0	32.0	34.0
Oklahoma	29.0	36.5	9.0	25.1	18.0	23.5	27.5	27.0	12.5	23.0	24.0	32.0	33.0	25.6	20.0	20.0	20.0	27.0
Arkansas	22.8	27.5	20.0	19.9	26.5	23.3	24.0	27.0	21.0	28.0	25.5	22.0	25.0	24.6	22.0	25.0	23.0	20.0
Montana	51.3	38.0	49.8	48.0	43.5	46.1	35.0	52.0	38.0	20.0	30.0	6.0	22.0	29.0	24.0	32.0	33.0	29.5
Wyoming	35.0	32.0	34.5	41.8	38.0	36.3	35.0	42.0	35.0	36.0	41.0	12.0	38.0	34.1	30.0	31.0	34.0	31.0
Colorado	38.0	39.1	35.0	42.8	35.0	38.0	40.0	39.0	33.0	38.0	30.0	26.2	31.5	34.0	31.0	25.0	32.0	25.0
New Mexico	40.0	27.4	38.8	34.7	30.0	34.2	38.0	36.0	29.0	30.0	28.0	27.4	27.4	30.8	27.7	15.6	20.0	24.0
Arizona	37.0	40.1	42.0	44.7	43.0	41.4	42.0	37.0	37.5	40.0	40.0	35.0	27.0	36.9	35.0	31.0	30.0	35.0
Utah	46.1	43.0	44.7	46.4	46.0	45.2	50.0	47.0	43.5	44.0	45.0	27.9	33.8	41.6	36.4	39.0	37.8	40.9
Nevada	40.0	44.7	45.0	40.0	43.0	42.5	52.0	45.0	43.0	40.0	38.0	25.3	37.2	40.1	37.7	37.2	35.4	34.0
Idaho	44.5	38.5	44.0	48.9	46.5	44.5	44.0	47.0	43.0	38.0	40.0	30.0	38.0	40.0	43.0	38.0	46.0	36.0
Washington	49.0	42.8	51.7	48.2	47.5	47.8	47.0	50.0	52.0	38.5	27.0	40.0	46.6	43.0	50.0	39.2	57.0	39.5
Oregon	37.8	34.5	34.7	38.2	42.3	37.5	35.0	44.0	48.0	25.0	25.0	31.3	36.5	35.0	32.0	25.0	39.0	31.0
California	31.4	37.0	34.0	39.0	31.6	34.6	35.0	33.0	32.5	35.0	32.0	29.0	30.0	32.4	27.0	35.0	32.5	23.5
United States	30.4	31.6	24.4	37.4	29.2	30.6	29.7	37.8	30.1	36.6	34.7	29.3	35.2	33.3	23.7	29.8	31.9	36.3

Division of Crop and Livestock Estimates.

TABLE 82.—*Oats: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant diseases	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze[1]	Hail	Hot winds	Storms	Total[2] climatic						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	7.9	5.2	6.6	0.8	1.1	0.9	0.8	17.7	2.4	0.5	0.1	0.4	1.1	22.2
1910	17.0	.8	.2	.7	.4	1.7	.3	21.4	.9	.6	.2	.2	.7	24.0
1911	27.6	1.0	[3]	.5	.3	5.1	.1	35.4	.8	1.5	.1	.2	1.5	39.5
1912	7.2	3.1	.3	.5	1.0	1.1	.5	14.1	1.6	.7	.2	.2	.9	17.7
1913	22.7	.7	.2	.2	.6	1.8	.2	27.2	.5	1.1	.1	.2	1.2	30.3
1914	15.7	2.2	.2	.3	.8	2.6	.4	22.7	2.0	1.6	.1	.1	1.0	27.5
1915	1.4	8.5	.9	.4	1.0	.1	.8	13.2	2.1	.3	.1	.1	.5	16.3
1916	10.1	4.0	.4	.6	.8	2.8	.5	19.7	5.2	1.3	[3]	.2	.8	27.2
1917	11.8	1.2	.2	2.7	.8	1.0	.3	18.2	.8	.4	[3]	[3]	.4	19.8
1918	12.9	.5	.2	1.3	.9	1.8	.3	18.1	1.1	.9	.1	[3]	.5	20.7
1919	11.5	5.7	.4	.4	.7	2.8	.4	22.3	4.8	2.2	[3]	.1	.5	29.9
1920	6.4	2.7	.3	.5	.8	.9	.4	12.1	2.3	1.4	.1	.1	.3	16.8
1921	18.3	2.3	.2	2.7	.8	5.9	.6	31.0	5.2	2.1	------	.1	.5	38.9
1922	14.6	3.8	.4	.5	1.2	1.4	.3	22.0	3.2	1.8	.1	.1	.4	27.6
1923	10.1	2.7	.2	1.5	.9	1.5	.5	17.4	3.0	1.0	.1	.1	.3	21.9

Division of Crop and Livestock Estimates.

[1] Includes winterkill of fall-sown oats in Southern States.
[2] Includes all other climatic.
[3] Less than 0.05 per cent.

TABLE 83.—*Oats: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE										
NORTH AMERICA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Canada	9,597	16,949	14,541	14,388	14,481	36.6	25.1	33.8	39.2	32.0
United States	37,357	45,495	40,790	40,981	42,452	30.6	23.7	29.8	31.9	36.3
Total North America	46,954	62,444	55,331	55,369	56,933					
EUROPE										
United Kingdom:										
England and Wales	2,039	2,148	2,157	1,976	2,037	47.5	45.5	42.0	47.9	52.0
Scotland	952	1,012	988	968	957	46.8	46.2	47.5	46.5	------
Ireland	1,049	1,254	1,214	1,176	------	62.1	44.8	50.7	48.0	------
Norway	264	342	301	256	255	38.9	37.9	44.5	49.0	38.4
Sweden	1,961	1,751	1,798	1,795	1,913	43.9	42.9	42.9	41.3	37.1
Denmark	[1] 1,161	1,112	1,118	1,118	1,132	52.2	46.9	52.2	56.4	------
Netherlands	346	383	394	381	377	52.2	52.2	45.2	48.9	57.3
Belgium	[1] 668	603	717	654	653	65.8	58.4	49.9	72.0	61.3
Luxemburg	77	64	71	73	72	43.9	19.4	21.5	43.5	26.8
France	[1] 10,084	8,421	8,491	8,457	8,560	36.5	29.0	33.9	39.8	34.6
Spain	1,276	1,575	1,514	1,595	1,399	22.8	22.6	20.6	25.4	17.7
Portugal	------	403	482	526	------	------	13.9	26.3	15.4	------
Italy	[1] 1,276	[1] 1,225	1,214	1,223	1,180	29.4	31.4	25.1	32.6	28.2
Switzerland	81	52	51	51	50	29.1	58.4	48.4	60.0	53.9
Germany	[1] 9,529	7,814	7,912	8,265	8,712	55.3	44.1	35.0	50.9	48.5
Austria	[1] 883	664	704	802	------	32.9	28.6	26.0	32.2	------
Czechoslovakia	[1] 2,506	1,963	2,016	2,081	2,091	38.4	37.7	35.5	44.0	40.6
Hungary	[1] 849	885	811	809	764	33.5	24.8	27.8	33.9	22.4

[1] Estimated for present territory.

TABLE 83.—*Oats: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Acreage					Yield per acre				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Yugoslavia	[1] 1,358	1,003	1,966	928	.....	24.7	18.9	18.9	23.1	.....
Greece	[1] [2] 140	.....	.....	180	.....	29.1	.....	.....	33.1	.....
Bulgaria	[1] 408	331	352	370	373	21.2	20.1	26.0	24.8	19.8
Rumania	[1] [2] 2,119	3,062	3,295	3,325	3,056	28.2	21.7	27.9	18.8	14.6
Poland	[1] 6,666	4,753	5,941	6,215	6,388	29.4	31.6	29.5	39.0	27.7
Lithuania	[1] 961	766	769	816	803	23.8	23.7	37.6	29.1	29.0
Latvia	[1] 765	622	676	754	826	25.1	27.1	26.9	21.8	28.0
Esthonia	[1] 394	353	399	378	412	24.9	25.0	25.2	21.0	26.8
Finland	999	1,042	1,061	1,059	1,063	20.4	33.4	35.0	20.1	30.9
Russia, including Ukraine and Northern Caucasia	[1] 35,514	20,191	15,657	19,400	.....	23.0	14.6	23.4	.....	.....
Total Europe, comparable with 1909–1913	84,324	.....	.....	65,105	.....	.....	.....	.....	.....	.....
Total Europe, comparable with 1924	45,380	40,279	42,046	42,619	43,073	.....	.....	.....	.....	.....
AFRICA										
Morocco	.....	22	28	29	37	.....	25.2	6.4	14.3	10.8
Algeria	449	574	585	600	658	30.0	17.7	12.6	32.1	14.5
Tunis	133	159	126	121	112	27.4	26.0	7.7	22.8	16.5
Total Africa comparable with 1909–1913	582	733	711	721	770	.....	.....	.....	.....	.....
Total Africa comparable with 1924	.....	755	739	750	807	.....	.....	.....	.....	.....
ASIA										
Russia (Asiatic)	5,742	3,922	2,243	2,631	.....	19.0	16.0	20.9	.....	.....
Japanese Empire:										
Japan	110	.....	307	266	272	44.8	.....	43.8	41.2	39.7
Chosen	[4] 141	268	272	.....	.....	15.6	19.6	18.9	.....	.....
Total Asia comparable with 1909–1913	5,993	.....	2,822	.....	.....	.....	.....	.....	.....	.....
Total Asia comparable with 1924	110	.....	307	266	272	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1909–1913	137,853	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1924	.....	.....	98,423	99,004	101,085	.....	.....	.....	.....	.....

Country	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE										
Chile	78	70	81	79	82	42.7	41.3	34.8	41.1	.....
Uruguay	[3] 66	107	87	120	118	19.5	19.3	11.5	12.8	.....
Argentina	2,396	2,105	2,618	2,315	2,644	22.6	14.5	21.2	35.2	.....
Union of South Africa [5]	[3] 810	530	.....	.....	.....	11.9	9.8	.....	.....	.....
Australia	745	733	1,014	.....	.....	23.8	20.7	18.5	.....	.....
New Zealand	366	171	143	65	.....	49.1	49.4	49.7	38.0	.....
Total Southern Hemisphere comparable with 1909–1913	4,461	3,716	.....	.....	.....	.....	.....	.....	.....	.....
Total Southern Hemisphere comparable with 1924	2,540	2,282	2,786	2,514	2,844	.....	.....	.....	.....	.....
World total comparable with 1909–1913	142,304	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable with 1924	.....	.....	101,209	101,518	103,929	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute, except where otherwise specified. Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and for the succeeding harvest in the Southern Hemisphere.

[1] Estimated for present territory.
[2] One year only.
[3] Four year average.
[4] Three year average.
[5] Excludes native locations.

TABLE 84.—*Oats: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Average 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada	351,690	426,233	491,239	563,998	463,860
United States	1,143,407	1,078,341	1,215,806	1,305,883	1,541,900
Total North America	1,495,097	1,504,574	1,707,042	1,869,881	2,005,760
EUROPE					
United Kingdom:					
England and Wales	96,913	97,822	90,568	94,710	105,980
Scotland	44,507	46,732	46,917	44,977	
Ireland	65,169	56,238	61,589	56,490	
Norway	10,276	12,960	13,380	12,548	9,788
Sweden	86,050	75,070	77,154	74,174	70,927
Denmark	[1] 60,557	52,158	58,403	63,107	
Netherlands	18,070	20,001	17,817	18,641	21,605
Belgium	[1] 43,964	35,225	35,783	47,056	40,036
Luxemburg	3,382	1,243	1,527	3,174	1,929
France	[1] 368,462	244,455	288,264	336,944	295,771
Spain	29,110	35,616	31,214	40,434	24,824
Portugal		5,616	12,669	8,098	5,460
Italy	[1] 37,537	38,415	30,465	39,827	33,304
Switzerland	4,784	3,036	2,466	3,059	2,694
Germany	[1] 527,178	344,812	276,643	420,731	422,632
Austria	[1] 20,030	19,000	18,317	25,861	
Czechoslovakia	[1] 96,147	74,087	71,552	91,684	84,952
Hungary	[1] 28,464	21,964	22,553	27,458	17,125
Yugoslavia	[1] 33,516	18,907	18,272	21,476	19,432
Greece	[1] [2] 4,075	4,134		5,964	4,062
Bulgaria	[1] 8,651	6,657	9,144	9,188	7,372
Rumania	[1] [3] 59,776	66,356	92,073	62,666	44,299
Poland	[1] 195,825	150,286	175,549	242,671	177,128
Lithuania	[1] 22,910	18,154	28,942	23,777	23,286
Latvia	[1] 19,188	16,843	18,171	16,412	23,147
Esthonia	[1] 9,795	8,840	10,057	7,942	11,049
Finland	20,391	34,846	37,174	21,288	32,801
Russia, including Ukraine and Northern Caucasia	[1] 817,231	295,554	365,826		
Total Europe comparable with 1909–1913	2,740,958	1,799,411			
Total Europe comparable with 1924		1,335,345		1,629,025	1,479,603
AFRICA					
Morocco		555	180	415	
Algeria	13,489	10,148	7,227	19,249	7,972
Tunis	3,642	4,134	965	2,756	1,585
Total Africa comparable with 1909–1913 and with 1924	17,131	14,282	8,192	22,005	9,557
ASIA					
Russia (Asiatic)	107,687	63,382	46,848		
Japanese Empire:					
Japan	4,928	12,086	13,436	10,968	10,808
Chosen	[4] 2,202	5,336	5,136		
Total Asia comparable with 1909–1913	115,687	80,804	65,420		
Total Asia comparable with 1924	4,928	12,086	13,436	10,968	10,808
Total Northern Hemisphere comparable with 1909–1913	4,368,003	3,399,071			
Total Northern Hemisphere comparable with 1924		2,866,287		3,532,779	3,505,728

[1] Estimated for present territory.
[2] One year only.
[3] Four-year average.
[4] Three-year average.

TABLE 84.—*Oats: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Average 1909–1910 to 1913–1914	1921–1922	1922–1923	1923–1924	1924–1925
SOUTHERN HEMISPHERE					
Chile	3,333	2,893	2,822	3,246	
Uruguay	[1] 1,285	2,069	1,000	2,156	
Argentina	54,246	30,606	55,597	81,457	
Union of South Africa [4]	[2] 9,661	5,186			
Australia	17,768	15,184	18,728		
New Zealand	17,978	8,441	7,110	2,468	
Total Southern Hemisphere comparable with 1909–1913	104,271	64,379			
World total comparable with 1909–1913	4,472,274	3,463,450			
World total comparable with 1924		2,866,287		3,532,779	3,505,728

Division of Statistical and Historical Research. Official sources and International Institute except where otherwise specified. Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] One year only.
[2] Four year average.
[4] Excluding native locations which produced 299,644 bushels in 1917–18 and 67,270 bushels in 1920–21.

TABLE 85.—*Oats: World production, 1894–1924*

[Thousand bushels—i. e., 000 omitted]

Year	Production in countries reporting all years 1894–1923	Production as reported	Estimated world totals (preliminary)	Three selected countries		
				Russia [1]	Germany	France
1894	1,885,275	2,872,863	3,039,717	743,953	453,328	294,344
1895	2,039,081	3,026,778	3,213,431	717,314	430,205	305,742
1896	1,868,604	2,894,896	3,113,148	799,833	411,259	296,205
1897	1,810,951	2,680,919	2,889,281	663,714	393,979	253,257
1898	2,045,803	2,995,851	3,181,262	687,534	465,317	321,562
1899	2,099,348	3,333,003	3,620,889	995,307	474,174	307,914
1900	2,086,228	3,226,625	3,470,581	853,697	488,590	285,313
1901	1,902,240	2,810,028	2,960,683	624,098	485,711	254,900
1902	2,304,423	3,557,569	3,812,029	930,679	514,447	319,691
1903	2,178,550	3,326,743	3,621,951	799,785	542,427	344,329
1904	2,162,947	3,561,205	3,832,755	1,124,266	477,847	290,902
1905	2,248,847	3,474,967	3,752,142	936,665	451,013	305,736
1906	2,374,494	3,430,518	3,713,918	714,272	580,869	295,110
1907	2,264,041	3,526,136	3,775,336	921,175	630,318	352,712
1908	2,165,982	3,729,862	3,783,767	959,414	530,126	327,159
1909	2,570,179	4,530,467	4,546,147	1,163,076	628,712	383,139
1910	2,520,718	4,252,783	4,257,893	1,064,516	544,287	331,866
1911	2,257,513	3,964,808	3,978,991	876,013	530,764	349,247
1912	2,822,328	4,738,090	4,756,725	1,089,365	586,987	355,089
1913	2,647,659	4,781,258	4,798,558	1,250,590	669,231	357,049
1914	2,492,811	4,131,958	4,148,447	[2] 914,913	622,674	318,333
1915	2,604,450	4,513,559	4,581,429	[3] 1,022,107	412,400	238,551
1916	2,424,824	3,126,676	4,023,526		484,007	277,117
1917	2,382,705	3,122,116	3,882,136		[2] 249,964	[2] 220,336
1918	2,382,177	3,113,316	3,777,336		[2] 301,839	[2] 180,553
1919	2,006,599	2,772,076	3,283,092		[2] 309,587	[2] 179,823
1920	2,437,471	3,606,466	3,836,484	[2] 483,634	[2] 332,490	[2] 291,406
1921	2,006,843	3,457,790	3,457,805	[2] 358,936	[2] 344,812	[2] 244,455
1922	2,107,098	3,765,408	3,775,424	[2] 412,674	[2] 276,643	[2] 288,264
1923	2,402,892	3,802,337	4,245,255		[2] 420,731	[2] 336,944
1924		3,564,921			[2] 422,632	[2] 295,771

Division of Statistical and Historical Research.
For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Includes all Russian territory reporting for years named.
[2] Excludes Poland.
[3] New boundaries and therefore not comparable with earlier years.

TABLE 86.—*Oats: United States, monthly marketings by farmers, 1917–1923*

Year beginning July	Percentage of year's receipts as reported by about 3,500 mills and elevators												
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season
1917	4.7	16.4	13.5	11.1	7.7	7.8	8.3	8.0	7.1	6.5	4.0	4.9	100.0
1918	8.0	19.6	11.9	9.9	7.2	6.7	6.7	4.5	5.5	6.3	7.0	6.7	100.0
1919	14.4	18.4	10.1	9.2	5.8	8.3	8.2	6.6	4.9	4.3	5.2	4.6	100.0
1920	8.3	18.7	13.8	9.5	5.5	5.8	6.6	6.6	6.0	4.6	6.8	7.8	100.0
1921	15.1	16.5	11.8	7.9	5.3	6.1	7.3	6.9	5.6	4.3	7.2	6.0	100.0
1922	8.9	15.7	11.9	10.1	7.8	8.6	7.4	7.1	6.5	4.7	5.4	5.9	100.0
1923	7.0	17.7	14.1	11.5	6.8	7.6	7.7	7.9	5.2	4.8	4.8	4.9	100.0

Division of Crop and Livestock Estimates.

TABLE 87.—*Oats: United States, farm stocks, shipments, and quality, 1897–1924*

Year beginning August	Old stocks on farms Aug.[1]	Crop.			Total supplies	Stocks on farms Mar. 1 following [1]	Shipped out of county where grown [1]
		Quantity	Weight per bushel [2]	Quality [3]			
	1,000 bush.	*1,000 bush.*	*Pounds*	*Per cent*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1897	80,153	791,442	30.5	87.6	871,595	309,043	245,469
1898	51,352	842,747	29.7	84.5	894,099	328,684	233,096
1899	59,060	925,555	31.3	89.5	984,615	338,383	274,146
1900	64,420	913,800	31.1	89.2	978,220	332,364	288,997
1901	55,128	778,392	30.7	83.7	833,520	241,506	152,962
1902	32,449	1,053,489	31.0	86.7	1,085,938	390,872	286,233
1903	78,598	869,350	29.7	79.9	947,948	304,128	250,192
1904	46,394	1,008,931	31.5	91.4	1,055,325	392,861	300,534
1905	62,872	1,090,236	32.7	92.4	1,153,108	437,300	319,871
1906	77,573	1,035,576	32.0	88.2	1,113,149	413,480	229,441
1907	73,196	805,108	29.4	77.0	878,304	258,104	221,147
1908	40,528	850,540	29.8	81.3	891,068	294,082	253,929
1909	27,478	1,068,289	32.7	91.4	1,095,767	385,705	343,968
1910	66,666	1,186,341	32.7	93.8	1,253,007	442,665	363,103
1911	67,801	922,298	31.1	84.6	990,099	289,989	265,944
1912	34,875	1,418,337	33.0	91.0	1,453,212	604,249	438,130
1913	103,916	1,121,768	32.1	89.1	1,225,684	419,481	297,365
1914	62,467	1,141,060	31.5	86.5	1,203,527	379,369	335,539
1915	55,607	1,549,030	33.0	87.5	1,604,637	598,148	465,823
1916	113,728	1,251,837	31.2	88.2	1,365,565	394,211	355,092
1917	47,834	1,592,740	33.4	95.1	1,640,574	599,208	514,117
1918	81,424	1,538,124	33.2	93.6	1,619,548	590,251	421,568
1919	93,045	1,184,030	31.1	84.7	1,277,075	409,730	312,364
1920	54,819	1,496,281	33.1	93.3	1,551,100	683,759	431,687
1921	161,108	1,078,341	28.3	74.7	1,239,449	411,934	258,259
1922	74,513	1,215,803	32.0	87.7	1,290,316	421,118	303,950
1923	70,965	1,305,883	32.1	87.9	1,376,848	447,366	322,971
1924 [4]	65,710	1,541,900	33.4	91.4	1,607,610		

Division of Crop and Livestock Estimates.

[1] Based on percentage of crop as reported by crop reporters.
[2] Average weight per measured bushel as reported by crop reporters.
[3] Per cent of a "high medium grade" as reported by crop reporters
[4] Preliminary.

TABLE 88.—*Oats: Receipts and shipments, 11 primary markets, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning August	Chicago		Milwaukee		Minneapolis		Duluth		St. Louis		Toledo	
	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments
1909	85,999	72,501	9,496	7,433	15,599	14,531	7,806	7,432	20,048	14,765	3,670	3,162
1910	107,902	89,705	14,844	14,873	18,419	13,845	2,434	2,824	20,517	15,323	3,700	3,436
1911	87,623	70,090	10,863	8,194	10,555	10,043	4,529	4,639	16,879	11,280	2,872	2,611
1912	117,103	116,275	16,252	20,180	19,031	16,397	9,350	8,351	23,785	16,592	3,637	4,365
1913	105,738	98,141	18,434	17,172	22,995	24,272	5,795	6,781	25,967	19,497	3,655	2,819
Av. 1909–1913	100,873	89,342	13,978	13,570	17,320	15,818	5,983	6,001	21,439	15,491	3,507	3,278
1914	143,813	130,938	29,962	81,179	23,042	23,147	9,005	8,325	21,419	16,240	6,066	5,089
1915	151,168	122,280	35,252	34,389	45,778	45,024	4,844	4,528	17,518	11,636	4,707	3,501
1916	145,075	108,152	32,707	28,649	31,322	23,075	3,184	3,493	24,616	18,940	4,926	2,642
1917	134,310	86,725	31,766	20,128	42,017	42,181	766	680	37,431	32,129	5,303	3,194
1918	115,714	83,719	34,727	30,548	37,031	33,019	2,663	2,378	30,812	23,836	9,010	8,820
1919	82,141	60,792	26,572	17,766	17,054	19,033	1,035	1,084	31,391	22,772	3,221	1,601
1920	79,430	54,598	19,065	13,297	26,003	14,600	6,241	455	30,103	21,387	5,848	2,339
Av. 1914–1920	121,664	92,458	30,007	25,137	31,750	28,583	3,963	2,992	27,613	20,991	5,583	3,884
1921	77,828	63,418	23,241	17,869	32,307	28,260	6,065	10,129	25,949	20,160	4,604	2,348
1922	84,451	65,055	21,057	17,162	24,870	38,320	1,372	2,130	32,220	26,664	3,786	2,230
1923	69,516	50,190	19,729	17,859	29,069	27,385	5,068	4,717	35,001	28,722	4,248	1,820
1923												
Aug	9,591	5,218	3,171	1,914	3,542	1,765	89	8	3,207	2,627	889	360
Sept	6,890	5,368	2,535	2,160	4,339	1,724	541	179	3,182	2,320	514	335
Oct	7,660	4,990	3,364	2,893	4,390	2,995	449	266	3,612	2,734	294	176
Nov	5,093	3,866	2,059	1,628	2,505	3,134	609	521	2,484	1,910	232	79
Dec	6,223	3,819	1,704	1,198	3,363	2,802	915	380	2,836	2,165	194	66
1924												
Jan	5,068	4,157	1,266	1,009	1,994	2,133	367	22	3,004	2,432	329	102
Feb	6,560	3,212	1,396	1,286	2,568	2,221	388	22	3,119	3,081	348	176
Mar	5,704	4,485	1,151	1,687	1,857	2,114	255	18	2,670	2,476	356	146
Apr	4,192	3,489	860	1,215	1,479	3,217	23	825	2,870	2,365	239	95
May	4,545	4,563	580	1,494	796	2,626	325	1,270	3,496	2,547	321	73
June	4,411	4,634	851	889	1,196	1,416	891	702	2,754	2,430	275	42
July	3,579	2,389	792	486	1,040	1,238	216	504	1,767	1,635	257	170
Aug	9,981	2,967	1,961	479	3,788	1,197	1,369	347	3,576	2,507	1,193	292
Sept	16,084	4,512	4,208	2,037	14,062	1,163	9,693	2,949	3,030	2,397	1,529	663
Oct	11,904	4,952	3,302	1,423	10,385	3,020	3,085	2,751	2,942	2,461	515	337
Nov	4,714	3,739	1,305	1,071	4,871	4,118	989	1,025	1,944	1,644	952	183
Dec	6,081	3,011	1,543	687	3,970	4,141	3,057	637	1,828	1,638	386	256

Year beginning August	Detroit		Kansas City		Peoria		Omaha		Indianapolis		Total	
	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments	Receipts	Shipments
1909	2,488	383	5,165	4,508	10,875	11,705	(1)	(1)	(1)	(1)	161,146	136,420
1910	3,073	265	6,280	4,066	10,130	10,895	(1)	(1)	(1)	(1)	187,299	155,231
1911	2,752	348	6,018	5,071	6,658	8,737	8,868	9,258	976	394	158,593	130,665
1912	3,535	514	7,704	7,523	11,447	13,188	14,958	14,802	8,136	2,876	234,938	221,063
1913	3,807	649	11,325	11,032	12,152	13,804	15,977	18,575	5,392	1,808	231,237	214,530
Av. 1909–1913	3,131	432	7,298	6,440	10,252	11,666					194,643	171,582
1914	4,028	1,123	7,338	6,107	11,189	11,726	13,648	13,916	5,828	4,349	275,338	252,139
1915	5,173	2,292	4,882	2,582	11,364	11,838	11,421	10,961	13,797	8,677	306,904	257,708
1916	3,911	934	10,059	10,130	13,562	11,049	18,216	17,392	14,895	10,891	302,473	235,347
1917	3,677	607	18,344	12,826	20,170	17,541	23,673	21,945	19,822	13,705	337,279	251,661
1918	8,179	1,756	16,688	11,343	8,535	8,212	20,661	20,559	14,820	4,516	298,840	228,706
1919	2,418	551	7,615	5,180	10,636	13,096	13,018	12,110	13,969	4,023	209,070	158,008
1920	3,345	750	7,137	5,132	9,176	7,906	10,223	8,423	16,509	6,099	213,080	134,986
Av. 1914–1920	4,390	1,145	10,295	7,614	12,090	11,624	15,837	15,044	14,234	7,466	277,426	216,936
1921	2,285	330	7,262	5,043	14,210	12,254	10,665	9,768	13,052	6,247	217,408	175,826
1922	3,444	326	10,568	6,147	15,555	15,147	14,772	16,174	10,585	3,471	222,680	192,826
1923	3,083	351	11,701	7,283	13,419	12,292	18,144	22,058	11,653	2,262	220,631	174,939
1923												
Aug	322	3	1,899	263	1,603	1,496	2,876	2,350	1,987	378	29,176	16,382
Sept	455	58	1,836	984	1,135	937	2,036	2,204	1,672	354	25,135	16,623
Oct	346	12	1,870	887	1,554	1,839	2,708	2,460	1,232	128	27,479	19,380
Nov	278	5	1,027	620	1,174	971	1,176	2,126	592	92	17,229	14,953
Dec	329	14	1,192	807	1,137	1,001	1,743	1,746	508	60	20,144	14,058
1924												
Jan	260	6	758	981	974	888	1,012	2,248	970	124	16,002	14,102
Feb	292	59	973	732	1,222	960	1,233	1,860	986	204	19,085	13,813
Mar	310	98	706	590	1,076	1,020	1,192	1,611	830	284	16,107	14,529
Apr	172	22	578	710	1,180	1,104	1,296	1,730	902	226	13,788	14,998
May	144	26	458	385	817	653	1,214	1,584	722	130	13,418	15,351
June	126	37	251	267	917	904	934	1,297	716	70	13,322	12,688
July	49	10	156	57	630	519	724	842	536	212	9,746	8,062
Aug	229	2	823	111	958	475	1,604	808	2,318	260	27,800	9,445
Sept	576	32	1,058	335	1,430	691	2,360	1,267	1,628	740	55,658	16,786
Oct	168	26	939	322	1,231	958	1,786	2,126	820	407	37,077	18,783
Nov	126	46	569	341	872	717	982	1,020	602	403	17,926	14,307
Dec	110	30	474	263	914	671	1,006	978	516	231	19,887	12,543

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin and the annual reports of the Chicago Board of Trade.

[1] No report.

TABLE 89.—*Oats: Visible supply in United States, first of month, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1909	3,800	5,183	12,799	13,264	13,586	11,180	8,759	8,639	9,916	9,223	6,905	4,245
1910	2,761	12,551	18,802	17,022	15,505	16,129	15,997	15,769	13,129	10,559	8,125	9,570
1911	11,203	20,742	21,044	22,600	20,315	18,754	15,431	14,366	13,429	11,991	8,052	3,690
1912	1,031	4,160	9,260	10,552	10,774	8,457	9,646	12,343	13,115	8,704	8,105	14,756
1913	17,131	24,662	30,718	31,684	29,664	26,909	24,450	21,489	19,755	13,262	8,144	7,210
Av. 1909–1913	7,185	13,460	18,525	19,024	17,969	16,286	14,857	14,521	13,869	10,748	7,866	7,894
1914	6,482	20,124	27,285	31,866	32,471	32,956	33,173	33,258	27,284	23,022	12,623	4,345
1915	1,309	2,924	14,381	15,730	20,928	21,081	20,175	20,265	17,892	12,096	16,192	12,452
1916	8,537	27,691	38,866	45,580	47,467	48,823	42,675	36,740	34,191	28,933	17,454	9,741
1917	6,679	7,277	14,165	17,453	18,595	17,657	13,879	13,947	18,098	21,911	20,822	13,227
1918	7,876	19,309	24,689	22,050	29,143	34,828	30,505	27,666	22,882	21,507	15,827	18,094
1919	20,481	19,411	19,552	19,196	16,922	13,080	11,550	10,401	9,576	6,813	8,642	3,623
1920	3,786	8,149	27,602	34,414	33,961	32,194	33,632	34,142	33,903	30,740	28,426	34,401
Av. 1914–1920	7,879	14,984	23,791	26,613	28,498	28,660	26,513	25,203	23,404	20,717	17,141	13,698
1921	37,562	60,455	65,843	69,998	69,198	67,728	68,010	68,529	64,644	55,837	47,950	42,743
1922	? 1,667	38,355	35,968	34,077	32,940	32,391	30,861	27,683	24,044	21,932	13,514	8,523
1923	5,477	10,111	16,514	20,488	18,686	19,940	17,539	17,741	16,715	10,656	6,720	5,264
1924	3,086	11,403	52,715	66,564	67,265							

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin. Reported on the Saturday nearest the first of each month.

TABLE 90.—*Oats: Classification of cars graded by licensed inspectors, all inspection points*

Year beginning August	Total of all classes and subclasses under each grade, annual inspections, 1919–1923											
	Receipts						Shipments					
	1	2	3	4	Sample	Total	1	2	3	4	Sample	Total
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1919	5,662	52,094	96,039	15,887	3,589	173,271	3,167	41,094	62,764	4,100	692	111,817
1920	8,803	60,169	73,072	14,766	6,831	163,641	3,600	45,099	31,811	2,821	2,220	85,551
1921	2,519	31,643	105,103	31,774	6,664	177,703	2,384	49,117	72,955	4,305	1,675	130,436
1922	2,548	47,347	95,984	17,004	4,640	167,523	1,738	45,563	62,601	6,112	1,235	117,249
1923	2,724	41,530	90,759	22,643	11,307	168,963	1,263	34,056	49,152	6,659	2,620	93,750
Class	Total inspections by grade and class, Aug. 1, 1923, to July 31, 1924											
White	2,006	38,025	88,714	21,797	10,743	161,285	998	32,729	48,759	6,593	2,465	91,544
Red	630	3,132	1,503	549	250	6,064	261	1,271	318	31	14	1,895
Gray	60	90	89	46	21	306		2	3			5
Black	1	8	1	1		11	1	4				5
Mixed	27	275	452	250	293	1,297	3	50	72	35	141	301
Year beginning August	Total of all classes and subclasses under each grade, annual inspections, 1919–1923											
	Pr. ct.	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*
1919	3.3	30.0	55.4	9.2	2.1	100	2.8	36.8	56.1	3.7	0.6	100
1920	5.4	36.8	44.6	9.0	4.2	100	4.2	52.7	37.2	3.3	2.6	100
1921	1.4	17.8	59.1	17.9	3.8	100	1.8	37.7	55.9	3.3	1.3	100
1922	1.5	28.3	57.3	10.1	2.8	100	1.5	38.9	53.4	5.2	1.0	100
1923	1.6	24.6	53.7	13.4	6.7	100	1.4	36.3	52.4	7.1	2.8	100
Class	Total inspections by grade and class, Aug. 1, 1923, to July 31, 1924											
White	1.2	23.6	55.0	13.5	6.7	100	1.1	35.7	53.3	7.2	2.7	100
Red	10.4	51.6	24.8	9.1	4.1	100	13.8	67.1	16.8	1.6	.7	100
Gray	19.6	29.4	29.1	15.0	6.9	100		40.0	60.0			100
Black	9.1	72.7	9.1	9.1		100	20.0	80.0				100
Mixed	2.1	21.2	34.8	19.3	22.6	100	1.0	16.6	23.9	11.6	46.9	100

Grain Division.

TABLE 91.—*Oats, including oatmeal: International trade, average 1910–1914, annual 1922–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Year ended June 30							
	Average,[1] 1910—1914		1922[1]		1923		1924, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Algeria	79	4,102	286	10,123	560	561	282	7,163
Argentina	[2] 55	[2] 42,569	----	28,676	----	25,290	----	36,494
Australia[3]	898	270	25	428	----	----	----	----
British India	[4] 87	[4] 43	1	37	----	67	----	[5] 62
Bulgaria	----	178	(6)	20	----	----	----	----
Canada	90	14,771	354	31,544	964	26,115	186	35,914
Chile	[2] 2	[2] 2,469	7	1,844	----	721	----	[7] 956
Czechoslovakia	----	----	1,807	10	815	70	2,691	3,234
Hungary	1,420	12,416	6	572	[8] 12	[9] 1,447	----	[10] 3,481
Latvia	----	----	33	218	[8] 79	[8] 1,473	----	[10] 129
Rumania	[4] 72	[4] 10,493	----	12,592	(6) (6)	[10] 21,075	----	[7] 2,700
Russia	1,206	70,466	----	----	----	----	----	----
Tunis	2	2,875	2	3,403	[8] 61	[10] 456	----	[10] 2,606
United States[3]	5,352	9,655	1,733	21,237	293	25,413	4,244	8,796
PRINCIPAL IMPORTING COUNTRIES								
Austria	2,295	114	937	4	[8] 4,203	[8] 182	[10] 5,816	----
Belgium[3]	8,420	62	10,358	22	8,950	238	6,215	326
Denmark	4,667	152	765	148	969	326	2,906	558
Finland	----	----	(6)	132	590	421	5,095	1
France[3]	29,846	122	22,424	769	17,541	1,031	5,341	3,584
Germany[3]	37,202	33,575	6,798	545	7,126	117	1,356	5,733
Greece	----	----	136	----	[8] 87	----	(11)	----
Italy	8,212	65	4,688	10	12,243	6	6,240	22
Japan	5	42	3	----	[8] 31	----	(11)	----
Netherlands	38,862	30,771	4,485	611	5,191	683	5,971	604
Norway	[12] 497	[12] 27	981	3	585	20	2,683	4
Poland	----	----	440	14	[8] 43	[8] 8	----	----
Sweden	6,468	1,899	2,169	3,851	1,437	1,766	6,820	561
Switzerland	12,464	13	7,917	1	[10] 10,291	[8] 1	[10] 9,453	----
Union of South Africa	[2] 366	[2] 434	[2] 214	[2] 184	194	188	[13] 182	[13] 154
United Kingdom[3]	68,371	[2] 1,591	36,684	1,119	36,137	624	43,436	1,161
Other countries	26	----	22	1	[10] 678	----	[10] 4,055	----
Total countries reported	226,984	239,174	103,275	118,118	109,080	108,299	112,972	114,243

Division of Statistical and Historical Research. Compiled from official sources and International Institute of Agriculture.

[1] Years ended July 1, as compiled by the International Institute of Agriculture.
[2] Calendar years 1909–1913.
[3] Years ended June 30, from official sources.
[4] Average for the seasons 1911–12 to 1913–14.
[5] Sea trade only.
[6] Less than 500 bushels.
[7] Nine months.
[8] Ten months ended May 31, from International Institute of Agriculture.
[9] Eleven months, from International Institute of Agriculture.
[10] International Institute of Agriculture.
[11] Included in other countries.
[12] Season 1913–14.
[13] Ten months.

TABLE 92.—*Oats: Farm price per bushel, 15th of month, United States, 1909–1924*

Year beginning August	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	46.2	41.6	41.0	40.6	41.5	43.9	45.5	45.8	44.4	43.2	42.6	41.9	43.0
1910	40.0	37.3	35.6	34.6	33.8	33.2	33.0	32.6	32.8	34.0	36.1	38.8	35.5
1911	40.3	41.4	43.2	44.4	45.0	46.3	48.6	50.9	54.0	55.6	53.9	48.4	46.2
1912	39.6	34.3	33.6	32.8	32.0	32.3	32.8	33.1	33.6	35.1	36.8	37.6	34.5
1913	38.4	39.4	38.8	38.6	39.2	39.2	39.1	39.2	39.5	39.8	39.4	37.8	39.0
Av. 1909–1913	40.9	38.8	38.4	38.2	38.3	39.0	39.8	40.3	40.9	41.5	41.8	40.9	39.6
1914	39.5	42.8	43.1	43.4	44.4	47.6	51.1	52.8	53.4	52.4	49.0	46.0	45.9
1915	42.0	36.5	34.7	35.5	37.6	41.8	43.6	42.4	42.3	42.4	41.2	40.2	39.4
1916	41.6	43.8	46.8	50.7	51.9	53.3	56.0	59.2	66.2	70.4	69.4	71.3	53.8
1917	67.7	62.0	62.0	64.2	70.2	76.3	82.4	87.6	87.4	82.0	77.2	74.6	72.1
1918	71.6	70.6	69.6	69.6	70.8	67.6	63.4	64.2	68.4	71.0	71.0	73.1	69.4
1919	73.5	70.0	68.6	69.6	74.3	80.4	83.6	87.6	94.5	100.6	103.7	93.2	79.9
1920	76.0	65.4	57.6	50.2	45.8	43.7	41.8	40.6	38.0	37.4	36.8	34.7	51.0
Av. 1914–1920	58.8	55.9	54.6	54.8	56.4	58.7	60.3	62.1	64.3	65.2	64.0	61.9	61.6
1921	32.0	30.6	30.1	29.7	30.6	31.9	34.7	36.6	37.2	38.2	37.8	36.2	33.0
1922	33.6	33.4	36.4	38.8	40.3	41.5	42.4	43.5	44.8	45.3	43.7	40.2	39.1
1923	37.6	38.0	39.4	40.8	42.6	43.4	45.4	46.2	46.5	46.3	46.8	49.4	42.4
1924	49.1	47.1	48.9	47.4	50.6								

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 93.—*Oats: Farm price per bushel, December 1, 1909–1924, and value per acre, 1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913.	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920.	1921	1922	1923	1924	Value per acre 1924 [1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Me.	58	48	54	51	55	53	57	45	67	85	90	92	85	74	55	47	56	65	24.05
N. H.	64	51	61	48	56	56	58	54	69	84	87	85	75	73	60	60	64	73	28.47
Vt.	50	50	59	48	52	52	55	53	65	85	90	90	75	73	59	56	63	69	26.22
Mass.	58	50	58	47	54	53	56	51	66	81	91	90	80	74	59	63	63	70	23.80
R. I.	53	48	58	45	50	51	58	50	68	75	90	95	80	74	60	60	60	75	22.50
Conn.	53	44	56	49	55	51	55	55	69	79	90	88	75	73	60	65	62	70	20.30
N. Y.	49	42	51	42	47	46	51	45	62	75	84	83	67	67	47	51	55	62	22.32
N. J.	50	44	50	44	47	47	54	48	61	70	79	80	75	67	45	55	55	64	20.48
Pa.	50	41	50	41	46	46	51	44	57	73	80	80	66	64	45	48	52	62	22.32
Del.	48	43	47	45	51	47	50	51	62	78	87	90	70	70	46	57	60	66	19.80
Md.	49	46	49	45	48	47	52	49	61	75	86	82	70	68	45	51	54	64	21.76
Va.	54	49	54	52	52	52	58	55	63	84	100	100	81	77	56	59	63	72	16.92
W. Va.	54	50	56	47	51	52	55	51	64	79	91	91	79	73	52	58	63	73	18.98
N. C.	66	60	63	62	61	62	65	62	74	93	108	106	96	86	70	67	74	84	15.12
S. C.	72	65	72	66	71	69	71	67	80	100	118	110	103	93	73	76	82	97	20.76
Ga.	71	64	70	65	68	68	70	66	79	117	119	115	108	96	64	75	85	95	16.15
Fla.	75	65	75	70	70	71	70	70	71	98	115	120	60	86	65	77	80	90	13.50
Ohio	41	35	45	33	40	39	45	36	53	64	70	72	50	56	33	45	45	52	21.32
Ind.	39	31	43	30	38	36	43	34	51	63	67	69	46	53	29	40	39	48	18.24
Ill.	38	30	42	30	38	36	44	35	51	65	67	70	43	54	29	39	39	47	18.80
Mich.	41	35	46	33	39	39	45	35	53	64	69	71	48	55	36	41	43	48	20.16
Wis.	39	34	45	32	37	37	43	36	51	66	67	70	49	55	33	39	43	48	19.20
Minn.	35	32	40	26	32	33	40	32	47	63	63	64	36	49	23	32	34	43	18.49
Iowa.	35	27	41	27	34	33	41	32	48	63	64	64	36	50	23	35	37	44	18.92
Mo.	43	32	45	35	45	40	44	38	53	61	70	71	49	55	30	44	45	51	14.02
N. Dak.	33	37	41	22	30	33	37	27	44	62	61	67	35	48	21	26	28	36	12.24
S. Dak.	34	30	43	25	34	33	38	28	46	61	59	63	33	47	20	32	31	40	14.80
Nebr.	35	28	43	30	38	35	40	31	47	61	65	65	37	49	21	34	34	43	13.33
Kans.	43	34	45	35	45	40	42	37	55	64	73	73	39	55	27	41	43	47	12.22
Ky.	51	45	50	44	52	48	53	48	60	76	90	91	73	70	48	56	56	67	15.54
Tenn.	53	46	50	47	53	50	53	50	62	83	93	93	78	73	48	53	60	69	15.18
Ala.	70	60	66	62	69	65	69	63	75	102	107	105	88	87	65	75	80	87	13.05
Miss.	68	55	65	60	63	62	65	60	74	94	107	105	87	85	64	66	76	85	15.30
La.	62	49	65	51	57	57	63	55	68	94	99	100	82	80	70	69	68	83	16.60
Tex.	62	47	54	43	51	51	48	42	61	82	92	64	66	65	39	55	57	59	20.06
Okla.	46	37	48	34	45	42	41	35	57	75	84	70	44	58	27	45	52	53	14.31
Ark.	59	46	53	50	53	52	53	52	68	75	88	88	78	72	45	57	62	64	12.80
Mont.	42	46	40	35	32	39	39	32	47	81	80	91	51	60	34	37	38	47	13.86
Wyo.	50	50	50	37	40	45	48	43	60	80	80	112	62	69	38	40	47	58	17.98
Colo.	53	46	48	38	44	46	45	41	60	76	80	90	60	65	33	45	46	58	14.50
N. Mex.	66	62	57	45	60	58	45	50	67	84	89	95	80	73	48	58	70	60	14.40
Ariz.	79	90	60	70	50	70	70	64	80	96	120	100	96	89	65	68	80	81	28.35
Utah	52	48	47	49	40	47	43	45	61	85	97	98	80	73	37	47	58	70	28.00
Nev.	59	63	62	52	65	60	55	55	75	96	118	100	120	88	75	75	81	72	24.48
Idaho.	50	42	40	35	32	40	38	34	54	77	94	98	68	66	32	46	44	58	20.88
Wash.	48	48	45	40	40	44	42	37	51	81	98	93	72	68	42	58	50	59	23.30
Oreg.	52	47	44	41	38	44	45	37	49	75	96	92	65	66	38	57	45	61	18.91
Calif.	66	50	59	55	60	58	53	50	72	85	94	96	80	76	51	64	60	87	20.44
United States.	40.6	34.4	45.0	31.9	39.2	38.2	43.8	36.1	52.4	66.6	70.9	71.5	46.0	55.3	30.2	39.4	41.5	48.0	17.42

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 94.—*Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1899–1924*

CHICAGO [1]

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Weighted average [2]
1899	$0.22	$0.23	$0.25	$0.25	$0.24	$0.24	$0.25	$0.26	$0.26	$0.25	$0.25	$0.25	$0.24
1900	.23	.24	.24	.25	.25	.26	.27	.27	.28	.29	.29	.35	.26
1901	.37	.37	.38	.42	.47	.47	.44	.44	.44	.44	.48	.49	.43
1902	.35	.33	.32	.31	.32	.34	.35	.34	.34	.35	.39	.38	.34
1903	.35	.37	.36	.36	.36	.39	.43	.40	.41	.42	.42	.40	.38
1904	.34	.32	.30	.31	.30	.31	.31	.32	.31	.32	.32	.32	.32
1905	.27	.28	.29	.31	.31	.31	.30	.30	.32	.34	.38	.37	.31
1906	.31	.32	.33	.33	.35	.36	.40	.42	.42	.45	.45	.45	.37
1907	.46	.49	.49	.47	.50	.50	.51	.52	.52	.53	.51	.55	.50
1908	.49	.49	.48	.49	.50	.50	.54	.54	.55	.59	.56	.48	.52
1909	.38	.39	.40	.40	.44	.48	.47	.44	.42	.40	.38	.41	.42
1910	.35	.34	.32	.32	.32	.33	.31	.31	.32	.34	.39	.44	.33
1911	.41	.45	.47	.48	.47	.50	.52	.53	.57	.55	.53	.49	.50
1912	.33	.33	.33	.32	.33	.33	.33	.32	.35	.38	.40	.40	.35
1913	.42	.43	.40	.40	.40	.39	.39	.39	.39	.40	.40	.37	.40
Av. 1909–1913	.38	.39	.38	.38	.39	.41	.40	.40	.41	.41	.42	.42	.40
1914	.42	.48	.46	.48	.49	.53	.58	.57	.57	.54	.49	.53	.50
1915	.41	.34	.36	.36	.42	.48	.45	.42	.44	.43	.39	.41	.41
1916	.44	.46	.49	.55	.53	.57	.56	.61	.69	.70	.67	.78	.54
1917	.61	.60	.60	.65	.77	.82	.89	.93	.89	.77	.77	.77	.71
1918	.70	.72	.69	.72	.72	.65	.58	.63	.70	.69	.70	.78	.70
1919	.73	.68	.70	.73	.82	.86	.86	.93	1.01	1.09	1.13	.91	.80
1920	.70	.62	.54	.51	.48	.44	.42	.42	.36	.39	.37	.34	.51
Av. 1914–1920	.57	.56	.55	.57	.60	.62	.62	.64	.67	.66	.65	.65	.60
1921	.32	.35	.31	.33	.34	.34	.36	.36	.38	.38	.37	.36	.35
1922	.32	.38	.42	.43	.44	.43	.44	.45	.46	.45	.43	.40	.41
1923	.38	.40	.43	.43	.44	.46	.48	.47	.48	.48	.51	.54	.45
1924	.50	.48	.50	.50	.58								

KANSAS CITY [3]

1899	$0.22	$0.22	$0.23	$0.24	$0.24	$0.24	$0.24	$0.24	$0.26	$0.24	$0.24	$0.25	$0.24
1900 [4]	.22	.23	.24	.24	.24	.25	.26	.27	.29	.30	.29	.38	.26
1901 [4]	.39	.38	.38	.43	.47	.47	.45	.45	.45	.44	.45	.47	.43
1902	.32	.32	.32	.31	.32	.35	.34	.34	.33	.34	.44	.37	.34
1903	.34	.38	.35	.34	.35	.37	.41	.39	.40	.42	.40	.40	.37
1904	.35	.32	.30	.30	.31	.31	.32	.32	.30	.32	.31	.33	.32
1905	.26	.27	.28	.30	.31	.31	.31	.31	.32	.34	.37	.37	.31
1906	.30	.32	.33	.33	.34	.36	.40	.41	.42	.45	.45	.45	.38
1907	.48	.48	.48	.44	.49	.49	.49	.51	.49	.51	.51	.50	.49
1908	.48	.48	.47	.48	.49	.50	.51	.53	.54	.56	.56	.50	.51
1909	.41	.41	.40	.39	.44	.48	.46	.45	.42	.40	.35	.40	.42
1910	.34	.33	.32	.32	.32	.32	.31	.30	.32	.32	.39	.43	.34
1911	.41	.46	.49	.48	.48	.50	.53	.53	.57	.54	.52	.44	.50
1912	.34	.33	.32	.34	.33	.38	.39	.36	.48	.40	.40	.38	.37
1913	.40	.47	.45	.47	.47	.34	.33	.33	.35	.36	.39	.37	.40
Av. 1909–1913	.38	.40	.40	.40	.41	.40	.40	.39	.43	.40	.41	.40	.41
1914	.47	.47	.45	.47	.48	.53	.56	.57	.55	.54	.46	.51	.54
1915	.38	.35	.36	.39	.42	.44	.47	.43	.44	.43	.39	.45	.40
1916	.45	.46	.48	.55	.54	.56	.58	.63	.71	.71	.67	.75	.58
1917	.59	.60	.60	.67	.76	.83	.90	.91	.91	.77	.72	.74	.72
1918	.74	.72	.70	.69	.72	.67	.61	.66	.71	.71	.70	.69	.66
1919	.73	.66	.69	.74	.81	.87	.89	.92	1.06	1.12	1.11	.91	.83
1920	.72	.63	.55	.51	.49	.46	.43	.43	.37	.40	.37	.35	.50
Av. 1914–1920	.58	.56	.55	.57	.60	.62	.63	.65	.68	.67	.63	.63	.60
1921	.32	.35	.32	.32	.33	.36	.37	.37	.37	.39	.37	.36	.34
1922	.33	.38	.42	.44	.45	.44	.44	.46	.47	.45	.43	.40	.43
1923	.40	.40	.43	.42	.44	.47	.49	.48	.49	.49	.49	.56	.44
1924	.50	.48	.51	.50	.59								

Division of Statistical and Historical Research.

[1] Compiled from the Chicago Daily Trade Bulletin.
[2] Average of daily prices weighted by carlot sales.
[3] Compiled from Kansas City Daily Price Current.
[4] Jan.–Dec. 1901; compiled from Kansas City Star.

TABLE 95.—*Oats, No. 3 white: Weighted average price per bushel of reported cash sales, 1909–1924*

MINNEAPOLIS

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Weighted average[1]
1909	$0.36	$0.37	$0.36	$0.38	$0.41	$0.46	$0.45	$0.43	$0.40	$0.39	$0.36	$0.42	$0.39
1910	.35	.36	.30	.31	.30	.31	.29	.29	.32	.33	.37	.42	.33
1911	.41	.44	.46	.46	.46	.48	.50	.52	.54	.54	.50	.47	.47
1912	.34	.31	.31	.29	.30	.31	.31	.30	.32	.35	.38	.38	.33
1913	.40	.40	.37	.37	.37	.36	.36	.37	.36	.38	.38	.35	.38
Av. 1909–1913	.37	.38	.36	.36	.37	.38	.38	.38	.39	.40	.40	.41	.38
1914	.42	.46	.44	.46	.46	.52	.56	.56	.55	.52	.46	.50	.48
1915	.37	.33	.34	.35	.40	.46	.45	.41	.42	.42	.38	.38	.38
1916	.44	.44	.47	.53	.49	.55	.56	.60	.67	.69	.66	.75	.52
1917	.55	.58	.58	.62	.76	.81	.88	.92	.88	.74	.75	.74	.71
1918	.68	.69	.65	.69	.69	.64	.56	.60	.68	.66	.66	.74	.66
1919	.70	.65	.67	.69	.80	.83	.82	.89	1.08	1.05	1.15	.94	.80
1920	.66	.58	.51	.47	.44	.41	.39	.39	.33	.36	.34	.34	.48
Av. 1914–1920	.55	.53	.52	.54	.58	.60	.60	.62	.66	.63	.63	.63	.58
1921	.31	.33	.28	.29	.30	.32	.35	.34	.35	.36	.33	.32	.32
1922	.29	.33	.38	.39	.41	.40	.40	.41	.42	.41	.39	.36	.36
1923	.35	.37	.40	.39	.40	.43	.45	.44	.45	.45	.47	.51	.40
1924	.48	.45	.47	.46	.54								

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record.
[1] Average of daily prices weighted by carlot sales.

TABLE 96.—*Oats, No. 3 white: Price per pound expressed as percentage of price per pound for No. 3 yellow corn, Chicago, 1909–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
1909	95	99	119	119	130	131	131	126	129	117	113	116	119
1910	96	103	112	114	124	128	121	121	112	110	124	122	116
1911	110	118	113	124	135	141	142	136	128	122	124	126	127
1912	73	78	89	108	126	126	120	114	111	117	117	113	108
1913	99	100	100	97	106	110	110	107	102	100	97	91	102
Av. 1909–1913	95	100	107	112	124	127	125	121	116	113	115	114	114
1914	90	106	110	125	134	131	137	138	133	123	116	119	122
1915	89	80	97	100	106	114	106	101	101	100	92	89	98
1916	91	94	89	98	101	102	98	98	86	77	69	69	89
1917	52	50	52	51	76	81	86	96	94	84	83	79	74
1918	71	80	86	95	87	80	80	72	76	69	69	71	78
1919	66	77	87	87	98	100	103	103	105	94	105	101	94
1920	78	83	104	116	114	118	117	119	111	114	103	99	106
Av. 1914–1920	77	81	89	96	102	104	104	104	101	94	91	90	94
1921	100	116	121	123	127	124	115	111	115	107	106	98	114
1922	90	104	106	106	105	106	107	108	102	96	90	80	100
1923	76	79	72	92	108	106	108	107	109	109	109	87	97
1924	75	74	80	79	85								

Division of Statistical and Historical Research. Compiled from the Chicago Daily Trade Bulletin.

BARLEY

TABLE 97.—*Barley: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage harvested	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]	Chicago, cash price per bushel, low malting to fancy [2]				Domestic exports, fiscal year beginning July 1 [3]
							December		Following May		
							Low	High	Low	High	
	1,000 acres	*Bushels of 48 lbs.*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels*
1909	7,699	24.4	187,973	54.8	102,947	13.37	55	72	50	68	4,311,566
1910	7,743	22.5	173,832	57.8	100,426	12.97	72	90	75	115	9,390,346
1911	7,627	21.0	160,240	86.9	139,182	18.25	102	130	68	132	1,585,242
1912	7,530	29.7	223,824	50.5	112,957	15.00	43	77	45	68	17,536,703
1913	7,499	23.8	178,189	53.7	95,731	12.77	50	79	51	66	6,644,747
Av. 1909–1913	7,620	24.3	184,812	59.7	110,249	14.47	64.4	89.6	57.8	89.8	7,895,521
1914	7,565	25.8	194,953	54.3	105,903	14.00	60	75	74½	82	26,754,522
1915	7,148	32.0	228,851	51.6	118,172	16.53	62	77	70	83	27,473,160
1916	7,757	23.5	182,309	88.1	160,646	20.71	95	125	128	165	16,381,077
1917	8,933	23.7	211,759	113.7	240,758	26.95	125	163	105	176	26,285,378
1918	9,740	26.3	256,225	91.7	234,942	24.12	88	105	110	130	20,457,781
1919	6,720	22.0	147,608	120.6	178,080	26.50	125	168	140	190	26,571,284
1920	7,600	24.9	189,332	71.3	135,083	17.77	50	98	56	75	20,457,198
Av. 1914–1920	7,923	25.4	201,577	83.2	167,655	21.16	86.4	115.9	97.6	128.7	23,497,200
1921	7,414	20.9	154,946	41.9	64,934	8.76	48	64	62	75	22,400,393
1922	7,317	24.9	182,068	52.5	95,560	13.06	66	75	63	72	18,192,809
1923	7,835	25.2	197,691	54.1	107,038	13.66	80	100	69	90	11,208,733
1924 [4]	7,086	26.5	187,875	73.1	137,270	19.37	54	81	------	------	------

[1] Based on farm price Dec. 1.
[2] Chicago Daily Trade Bulletin.
[3] Compiled from reports of Bureau of Foreign and Domestic Commerce.
[4] Preliminary.

Division of Crop and Livestock Estimates.

TABLE 98.—*Barley: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Maine	3	4	4	84	120	104	84	120	112
New Hampshire	1	1	1	28	26	26	27	22	27
Vermont	9	9	9	261	261	288	253	248	297
New York	158	190	230	4,108	5,092	6,900	3,040	3,819	6,279
Pennsylvania	12	12	12	306	269	318	199	194	286
Maryland	4	4	5	128	132	175	96	106	163
Virginia	9	10	12	248	270	324	198	216	340
Ohio	73	74	75	1,424	1,998	2,250	926	1,259	1,912
Indiana	30	30	32	510	690	800	296	448	616
Illinois	190	228	251	5,605	6,612	7,781	3,251	3,835	5,836
Michigan	140	150	153	3,598	3,600	4,743	2,339	2,304	3,794
Wisconsin	443	465	423	14,220	13,252	13,536	8,105	8,084	10,558
Minnesota	908	962	914	24,062	24,050	29,248	11,309	10,582	20,181
Iowa	161	158	150	4,605	4,503	4,710	2,256	2,342	3,297
Missouri	5	6	4	115	162	100	83	126	82
North Dakota	1,008	1,250	1,350	25,704	21,875	35,100	10,025	8,312	21,762
South Dakota	881	890	901	20,263	20,025	22,428	8,510	8,010	14,354
Nebraska	242	339	251	4,356	9,492	6,275	2,047	4,176	3,953
Kansas	1,074	924	700	18,580	20,513	11,550	8,361	10,051	7,508
Kentucky	6	7	5	168	189	120	143	159	121
Tennessee	14	17	18	315	391	360	252	391	396
Texas	93	108	115	1,767	2,592	3,220	1,149	1,763	2,447
Oklahoma	129	129	187	2,193	2,838	4,675	1,206	1,987	3,272
Montana	92	105	124	2,300	2,678	3,100	1,150	1,285	2,139
Wyoming	20	28	30	560	840	900	336	546	648
Colorado	186	300	340	3,534	8,700	8,160	2,085	4,698	5,875
New Mexico	9	11	12	135	209	240	128	167	144
Arizona	25	36	36	825	1,260	1,260	701	1,197	1,109
Utah	18	22	24	630	893	936	346	625	814
Nevada	6	5	5	176	127	145	176	105	160
Idaho	85	93	102	2,890	3,999	2,958	1,878	2,319	2,426
Washington	74	85	110	1,776	3,884	2,640	1,314	2,330	2,244
Oregon	80	86	97	2,160	3,089	2,425	1,598	2,064	2,425
California	1,129	1,095	594	34,434	33,069	10,080	21,893	23,148	11,893
United States	7,317	7,835	7,086	182,068	197,691	187,875	95,560	107,038	137,270

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 99.—*Barley: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant diseases	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic[1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	8.9	3.6	0.3	1.0	2.1	2.3	0.8	19.0	1.4	0.4	0.5	0.2	1.3	22.8
1910	34.0	.2	.1	.9	.9	4.3	.1	40.7	.4	.8	.6	.1	.5	43.1
1911	29.6	1.2	------	.8	.4	5.7	.1	38.1	.9	.9	.3	.2	.9	41.3
1912	8.4	1.8	.1	.9	1.9	1.7	.5	15.9	.9	.5	.5	.4	1.4	19.6
1913	24.9	.7	.1	.4	1.0	3.2	.3	31.1	.2	1.2	.2	.2	1.4	34.3
1914	8.2	2.6	.2	.6	1.5	4.6	.4	18.4	2.3	.6	.2	.1	1.1	22.7
1915	1.3	3.2	.3	.7	1.7	.3	.5	8.0	.9	.2	.2	.1	.6	10.0
1916	8.0	3.4	.3	.7	1.5	5.0	.5	20.2	8.5	.7	.1	.1	1.0	30.6
1917	26.6	.8	(2)	1.0	1.1	2.3	.2	32.1	.5	.4	.2	.1	.3	33.6
1918	20.7	.4	.1	.7	1.1	2.3	.3	25.9	.6	1.6	.2	(2)	.5	28.8
1919	18.0	3.4	.5	.2	1.8	3.8	.3	28.2	5.3	4.3	.1	.2	.4	38.5
1920	10.4	2.2	.2	.5	1.1	2.0	.2	16.8	3.0	1.3	.1	.1	.4	21.7
1921	20.2	1.4	.1	1.3	1.2	6.6	.5	31.4	2.9	1.3	.1	------	.3	36.0
1922	13.5	1.3	.1	.5	1.6	1.6	.2	19.0	1.3	1.4	.1	.1	.3	22.2
1923	10.7	1.2	.1	.7	1.5	2.1	.3	16.6	2.8	.9	.1	.1	.3	20.8

Division of Crop and Livestock Estimates. [1] Includes all other climatic. [2] Less than 0.05 per cent.

TABLE 100.—*Barley: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Maine	28.5	31.0	28.0	26.2	28.0	28.3	30.0	26.5	26.0	21.0	25.0	28.0	26.0	26.1	26.0	28.0	30.0	26.0
New Hampshire	25.0	26.0	24.0	28.0	28.0	26.2	32.0	30.0	28.0	25.0	32.0	24.8	26.0	28.3	23.0	28.0	26.5	26.0
Vermont	30.0	31.0	30.5	35.0	32.0	31.7	34.5	35.0	27.5	29.0	31.0	25.0	28.0	30.0	25.0	29.0	29.0	32.0
New York	24.8	28.3	25.0	26.0	26.7	26.2	28.0	32.0	23.3	28.0	31.5	22.0	29.0	27.7	21.0	26.0	26.8	30.0
Pennsylvania	21.8	26.5	25.0	27.5	26.0	25.4	28.0	29.5	25.0	28.0	28.0	24.5	24.0	26.7	21.5	25.5	22.4	26.5
Maryland	32.0	31.0	23.0	27.0	29.0	28.4	33.0	34.0	32.0	25.0	31.0	38.0	27.5	30.8	30.0	32.0	33.0	35.0
Virginia	28.5	29.3	23.0	25.0	26.0	26.4	26.0	29.0	27.5	30.0	27.0	25.0	27.0	27.4	23.0	27.5	27.0	27.0
Ohio	25.9	28.5	27.2	31.0	24.0	27.3	25.0	31.0	27.8	33.0	31.5	23.0	27.7	28.4	26.0	19.5	27.0	30.0
Indiana	23.5	27.0	26.5	29.5	25.0	26.3	25.0	28.0	27.0	30.5	37.0	25.0	27.0	28.5	19.0	17.0	23.0	25.0
Illinois	28.0	30.2	28.0	31.5	26.0	28.7	29.5	34.0	32.0	37.5	36.0	27.0	30.4	32.3	26.3	29.5	29.0	31.0
Michigan	24.7	26.0	24.0	26.0	24.8	25.1	26.0	29.5	24.5	24.4	30.0	17.0	26.0	25.3	17.5	25.7	24.0	31.0
Wisconsin	28.0	25.9	25.5	29.4	25.0	26.8	27.3	35.5	30.0	32.0	35.7	26.5	31.7	31.2	22.5	32.1	28.5	32.0
Minnesota	23.6	21.0	19.0	28.2	24.0	23.2	23.0	30.5	19.0	27.0	31.0	20.0	25.0	25.1	20.0	26.5	25.0	32.0
Iowa	22.0	29.5	21.9	31.0	25.0	25.9	26.0	31.0	29.5	35.0	31.5	25.5	27.5	29.4	23.5	28.6	28.5	31.4
Missouri	25.0	27.0	20.0	24.8	22.0	23.8	24.0	25.0	20.0	25.0	25.0	30.0	28.0	25.3	22.0	23.0	27.0	25.0
North Dakota	21.0	5.5	19.5	29.9	20.0	19.2	19.5	32.0	15.5	12.5	21.5	11.5	18.0	18.6	15.5	25.5	17.5	26.0
South Dakota	19.5	18.2	5.4	26.0	17.5	17.3	23.0	32.0	22.7	27.0	29.5	22.0	25.0	25.9	17.0	23.0	22.5	28.0
Nebraska	22.0	18.5	11.0	22.0	16.0	17.9	23.5	31.0	28.0	26.5	16.5	25.7	29.0	25.7	24.7	18.0	28.0	25.0
Kansas	18.0	18.0	6.5	23.5	8.1	14.8	24.5	31.0	16.0	8.0	10.0	27.0	26.4	20.3	20.0	17.3	22.2	16.5
Kentucky	24.0	24.0	28.7	26.0	26.6	25.9	28.5	30.0	26.0	28.0	28.0	25.0	28.0	27.6	24.0	28.0	27.0	24.0
Tennessee	24.0	23.0	28.0	26.0	25.2	25.2	27.0	24.0	23.7	15.0	23.0	20.0	23.0	22.2	21.0	22.5	23.0	20.0
Texas	19.4	30.0	18.0	29.3	24.0	24.1	25.0	28.0	17.0	20.0	17.0	35.0	23.0	23.6	24.0	19.0	24.0	28.0
Oklahoma	23.0	30.0	10.0	20.0	9.0	18.4	25.0	26.5	12.5	18.0	17.0	30.0	24.0	21.9	22.0	17.0	22.0	25.0
Montana	38.0	28.0	34.5	36.5	31.0	33.6	30.5	34.0	28.0	15.0	22.0	5.6	18.0	21.9	20.5	25.0	25.5	25.0
Wyoming	31.0	30.0	34.0	34.0	30.5	31.9	33.0	36.0	33.0	36.0	37.0	15.0	36.0	32.3	29.0	28.0	30.0	30.0
Colorado	36.0	32.0	29.0	39.0	32.5	33.7	38.5	36.0	32.0	33.0	18.0	19.0	24.5	28.7	22.0	19.0	29.0	24.0
New Mexico	40.0	25.0	33.0	35.0	24.0	31.4	34.0	33.0	28.0	28.0	28.0	23.8	23.6	28.3	24.0	15.0	19.0	20.0
Arizona	40.0	36.0	36.5	40.0	39.0	38.3	36.0	37.0	35.0	35.0	34.0	35.0	34.0	35.1	32.0	33.0	35.0	35.0
Utah	40.0	36.0	43.0	45.0	38.5	40.5	45.0	42.5	36.0	37.0	35.0	22.9	21.2	35.7	32.0	35.0	40.0	39.0
Nevada	38.0	40.0	40.0	41.0	41.0	40.0	47.0	48.0	41.0	35.0	34.0	26.5	30.0	37.4	31.1	29.4	25.4	29.0
Idaho	40.0	38.0	42.0	43.5	42.0	40.1	38.0	40.5	39.0	29.0	28.0	26.0	35.0	33.6	32.0	34.0	42.0	29.0
Washington	39.5	29.0	37.0	43.0	40.5	37.8	39.0	41.5	41.3	29.0	15.2	30.0	35.3	33.0	36.8	34.0	45.7	24.0
Oregon	31.5	31.5	34.0	36.0	35.0	33.6	30.0	36.0	28.5	29.0	25.0	33.1	32.2	30.5	32.0	27.0	35.0	25.0
California	26.5	31.0	28.0	30.0	26.0	28.3	30.0	29.0	28.0	29.0	26.0	27.0	28.0	27.4	25.0	30.5	30.2	20.0
United States	24.4	22.5	21.0	29.7	23.8	24.3	25.8	32.0	23.5	23.7	26.3	23.0	24.9	25.5	20.9	24.9	26.2	26.5

Division of Crop and Livestock Estimates.

TABLE 101.—*Barley: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE										
NORTH AMERICA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Canada	1,574	2,796	2,600	2,785	3,408	28.8	21.4	27.6	27.6	26.6
United States	7,620	7,414	7,317	7,835	7,086	24.3	20.9	24.9	25.2	26.5
Total North America	9,194	10,210	9,917	10,620	10,494					
EUROPE										
United Kingdom:										
England and Wales	1,488	1,436	1,364	1,327	1,316	34.0	30.8	31.0	31.4	36.4
Scotland	191	171	157	159	152	37.6	36.0	39.1	36.5	
Ireland	166	175	170	154		45.2	34.0	42.2	36.7	
Norway	89	156	132	125	124	32.2	27.4	34.0	36.4	33.8
Sweden	448	397	427	393	428	33.6	31.0	32.4	30.0	29.4
Denmark	[1] 639	628	667	690	745	42.0	43.9	45.6	47.0	
Netherlands	68	61	61	59	62	48.1	54.1	51.5	50.6	50.7
Belgium	[1] 88	96	80	85	74	50.5	53.3	43.0	49.2	50.4
Luxemburg	3	5	9	9	8	27.3	14.8	19.7	22.2	20.1
France	[1] 1,987	1,679	1,712	1,684	1,714	26.6	22.8	23.9	26.7	26.8
Spain	3,510	4,335	4,082	4,539	3,074	21.3	20.6	19.0	24.6	20.4
Portugal		144	191	170			11.1	16.4	14.4	
Italy	[1] 647	[1] 585	576	569	571	16.4	19.0	14.3	18.5	15.2
Switzerland	13	16	16	16	16	33.9	34.5	30.7	35.6	32.4
Germany	[1] 3,464	2,808	2,840	2,949	3,571	38.6	31.7	26.0	36.8	30.8
Austria	[1] 421	266	313	336	339	23.9	20.6	17.9	23.4	21.3
Czechoslovakia	[1] 2,275	1,613	1,420	1,696	1,679	31.3	29.4	32.6	32.5	28.4
Hungary	[1] 1,322	1,184	1,445	1,136	1,081	24.5	18.1	15.3	24.0	13.8
Yugoslavia	[1] 1,058	910	927	891	609	19.1	14.7	11.9	15.8	25.1
Greece	[1, 2] 369			400		18.8			17.8	
Bulgaria	[1] 516	524	534	544	525	20.1	16.2	22.4	20.3	15.1
Rumania	[1, 3] 3,378	3,878	4,269	4,641	4,573	18.3	11.4	22.0	13.1	11.0
Poland	[1] 3,048	2,451	2,825	2,964	3,011	22.7	22.9	21.1	25.7	19.0
Lithuania	[1] 536	414	417	432	484	16.5	16.1	25.7	18.4	20.5
Latvia	[1] 463	361	387	434	443	17.1	18.0	17.5	13.9	19.6
Esthonia	[1] 329	275	331	312	308	18.8	17.1	20.2	13.1	18.4
Finland	278	272	277	277	278	17.8	22.5	23.3	13.7	20.8
Russia, including Ukraine and Northern Caucasia	23,281	14,915	7,522	12,981		16.4	7.5	17.5		
Total Europe comparable with 1909–1913	50,075			39,802						
Total Europe comparable with 1924	26,259	24,521	25,268	26,267	25,185					
AFRICA										
Morocco		2,472	2,547	2,803	2,981	16.3	15.1	10.7	12.6	16.2
Algeria	3,395	2,514	2,917	2,838	3,065	13.5	19.1	5.7	16.5	6.8
Tunis	1,228	1,228	734	1,206	692	6.4	9.4	2.5	9.5	3.7
Egypt	398	394	375	400	372	29.8	30.9	30.7	30.0	27.6
Total Africa comparable with 1909–1913	5,021	4,136	4,026	4,444	4,129					
Total Africa comparable with 1924		6,608	6,573	7,247	7,110					
ASIA										
Cyprus		130	118	113			14.7	14.3	22.5	
India	8,877	6,203	7,308	7,350		16.4	18.9	20.0	19.8	
Russia (Asiatic)	2,912	799	478	479		12.6	8.0	11.7		
Japanese Empire:										
Japan	3,042	2,929	2,746	2,549		29.4	28.1	29.6	27.0	
Chosen	[4] 1,662	2,108	2,130	2,170		20.7	18.5	16.4	14.2	
Formosa	5	4	3	3		12.6	9.2	9.3	9.3	
Kwantung	1	1	1	1		8.0	26.0	28.0	28.0	
Total Asia comparable with 1909–1913	16,499	12,174	12,774	12,665						
Total Northern Hemisphere comparable with 1909–1913	80,789			67,531						
Total Northern Hemisphere comparable with 1924		41,339	41,758	44,184	42,789					

[1] Estimated for present territory.
[2] One year only.
[3] Four-year average.
[4] Three-year average.

TABLE 101.—*Barley: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Chile	111	128	153	145	124	36.8	35.6	49.5	60.7	.....
Uruguay	[2] 7	3	3	15	9	11.1	14.0	9.3	5.3	.....
Argentina	230	620	599	545	630	19.1	9.6	12.8	16.9	.....
Union of South Africa [3]	[2] 109	87	.....	.....	.....	11.7	14.7	.....	.....	.....
Australia	154	299	.....	.....	.....	19.6	21.2	.....	.....	.....
New Zealand	35	33	17	21	.....	36.1	18.8	36.6	.....	.....
Total Southern Hemisphere comparable with 1909–1913	646	1,170	.....	.....	.....	.....	.....	.....	.....	.....
Total Southern Hemisphere comparable with 1924	348	751	755	705	763	.....	.....	.....	.....	.....
World total comparable with 1909–1913	81,435	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable with 1924	.....	42,090	42,513	44,839	43,552	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute except where otherwise specified. Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[2] One year only.
[3] Four-year average.
[5] Excludes native locations.

TABLE 102.—*Barley: Production in specified countries, average 1909–1913; annual 1921–1924*

[Thousand bushels—i. e., 000 omitted]

Country	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada	45,275	59,709	71,865	76,998	90,769
United States	184,812	154,946	182,068	197,691	187,875
Total North America	230,087	214,655	253,933	274,689	278,644
EUROPE					
United Kingdom:					
England and Wales	50,658	44,242	42,233	41,717	47,927
Scotland	7,173	6,158	6,133	5,800	.....
Ireland	7,510	5,952	7,170	5,647	.....
Norway	2,867	4,279	4,483	4,549	4,185
Sweden	15,035	12,326	12,830	11,781	12,576
Denmark	[1] 26,860	27,548	30,433	32,457	.....
Netherlands	3,270	3,302	3,143	2,984	3,146
Belgium	[1] 4,446	5,117	3,438	4,182	3,729
Luxemburg	82	74	177	201	161
France	[1] 52,826	38,318	40,908	45,024	45,984
Spain	74,689	89,320	77,533	111,861	62,557
Portugal	.....	1,600	3,141	2,453	1,663
Italy	[1] 10,638	11,119	8,253	10,499	8,662
Switzerland	441	552	491	570	519
Germany	[1] 133,787	89,056	73,837	108,446	109,906
Austria	[1] 10,065	5,481	5,599	7,855	7,215
Czechoslovakia	[1] 71,108	47,471	46,352	55,176	47,629
Hungary	[1] 32,369	21,408	22,169	27,271	14,947

[1] Estimated for present territory.

TABLE 102.—*Barley: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE—Continued					
EUROPE—continued					
Yugoslavia	[1] 20,229	13,378	11,069	14,065	15,308
Greece	[1 2] 6,958	6,430	.....	7,101	6,189
Bulgaria	[1] 10,389	9,489	[3] 11,941	11,063	7,945
Rumania	[1 3] 61,677	44,254	93,789	60,870	.....
Poland	[1] 69,055	56,104	59,559	75,037	57,214
Lithuania	[1] 8,820	6,675	10,725	7,957	9,902
Latvia	[1] 7,922	6,496	6,770	6,021	8,695
Esthonia	[1] 6,201	4,696	6,670	4,097	5,664
Finland	4,947	6,114	6,466	3,789	5,782
Russia, including Ukraine and Northern Caucasia	[1] 381,235	112,067	131,357	.....	.....
Total Europe, comparable with 1909–1913	1,087,243	676,420	.....	.....	.....
Total Europe, comparable with 1924	.....	482,041	.....	563,699	487,434
AFRICA					
Morocco	.....	37,264	27,230	36,371	48,226
Algeria	45,974	47,996	16,627	46,917	20,684
Tunis	7,826	11,482	1,837	11,482	2,526
Egypt	11,867	12,173	11,526	11,988	10,275
Total Africa, comparable with 1909–1913	65,667	71,651	29,990	70,387	33,485
Total Africa, comparable with 1924	.....	108,915	57,220	105,758	81,711
ASIA					
Cyprus	2,183	1,915	1,693	2,543	.....
India	145,496	117,087	145,973	145,499	.....
Russia (Asiatic)	36,795	6,430	5,512	.....	.....
Japanese Empire:					
Japan	89,531	82,323	81,411	68,858	75,326
Chosen	[4] 34,445	38,984	34,910	30,872	35,848
Formosa	63	37	28	28	.....
Kwantung	8	26	28	.....	.....
Total Asia, comparable with 1909–1913	308,521	246,802	269,555	.....	.....
Total Asia, comparable with 1924	123,976	121,307	116,321	99,730	111,174
Total Northern Hemisphere, comparable with 1909–1913	1,685,518	1,209,528	.....	.....	.....
Total Northern Hemisphere, comparable with 1924	.....	926,918	.....	1,043,876	958,963

Country	Average, 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE					
Chile	4,090	4,556	7,557	8,798	.....
Uruguay	[5] 78	42	28	79	.....
Argentina	[2] 4,395	5,982	7,656	9,186	.....
Union of South Africa [6]	[2] 1,274	1,282	.....	.....	.....
Australia	3,021	6,339	6,822	.....	.....
New Zealand	1,264	622	622	.....	.....
Total Southern Hemisphere, comparable with 1909–13	14,122	18,823	.....	.....	.....
World total, comparable with 1909–1913	1,699,627	1,228,351	.....	.....	.....
World total, comparable with 1924	.....	926,918	.....	1,043,876	958,963

Division of Statistical and Historical Research. Official sources and International Institute unless otherwise specified.

Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Estimated for present territory.
[2] One year only.
[3] Four-year average.
[4] Three-year average.
[5] Excludes native locations which produced 38,550 bushels in 1917–18 and 29,007 bushels in 1920–21.

TABLE 103.—*Barley: World production, 1894–1924*

[Thousand bushels—i. e., 000 omitted]

Year	Production in countries reporting all years, 1894–1923	Production as reported	Estimated world totals (preliminary)	Three selected countries		
				Russian Empire [1]	Germany	Japan
1894	607,282	1,081,839	1,209,725	277,464	130,858	81,133
1895	616,057	970,564	1,125,471	226,134	128,325	79,646
1896	564,927	961,353	1,127,085	253,630	125,254	70,545
1897	561,097	909,157	1,045,892	238,651	117,783	72,662
1898	635,270	1,090,672	1,327,512	306,922	129,939	83,338
1899	628,739	973,216	1,143,901	226,909	137,047	77,309
1900	620,639	984,210	1,168,680	236,981	137,888	82,420
1901	679,376	1,046,723	1,222,624	239,917	152,535	83,352
1902	702,761	1,182,478	1,365,344	338,251	142,391	74,078
1903	666,922	1,195,298	1,356,104	357,471	152,652	59,737
1904	657,150	1,140,319	1,313,769	346,255	135,408	80,794
1905	651,638	1,158,453	1,313,903	346,966	134,203	77,473
1906	758,275	1,262,809	1,456,706	330,962	142,900	83,967
1907	725,374	1,261,256	1,438,416	377,031	160,649	90,480
1908	709,335	1,293,613	1,434,561	402,258	140,538	87,138
1909	778,074	1,522,309	1,648,697	501,869	160,561	87,185
1910	707,237	1,396,972	1,518,917	487,919	133,330	81,953
1911	728,017	1,449,535	1,541,983	436,569	145,133	86,480
1912	772,145	1,575,130	1,619,575	496,352	159,924	90,559
1913	783,690	1,726,095	1,778,842	600,232	168,709	101,477
1914	718,089	1,514,983	1,557,283	[2] 432,615	144,125	85,774
1915	691,862	1,568,397	1,565,154	[2] 429,161	114,077	94,959
1916	669,754	1,048,089	1,514,614		128,450	89,335
1917	612,658	982,142	1,434,642		[3] 89,886	88,806
1918	694,950	1,128,067	1,488,567		[3] 93,504	87,709
1919	536,432	927,303	1,136,303		[3] 87,741	89,350
1920	580,268	1,156,526	1,244,526	[3] 216,326	[3] 82,344	84,909
1921	579,481	1,207,713	1,276,713	[3] 118,497	[3] 89,056	82,323
1922	549,788	1,312,002	1,348,202	[3] 136,869	[3] 73,837	81,411
1923	652,723	1,326,790	1,470,718		[3] 108,446	68,858
1924		964,763			[3] 109,905	75,326

Division of Statistical and Historical Research. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Includes all Russian territory reporting for years named.
[2] Excludes Poland.
[3] New boundaries and therefore not comparable with earlier years.

TABLE 104.—*Barley: Monthly marketings by farmers, United States, 1917–1923*

Year beginning July	Percentage of year's receipts as reported by about 3,500 mills and elevators												
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season
1917	2.2	15.0	23.4	16.5	8.5	8.6	6.5	7.5	6.1	2.9	1.8	1.0	100.0
1918	2.4	9.7	8.4	4.4	7.8	3.3	1.3	.7	2.9	27.5	30.7	.9	100.0
1919	18.5	19.2	14.3	9.9	6.4	7.5	5.4	3.1	3.7	3.4	3.0	5.6	100.0
1920	7.0	16.5	15.0	9.9	9.9	7.2	6.7	5.5	6.5	4.2	5.7	5.9	100.0
1921	35.0	14.0	10.5	7.8	4.4	4.2	3.9	4.3	4.2	3.0	4.4	4.3	100.0
1922	17.4	22.9	14.6	10.8	5.2	6.0	4.8	3.2	3.5	1.9	2.7	7.0	100.0
1923	10.3	23.7	15.1	9.9	7.8	6.5	4.1	3.5	3.1	2.6	2.3	11.1	100.0

Division of Crop and Livestock Estimates.

TABLE 105.—*Barley: Farm stocks, shipments, and quality, United States, 1910–1924*

Year beginning August	Old stocks on farms Aug 1 [1]	Crop			Total supplies	Stocks on farms Mar. 1 following [1]	Shipped out of county where grown [1]
		Quantity	Weight per bushel [2]	Quality [3]			
	1,000 bushels	*1,000 bushels*	*Pounds*	*Per cent*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
1910	8,075	173,832	46.9	88.1	181,907	33,498	86,955
1911	5,763	160,240	46.0	84.9	166,003	24,754	91,620
1912	2,591	223,824	46.8	86.2	226,415	62,301	120,143
1913	11,252	178,189	46.5	86.4	189,441	44,126	86,262
1914	7,609	194,953	46.2	87.5	202,562	42,889	87,834
1915	6,336	228,851	47.4	90.5	235,187	58,301	98,965
1916	10,982	182,309	45.2	84.4	193,291	33,244	79,257
1917	3,775	211,759	46.6	90.9	215,534	44,419	84,056
1918	4,510	256,225	46.9	89.8	260,735	81,746	99,987
1919	11,807	147,608	45.2	84.8	159,505	33,820	50,471
1920	4,122	189,332	46.0	88.2	193,454	65,229	68,663
1921	13,487	154,946	44.4	82.5	168,433	42,294	55,738
1922	7,497	182,068	46.2	88.5	189,565	42,469	66,560
1923	6,805	197,691	45.3	86.6	204,496	44,930	68,190
1924 [4]	6,359	187,875	47.0	88.7	194,234		

Division of Crop and Livestock Estimates.

[1] Based on percentage of entire crop as reported by crop reporters.
[2] Average weight per measured bushel as reported by crop reporters.
[3] Percent of a "high medium grade" as reported by crop reporters.
[4] Preliminary.

TABLE 106.—*Barley: Receipts at markets named, 1909–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning August	Minneapolis	Duluth	Chicago	Milwaukee	Omaha	Fort William and Port Arthur [1]
1909	22,828	12,177	26,658	15,143		3,301
1910	1,518	7,157	20,740	12,915		1,537
1911	19,134	6,019	20,929	12,797		3,483
1912	35,682	14,504	30,083	19,824		9,859
1913	29,796	10,895	26,201	17,499		10,667
Average, 1909-1913	21,792	10,150	24,922	15,636		5,769
1914	29,465	11,122	25,073	7,096		2,884
1915	45,143	15,396	32,085	19,850		10,356
1916	26,301	8,633	28,075	19,619	1,236	7,688
1917	35,423	7,470	21,473	14,675	2,089	7,470
1918	43,172	8,427	26,871	18,458	3,991	7,741
1919	13,194	2,322	13,694	10,208	831	8,194
1920	17,774	4,043	10,192	9,813	1,325	12,326
Average, 1914-1920	30,067	8,202	22,495	14,246	[2] 1,894	8,094
1921	11,945	5,164	7,597	9,341	1,075	11,597
1922	14,259	3,835	10,073	9,446	801	15,756
1923	13,641	3,926	9,755	9,077	785	15,910
1923						
August	1,941	432	1,222	872	150	
September	2,417	1,563	979	1,191	171	2,787
October	1,879	750	1,255	1,187	243	2,692
November	1,633	365	767	703	133	2,310
December	184	102	1,029	995		1,704
1924						
January	748	92	748	675		723
February	1,131	23	928	768	88	589
March	1,159	16	819	683		602
April	855	140	668	618		1,063
May	683	121	557	605		1,390
June	611	135	369	418		529
July	400	187	414	362		1,236
August	1,484	602	775	616		225
September	3,913	5,498	1,748	2,336	139	3,015
October	4,155	3,772	2,070	1,840	155	8,049
November	2,756	1,937	1,127	1,137	61	6,998
December	2,218	229	1,238	1,397	42	2,875

Division of Statistical and Historical Research. Compiled from Minneapolis Daily Market Record, Chicago Daily Trade Bulletin, Grain Dealers Journal, and Canadian Statistics.

[1] Crop year begins in September. [2] Five-year average.

TABLE 107.—*Barley: Farm price per bushel, 15th of month, United States, 1909–1924*

Year beginning August	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	57.9	54.0	53.4	53.6	55.8	58.4	59.8	60.0	58.1	56.1	54.8	54.3	55.8
1910	56.0	56.6	55.7	56.6	58.8	62.0	63.6	66.0	71.6	73.9	72.0	69.7	61.3
1911	73.2	79.4	83.3	85.9	86.6	88.8	91.1	91.6	94.2	93.6	86.5	74.4	83.2
1912	60.2	54.2	54.3	52.2	50.2	50.6	50.2	48.8	48.4	50.5	53.2	52.2	53.2
1913	53.0	56.0	55.8	54.2	53.0	52.3	51.8	51.4	50.5	49.2	48.3	46.3	52.6
Av. 1909–1913	60.1	60.0	60.5	60.5	60.9	62.4	63.3	63.6	64.6	64.7	63.0	59.4	61.2
1914	48.8	52.2	51.8	53.0	54.3	58.6	65.3	66.2	64.2	62.9	58.9	56.2	55.4
1915	54.3	49.4	48.4	50.8	53.2	58.3	60.6	58.4	58.4	59.6	59.4	59.3	54.3
1916	66.1	74.7	79.8	85.6	87.6	89.9	94.8	99.6	111.2	119.7	113.0	110.6	88.7
1917	112.2	112.0	112.6	112.5	120.1	129.2	146.5	165.6	164.4	147.0	126.9	114.2	137.8
1918	105.4	98.2	95.2	93.3	91.5	89.0	86.1	89.0	98.3	106.6	108.8	113.6	98.6
1919	117.2	115.4	116.2	118.8	125.4	133.6	133.2	134.6	143.2	147.4	145.2	131.5	125.7
1920	113.0	98.1	86.4	76.5	67.8	60.8	57.0	55.6	51.8	50.4	51.1	50.0	76.1
Av. 1914–1920	88.1	85.7	84.3	84.4	85.7	88.5	91.9	95.6	98.8	99.1	94.8	90.8	90.9
1921	48.2	46.2	43.6	41.8	42.8	44.0	47.0	51.2	54.6	57.0	55.0	51.0	47.4
1922	47.7	46.2	49.2	52.0	55.6	56.8	56.2	58.0	59.6	60.8	58.3	54.7	52.6
1923	52.2	51.9	54.7	55.2	57.6	56.5	58.0	60.0	61.0	60.0	61.9	68.8	57.1
1924	75.7	75.6	81.4	79.7	76.2								

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 108.—*Barley: Farm price per bushel, December 1, 1909–1924, and value per acre, 1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre, 1924[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dols.*
Me	77	76	90	77	80	80	81	75	104	130	149	170	138	121	86	100	100	108	28.08
N. H	80	77	86	84	80	81	82	79	90	175	150	188	146	130	110	98	85	105	27.30
Vt	77	68	82	80	80	77	75	75	100	140	153	150	120	116	80	97	95	103	32.96
N. Y	69	70	97	68	69	75	71	75	101	130	126	136	99	105	62	74	75	91	27.30
Pa	67	63	65	68	71	67	70	75	75	140	120	128	90	100	62	65	72	90	23.85
Md	64	61	60	68	64	63	66	70	73	130	120	123	110	99	67	75	80	93	32.55
Va	71	67	70	75	70	71	80	75	85	139	160	130	100	110	72	80	80	105	28.35
Ohio	61	60	84	55	58	64	59	54	80	118	93	125	82	87	51	65	63	85	25.50
Ind	63	56	75	60	50	61	67	65	75	104	104	118	87	89	48	58	65	77	19.25
Ill	52	56	92	53	57	62	61	57	103	121	90	121	82	91	46	58	58	75	23.25
Mich	61	58	86	65	60	66	65	62	91	119	100	118	87	92	57	65	64	80	24.80
Wis	56	64	99	55	60	67	62	56	105	124	92	121	84	92	51	57	61	78	24.96
Minn	47	60	96	41	48	58	53	49	87	111	80	116	62	80	34	47	44	69	22.08
Iowa	46	56	93	52	55	60	55	49	91	117	85	112	63	82	42	49	52	70	21.98
Mo	68	60	75	66	60	66	65	63	93	94	115	130	98	94	65	72	78	82	20.50
N. Dak	43	55	85	35	40	52	45	44	80	100	73	108	56	72	29	39	38	62	16.12
S. Dak	45	57	88	42	46	56	50	46	83	110	78	115	52	76	29	42	40	64	17.92
Nebr	43	45	60	42	49	48	47	42	75	98	85	100	50	71	28	47	44	63	15.75
Kans	53	45	60	40	55	51	47	42	77	115	95	100	45	74	29	45	49	65	10.72
Ky	76	65	79	75	78	75	77	77	90	115	140	157	115	110	61	85	84	101	24.24
Tenn	79	80	90	80	70	80	82	75	100	144	152	180	110	120	100	90	100	110	22.00
Tex	100	90	93	78	81	88	70	68	80	137	130	112	75	96	45	65	68	76	21.28
Okla	65	54	61	50	80	62	53	50	100	148	124	122	72	96	45	55	70	70	17.50
Mont	63	62	68	53	48	59	53	48	76	103	100	140	65	84	60	50	48	69	17.25
Wyo	74	67	75	62	61	68	64	55	87	130	130	175	110	107	65	60	65	72	21.60
Colo	66	60	69	50	56	60	55	48	82	104	113	120	75	85	37	59	54	72	17.28
N. Mex	100	80	70	71	72	79	75	70	100	139	110	110	75	97	61	95	80	60	12.00
Ariz	88	90	87	87	73	85	60	56	108	150	130	140	140	112	80	85	95	88	30.80
Utah	66	60	66	59	55	61	50	52	76	120	140	141	100	97	48	55	70	87	33.93
Nev	75	70	81	87	90	81	65	70	95	119	154	150	165	117	80	100	83	110	31.90
Idaho	59	50	70	51	48	56	50	52	82	105	130	140	75	91	47	65	58	82	23.78
Wash	64	57	68	53	52	59	52	56	84	115	115	135	100	94	52	74	60	85	20.40
Oreg	66	62	65	55	55	61	61	62	80	115	136	150	100	101	50	74	67	100	25.00
Calif	74	55	85	70	68	70	59	62	95	120	115	141	100	99	56	63	70	116	23.20
U. S	54.8	57.8	86.9	50.5	53.7	60.7	54.3	51.6	88.1	113.7	91.7	120.6	71.3	84.5	41.9	52.5	54.1	73.1	19.37

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1

TABLE 112.—*Flaxseed: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Wisconsin	4	8	8	52	97	104	94	204	234
Minnesota	310	527	712	3,100	5,270	8,117	6,758	11,225	18,913
Iowa	8	6	8	83	56	94	154	118	212
Missouri			1			9			20
North Dakota	521	1,050	1,732	4,845	8,085	14,722	10,368	17,140	33,419
South Dakota	162	284	483	1,539	2,414	4,299	3,093	5,021	9,587
Nebraska	3	4	8	24	44	56	46	92	126
Kansas	20	24	54	120	182	378	223	391	813
Montana	84	110	270	605	902	2,349	1,192	1,741	5,191
Wyoming	1	1	1	7	10	9	13	19	20
Colorado			12			36			76
	1,113	2,014	3,289	10,375	17,060	30,173	21,941	35,951	68,611

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 113.—*Flaxseed: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Wisconsin	14.5	10.0	12.0	12.5	14.0	12.6	13.5	13.5	12.0	.....	11.0	10.5	11.0	.....	10.5	13.0	12.1	13.0
Minnesota	10.0	7.5	8.0	10.2	9.0	8.9	9.3	10.5	8.5	9.5	10.4	8.0	9.5	9.4	9.5	10.0	10.0	11.4
Iowa	9.8	12.2	8.0	11.5	9.4	10.2	9.5	9.0	10.0	11.0	11.0	9.5	10.0	10.0	8.7	10.4	9.4	11.7
North Dakota	9.3	3.6	7.6	9.7	7.2	7.5	8.3	9.9	10.3	3.9	7.8	4.6	5.3	7.2	6.5	9.3	7.7	8.5
South Dakota	9.4	5.0	5.3	8.6	7.2	7.1	7.5	11.0	9.3	7.0	9.5	7.0	10.0	8.8	6.5	9.5	8.5	8.9
Nebraska	8.5	8.0	5.0	9.5	6.0	7.4	7.0	11.0	8.0	5.5	9.5	5.0	9.0	7.9	8.0	8.0	11.0	7.0
Kansas	7.0	8.2	3.0	6.0	6.0	6.0	6.0	5.7	5.8	7.0	5.0	6.3	6.9	6.1	6.7	6.0	7.6	7.0
Montana	12.0	7.0	7.7	12.0	9.0	9.5	8.0	10.5	9.5	3.0	3.0	1.3	2.6	5.4	5.0	7.2	8.2	8.7
Wyoming	.....	.....	.....	.....	.....	.....	.....	13.0	7.0	6.5	9.0	4.0	8.2	.....	5.7	7.0	10.0	9.0
United States [1]	9.5	5.2	7.0	9.8	7.8	7.9	8.4	10.1	9.7	4.6	7.0	4.8	6.1	7.2	7.2	9.3	8.5	9.2

Division of Crop and Livestock Estimates.

TABLE 114.—*Flaxseed: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1910–1923*

Year	Adverse weather conditions								Plant diseases	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic [1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1910	49.4	(2)	.....	2.5	0.9	6.2	0.1	59.3	1.4	1.8	(2)	0.1	0.5	63.1
1911	16.4	1.1	.....	8.4	.9	2.8	.1	30.5	2.2	1.7	(2)	.2	1.7	36.3
1912	5.1	2.9	0.2	5.9	2.8	1.1	.8	19.0	3.7	.4	0.4	1.4	1.7	26.6
1913	24.3	.7	.1	1.0	1.7	2.2	.2	30.6	1.6	.3	.....	.4	1.6	34.5
1914	11.4	1.7	.2	2.0	1.9	6.6	.8	24.1	2.2	.5	.2	.3	1.8	29.1
1915	2.1	2.0	.3	8.5	2.1	.4	.2	16.1	2.6	.1	(2)	(2)	.8	20.0
1916	3.3	2.3	.3	1.4	1.7	2.8	.3	12.4	3.9	.1	(2)	.1	.7	17.2
1917	51.3	.3	(2)	2.9	1.1	2.9	(2)	59.3	1.2	1.2	(2)	.1	.5	62.3
1918	26.2	.2	.1	3.3	2.3	2.5	.2	34.8	.9	2.6	(2)	.1	.9	39.3
1919	38.0	.7	.1	.5	2.0	4.1	(2)	45.5	3.7	10.6	.1	(2)	.3	60.2
1920	23.2	1.2	.3	.6	1.7	4.2	.2	31.7	4.4	3.7	(2)	.1	1.5	41.4
1921	25.2	.9	.2	.5	1.9	6.6	.1	35.3	4.3	3.1	(2)	.1	.7	43.5
1922	9.6	.4	.1	.3	2.4	1.7	.2	14.7	2.6	3.9	(2)	.1	.3	21.4
1923	10.2	1.0	.2	1.1	2.5	2.8	.3	18.1	3.8	1.4	.1	.1	1.0	24.5

Division of Crop and Livestock Estimates.

[1] Includes all other climatic. [2] Less than 0.05 per cent.

TABLE 115.—*Flax: Acreage in specified countries, average 1909–1913, annual 1921–1924*

Country	Area				
	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE					
NORTH AMERICA	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Canada	1,634,874	533,147	565,479	629,938	1,275,314
United States	2,489,800	1,108,000	1,113,000	2,074,000	3,289,000
Total North America	3,524,674	1,641,147	1,678,479	2,643,938	4,564,314
EUROPE					
United Kingdom:					
England and Wales	480	7,848	9,352	9,446	6,000
Northern Ireland	53,014	32,432	29,117	45,107	42,800
Irish Free State		7,413	4,915	8,100	
Sweden	[1] 4,016	6,800	5,567		
Netherlands	33,055	21,510	23,954	24,915	30,500
Belgium	[2] 48,930	37,164	40,700	46,287	54,000
France	[2] 61,666	43,163	38,221	36,813	39,400
Spain	[3] 7,349	4,097	4,594	4,201	
Italy	[1 2] 50,758	[2] 73,018	71,906	70,127	
Austria	[2] 12,787	[2] 8,725	9,212	9,039	
Czechoslovakia	[2] 61,404	58,409	56,151	52,440	52,689
Hungary	[2] 7,967	10,366	6,630	4,169	
Yugoslavia	[2] 32,274	35,661	32,568	33,163	
Bulgaria	[2] 756	635	1,720	1,285	900
Rumania	[2 4] 71,253	27,225	26,847	33,200	50,600
Poland	[2] 191,710	175,095	251,493	255,632	262,000
Lithuania	[2] 143,257	126,764	126,517	128,741	152,000
Latvia	[2] 161,906	84,335	93,169	138,603	149,500
Esthonia	[2] 135,193	50,342	59,178	75,704	80,000
Finland	[5] 12,236	16,828	15,938	10,625	14,800
Russia, including Ukraine and northern Caucasia	[2] 2,789,082	1,963,704	2,160,395	2,159,654	
Total Europe comparable with 1909–1913	3,879,093	2,791,534	3,068,144		
Total Europe comparable with 1924		681,750	772,357	858,798	935,189
AFRICA					
Kenya		14,587	11,781	5,889	
Morocco		43,663	31,720	35,961	
Algeria	1,365	445	667	766	700
Tunis		9,180	3,800	7,400	5,400
Egypt	4,628	5,765	1,384	1,698	
Total Africa comparable with 1909–1913	5,994	6,210	2,051	2,464	
Total Africa comparable with 1924		9,625	4,467	8,166	6,100
ASIA					
India	3,818,080	2,269,000	3,011,000	3,382,000	3,730,000
Russia (Asiatic)	376,000				
Japanese Empire:					
Japan	[4] 12,139	76,423	39,248	39,200	36,800
Chosen	3,000	3,167	3,175	3,428	
Total Asia comparable with 1909–1913	4,209,219				
Total Asia comparable with 1924	3,830,219	2,345,423	3,050,248	3,421,200	3,766,800
Total Northern Hemisphere comparable with 1909–1913	11,618,980				
Total Northern Hemisphere comparable with 1924		4,677,945	5,505,551	6,979,102	9,358,403
SOUTHERN HEMISPHERE					
Chile	748	650	833		
Uruguay	[4] 126,528	60,935	84,459	102,490	108,800
Argentina	4,113,434	3,891,825	4,316,837	5,254,695	5,906,000
Australia	[3] 1,056	918	714		
New Zealand	[5] 2,565	5,880	10,645	11,900	
Total Southern Hemisphere comparable with 1909–1913	4,244,331	3,960,208	4,413,488		
Total Southern Hemisphere comparable with 1924	4,239,962	3,952,760	4,401,296	5,357,185	6,014,800
World total comparable with 1909–1913	15,863,311				
World total comparable with 1924		8,630,705	9,906,847	12,336,287	15,373,203

Division of Statistical and Historical Research. Official sources and International Institute unless otherwise stated. Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Three-year average.
[2] Estimated for present territory.
[3] Two-year average.
[4] Four-year average.
[5] One year only.

TABLE 116.—*Flax: Production in specified countries, average 1909–1913, annual 1921–1924*

Country	Seed					Fiber				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE										
NORTH AMERICA	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Canada	12,040	4,112	5,609	7,140	9,751					
United States	19,543	8,029	10,375	17,060	30,173					
Total North America	31,583	12,141	15,384	24,200	39,924					
EUROPE										
United Kingdom: Northern Ireland						23,700	8,662	10,526	14,491	
Irish Free State							2,065	1,902	2,912	
Sweden	[1] 14	11	6			[1] 1,128	1,008	692		
Netherlands	376	249	250	258		17,276	10,863	9,690	15,872	16,710
Belgium	[2 3] 472	328	356	413	424	[2 3] 51,887	20,027	33,481	59,779	96,400
France	[2] 534	288	313	283		[2] 40,732	23,333	20,769	23,920	
Spain	[3] 26	46	51	51		[3] 1,995	1,157	1,417	1,168	
Italy	[2] 340	[2] 516	413	402	394	[2] 6,675	[2] 5,930	4,982	5,290	5,510
Austria	[2] 112	[2] 47	48	52		[2] 7,480	[2] 7,035	7,130	7,311	
Czechoslovakia	[2] 435	300	312	362	421	[2] 39,143	28,693	27,731	28,377	30,550
Hungary	[2] 63	73	41	39		[2] 6,671	7,618	5,188	3,258	
Yugoslavia	[3] 161					[2] 22,277	16,680	15,269	19,177	
Bulgaria	[2] 6	3	15	11	5	[2] 382	169	893	551	260
Rumania	[1 2] 707	119	194	250		[1 2] 11,044	2,670	3,114		
Poland	[2] 1,703	1,287	1,995	2,338	2,738	[2] 47,336	92,614	113,771	90,004	127,270
Lithuania	[2] 1,126	909	1,108	1,056	1,526	[2] 49,703	41,469	45,194	66,623	82,700
Latvia	[2] 953	625	563	648	985	[2] 62,318	30,675	35,715	42,380	57,090
Esthonia	[2] 733	275	328	347	487	[2] 49,518	15,906	20,758	21,643	27,050
Finland						[2] 4,244	3,486	3,447	3,086	
Russia, including Ukraine and Northern Caucasia	[2] 16,861	9,736	10,251	11,023		[2] 694,756	198,034	220,240	264,552	
Total Europe comparable 1909–1913	24,622					1,138,265	518,772	581,609		
Total Europe comparable 1924	5,768	4,243	5,090	5,577	6,960	324,238	246,336	291,915	330,519	443,540
AFRICA										
Kenya		35	34	19			2,545	1,351	672	
Morocco		418	267	258						
Algeria	13	11	7	11	7	188			441	400
Tunis	37	59	8	47						
Egypt			15	18				992	1,208	
Total Africa comparable with 1909–1913	50	70	15	58		188			441	400
Total Africa comparable with 1924	13	11	7	11	7	188			441	400
ASIA										
India	19,870	10,800	17,443	21,320	18,480					
Russia (Asiatic)	2,123					127,613				
Japanese Empire: Japan	[1] 98	634	271	218	243	[1] 5,142	24,980	10,896	5,710	9,490
Chosen							1,016	1,106	1,142	
Total Asia comparable with 1909–1913	22,091					132,755				
Total Asia comparable with 1924	19,968	11,434	17,714	21,538	18,723	5,142	24,980	10,896	5,710	9,490
Total Northern Hemisphere comparable with 1909–1913	78,346					1,271,208				
Total Northern Hemisphere comparable with 1924	57,332	27,829	38,195	51,326	65,614	329,568			336,670	453,430

[1] Four-year average. [2] Estimated for present territory. [3] Three-year average.

TABLE 116.—*Flax: Production in specified countries, average 1909–1913; annual 1921–1924*—Continued

Country	Seed					Fiber				
	Average, 1909–1913	1921	1922	1923	1924	Average, 1909–1913	1921	1922	1923	1924
SOUTHERN HEMISPHERE	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Chile	19	6				[1] 127	958			
Uruguay	[1] 951	519	719	787						
Argentina	31,117	36,045	47,577	58,584	52,359					
Australia	[1] 9	10	3			[1] 128	49	49		
New Zealand		113	205	157						
Total Southern Hemisphere comparable with 1909–1913	32,096	36,580				255	1,007			
Total Southern Hemisphere comparable with 1924	31,117	36,045	47,577	58,584	52,359					
World total comparable with 1909–1913	110,442					1,271,463				
World total comparable with 1924	88,449	63,874	85,772	109,910	117,973	329,568			336,670	453,430

Divisional of Statistical and Historical Research. Official sources and International Institute unless otherwise stated. Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Four-year average. [2] Two-year average.

TABLE 117.—*Flaxseed: Monthly marketings by farmers, United States, 1917–1923*

Year beginning July	Percentage of year's receipts as reported by about 3,500 mills and elevators												
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season
1917	1.8	3.6	21.5	28.1	17.6	7.6	4.7	4.0	4.8	1.8	1.6	2.9	100.0
1918	1.8	2.9	14.8	21.5	15.0	10.9	5.2	4.4	5.8	4.3	5.0	8.4	100.0
1919	3.6	8.0	20.6	22.2	11.1	7.4	5.0	6.3	3.1	3.1	2.6	7.0	100.0
1920	2.1	4.7	23.6	28.6	13.0	6.2	5.0	3.3	3.1	2.1	3.4	4.9	100.0
1921	6.4	10.9	20.7	25.7	12.0	6.9	4.3	2.8	3.0	2.4	2.1	2.8	100.0
1922	2.5	13.4	27.6	23.3	11.4	5.9	4.7	3.0	2.7	2.3	1.6	1.6	100.0
1923	1.1	10.0	30.7	27.3	12.1	6.0	2.6	2.3	2.0	1.5	2.1	2.3	100.0

Division of Crop and Livestock Estimates.

TABLE 118.—*Flaxseed: Receipts at Minneapolis, 1910–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Total
1910	854	1,530	1,292	535	338	300	232	112	118	122	133	191	5,757
1911	583	1,212	1,370	1,716	531	459	397	468	571	440	487	160	8,574
1912	700	1,657	1,520	2,245	1,450	1,146	1,057	742	518	514	432	281	12,362
1913	756	1,686	1,505	1,131	711	478	592	270	139	165	233	117	7,783
1914	901	1,890	1,247	1,016	599	443	384	142	77	146	239	115	7,199
1915	347	1,038	1,506	1,113	319	399	810	486	440	363	441	199	7,461
1916	316	2,380	1,694	1,045	544	442	441	384	263	565	325	92	8,491
1917	265	980	1,112	614	533	553	527	283	349	648	208	94	6,186
1918	536	915	857	788	558	473	829	439	436	942	642	196	7,611
1919	753	870	568	492	344	388	499	159	295	522	554	297	5,331
1920	580	1,444	861	699	298	269	364	434	578	572	338	289	6,726
Av. 1914–1920	528	1,317	1,121	824	457	421	538	332	348	537	392	183	6,998
1921	500	1,144	375	354	308	260	254	196	300	229	157	288	4,266
1922	909	1,121	580	577	494	238	316	456	393	458	382	884	6,808
1923	2,553	2,025	1,360	865	364	267	229	265	299	284	276	185	8,912
1924	2,263	3,432	2,722	1,488									

Division of Statistical and Historical Research. Compiled from annual reports of the Minneapolis Chamber of Commerce and Minneapolis Daily Market Record.

TABLE 119.—*Flaxseed, including linseed oil: Production, imports, exports, and net supply in the United States, 1911-1924*

Year beginning July	Production	Imports of seed	Imports of oil [1]	Exports of seed (domestic and foreign)	Exports of oil (domestic and foreign) [1]	Net supply
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
1911	19,370,000	6,841,806	294,902	26,242	99,085	26,381,381
1912	28,073,000	5,294,296	69,476	17,062	693,579	32,726,131
1913	17,853,000	8,653,235	76,913	305,796	95,775	26,181,577
1914	13,749,000	10,666,215	214,116	67,173	484,857	24,077,301
1915	14,030,000	14,679,233	20,059	2,631	285,648	28,441,013
1916	14,296,000	12,393,988	44,323	1,017	480,622	26,252,672
1917	9,164,000	13,366,529	20,331	22,332	476,216	22,052,312
1918	13,369,000	8,426,886	395,925	15,618	439,173	21,737,020
1919	7,256,000	23,391,984	1,820,156	48,980	456,806	31,962,304
1920	10,774,000	16,170,415	798,634	1,486	224,514	27,517,049
1921	8,029,000	13,632,073	8,997,620	2,281	148,605	30,507,807
1922	10,375,000	25,005,936	3,027,399	[2] 235	165,605	38,242,514
1923	17,069,000	19,576,750	951,448	(3)	149,174	37,448,024
1924	[4]30,173,000					

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce and Division of Crop and Livestock Estimates.

[1] Stated as seed equivalent, 2½ gallons of oil equal 1 bushel of seed.
[2] Six months beginning July 1, not separately reported in 1923.
[3] Not separately reported.
[4] Preliminary.

TABLE 120.—*Flaxseed used in the production of oil, United States, 1919–1924*

[Thousand bushels—i. e., 000 omitted]

Year beginning July 1—	July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June	Total
1918			1,041	4,785	
1919	6,809	7,684	6,336	6,407	27,326
1920	6,542	6,341	6,343	6,332	25,558
1921	5,812	7,539	6,713	3,441	23,505
1922	5,583	8,602	8,292	8,689	31,166
1923	8,223	8,970	9,575	9,434	36,202
1924	7,550	11,530			

Division of Statistical and Historical Research. Compiled from reports of the Bureau of the Census.

TABLE 121.—*Flaxseed: Imports into the United States, by countries, 1910–1924*

[Thousand bushels—i. e., 000 omitted]

Year ended June 30—	Argentina	Canada	British India	Other countries	Total
1910	3,029	1,410	194	369	5,002
1911	6,021	2,251	2,334	893	10,499
1912	1,211	3,511	1,525	595	6,842
1913	429	4,732	129	4	5,294
1914		8,647	(1)	6	8,653
1915	3,928	6,630	40	68	10,666
1916	11,468	3,095		116	14,679
1917	5,009	7,015	123	247	12,394
1918	7,432	5,501		434	13,367
1919	6,977	1,304	11	135	8,427
1920	22,242	816		334	23,392
1921	13,145	2,635		390	16,170
1922	10,409	3,013	12	198	13,632
1923	22,331	2,191		484	25,006
1924	16,169	3,365	40	3	19,577

Division of Statistical and Historical Research.

[1] Less than 500 bushels.

TABLE 122.—*Flaxseed: International trade, calendar years, average 1911–1913, annual 1921–1923*

[Thousand bushels—i. e., 000 omitted]

Country	Average 1911–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	1	25,562	.....	53,436	.....	36,909	.....	40,777
British India	[1] 323	[1] 14,409	283	4,264	260	12,404	226	15,357
Canada	89	10,645	270	3,728	45	2,073	797	2,871
China	.....	648	.....	184	.....	1,331	.....	314
Latvia	.....	.....	[2] 47	[2] 191	[2] 74	[2] 499	.....	.....
Morocco (French)	.....	338	.....	590	.....	225	.....	.....
Rumania	19	120	.....	.....	.....	.....	.....	.....
Russia	80	5,739	[2] 248	.....	.....	.....	.....	.....
Tunis	(3)	30	(3)	79	(3)	22	.....	.....
Uruguay	.....	994	.....	887	.....	[2] 500	.....	.....
PRINCIPAL IMPORTING COUNTRIES								
Australia [4]	103	(3)	712	(3)	[2] 690	(3)	[2] 754	.....
Austria	.....	.....	[2] 4	(3)	[2] 1	(4)	.....	.....
Austria-Hungary	1,913	41	.....	.....	.....	.....	.....	.....
Belgium	9,313	5,965	6,273	2,516	2,934	102	2,611	174
Czechoslovakia	.....	.....	350	(3)	402	(3)	505	.....
Denmark	1	.....	1,106	(3)	596	(3)	642	.....
Finland	110	(3)	139	.....	142	[2] 1	115	.....
France	6,304	60	4,280	12	5,288	47	6,167	33
Germany	15,312	210	5,908	[5] 45	4,061	2	2,206	1
Hungary	.....	.....	[2] 1	.....	[2] 1	.....	.....	.....
Italy	1,698	1	749	(3)	1,217	2	1,470	3
Japan	[6] 27	[6] 27	162	163	[2] 139	[2] 14	.....	.....
Netherlands	8,741	2,488	10,788	210	9,862	201	7,743	155
Norway	445	.....	438	.....	353	.....	494	.....
Sweden	911	7	1,061	1	1,043	(3)	1,204	.....
United Kingdom	15,908	.....	18,528	.....	14,092	.....	15,153	.....
United States	7,298	101	12,326	(3)	14,913	2	24,332	.....
Other countries	575	139	29	214	26	209	24	318
Total	69,171	67,533	62,702	66,460	56,139	54,543	64,443	60,003

Division of Statistical and Historical Research. Official sources except where otherwise noted.

[1] Two-year average.
[2] International Institute of Agriculture.
[3] Less than 500.
[4] Years beginning July 1.
[5] Eight months, May–December.
[6] One year only.

TABLE 123.—*Flaxseed: Farm price per bushel, 15th of month, United States, 1909–1924*

Year beginning September	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	123.0	131.3	146.4	162.0	182.0	193.0	193.5	201.7	202.5	189.5	196.6	214.8	159.0
1910	227.2	231.8	230.6	226.4	227.5	237.3	237.6	238.2	233.4	215.3	202.4	201.4	226.5
1911	204.3	207.8	196.4	184.6	189.0	187.4	187.6	186.2	193.0	201.7	186.8	168.9	194.3
1912	155.2	140.6	124.0	110.4	107.8	114.2	116.3	114.0	115.0	114.6	116.0	123.2	123.5
1913	125.2	120.6	119.3	122.0	126.0	130.2	132.6	133.8	135.8	136.4	143.4	145.0	124.5
Average 1909–1913	167.0	166.4	163.3	161.1	166.5	172.4	173.5	154.8	175.9	171.5	169.0	170.7	165.9
1914	133.4	123.0	122.4	130.4	149.2	160.8	162.8	168.6	169.6	161.0	148.6	144.0	134.5
1915	145.8	155.5	168.4	180.0	198.4	206.7	202.3	197.0	184.2	169.8	170.6	184.2	174.0
1916	194.7	217.0	241.6	249.6	252.2	253.4	259.6	283.4	299.7	288.4	274.8	287.2	243.5
1917	305.6	302.2	296.2	303.7	318.8	338.2	364.8	376.5	368.4	356.4	379.9	395.8	315.9
1918	381.0	357.4	337.0	333.9	318.9	318.8	338.0	355.0	375.4	416.7	492.4	529.0	353.6
1919	477.8	410.2	410.3	436.0	445.0	464.6	464.2	452.0	434.6	390.4	331.6	297.0	421.1
1920	285.0	259.9	208.4	170.2	160.0	153.4	146.5	134.2	135.7	145.8	154.0	163.4	199.2
Average 1914–1920	274.8	260.7	254.9	257.7	263.2	270.8	276.9	281.0	281.1	275.5	278.8	185.8	263.1
1921	163.8	154.0	145.0	148.1	162.1	194.6	217.4	224.6	233.8	230.0	217.2	200.8	164.2
1922	189.1	199.4	211.0	217.8	229.9	245.4	261.6	279.5	273.1	248.4	228.8	210.4	218.2
1923	208.4	212.1	211.4	218.8	218.8	224.9	223.7	217.7	222.6	213.1	218.1	210.2	215.0
1924	201.2	210.8	222.7	235.8	.....	.....	.....	.....	.....	.....	.....	.....	.....

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 124.—*Flaxseed: Farm price per bushel, December 1, 1909–1924, and value per acre, 1924.*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Wisconsin	135	220	185	127	123	158	125	180	240	
Minnesota	150	230	182	120	123	161	128	178	240	295
Iowa	130	220	185	124	123	156	120	150	215	275
North Dakota	157	235	184	114	121	162	128	178	252	300
South Dakota	151	229	178	113	120	158	123	167	247	299
Nebraska	122	225	185	128	110	154	119	147	230	250
Kansas	110	210	190	130	116	151	125	145	234	290
Montana	160	240	180	112	115	161	120	170	248	295
Wyoming								145	225	261
	152.6	231.7	182.1	114.7	119.9	160.2	126.0	174.0	248.6	296.6

State	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre 1924[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Wisconsin	330	430	212		150	180	210	225	29.25
Minnesota	341	445	183	258	151	218	213	233	26.56
Iowa	320	420	180	240	153	185	210	225	26.32
North Dakota	345	441	178	260	143	214	212	227	19.30
South Dakota	325	425	165	250	139	201	208	223	19.85
Nebraska	330	400	155	233	150	190	210	225	15.75
Kansas	330	380	180	241	135	186	215	215	15.05
Montana	338	440	175	255	140	197	193	221	19.23
Wyoming	325	350	135	240	118	190	190	220	19.80
	340.1	438.5	176.7	257.2	145.1	211.5	210.7	227.3	20.88

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 125.—*Flaxseed: Average closing price per bushel, Minneapolis, 1899–1924*

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average
1899					$1.45	$1.55	$1.59	$1.68	$1.75	$1.75	$1.63	$1.35	
1900	$1.49	$1.70	$1.71	$1.62	1.65	1.60	1.54	1.68	1.75	1.75	1.85	1.60	$1.66
1901	1.50	1.45	1.42	1.47	1.65	1.70	1.72	1.75	1.75	1.74	1.52	1.42	1.59
1902	1.31	1.20	1.18	1.19	1.19	1.15	1.12	1.10	1.14	1.07	.97	.97	1.13
1903	1.00	.98	.94	.97	1.06	1.15	1.14	1.12	1.08	1.07	1.19	1.24	1.08
1904	1.22	1.14	1.16	1.23	1.23	1.27	1.39	1.39	1.42	1.47	1.47	1.42	1.32
1905	1.04	.97	.98	1.04	1.16	1.14	1.13	1.15	1.14	1.11	1.10	1.11	1.09
1906	1.10	1.11	1.17	1.19	1.20	1.22	1.19	1.16	1.23	1.25	1.18	1.14	1.18
1907	1.22	1.27	1.13	1.12	1.17	1.16	1.16	1.17	1.23	1.23	1.21	1.29	1.20
1908	1.28	1.22	1.38	1.45	1.56	1.64	1.64	1.65	1.72	1.77	1.59	1.42	1.52
1909	1.41	1.57	1.75	1.93	2.18	2.18	2.25	2.38	2.22	2.04	2.34	2.47	2.06
1910	2.60	2.62	2.61	2.42	2.60	2.68	2.60	2.56	2.47	2.24	2.10	2.34	2.49
1911	2.47	2.35	2.04	2.06	2.15	2.06	2.06	2.15	2.23	2.25	1.97	1.86	2.14
1912	1.76	1.60	1.35	1.25	1.29	1.34	1.26	1.29	1.30	1.31	1.38	1.47	1.38
1913	1.45	1.38	1.35	1.44	1.49	1.53	1.58	1.54	1.56	1.59	1.68	1.64	1.52
Average 1909–1913	1.95	1.90	1.82	1.82	1.94	1.96	1.95	1.98	1.96	1.89	1.89	1.96	1.92
1914	1.51	1.33	1.45	1.54	1.83	1.86	1.91	1.98	1.95	1.76	1.67	1.67	1.70
1915	1.70	1.86	1.99	2.07	2.31	2.32	2.27	2.18	1.96	1.80	1.96	2.15	2.04
1916	2.11	2.54	2.78	2.84	2.89	2.81	2.90	3.18	3.33	3.11	3.01	3.46	2.92
1917	3.38	3.16	3.29	3.40	3.60	3.74	4.08	4.09	3.95	3.86	4.40	4.39	3.78
1918	4.09	3.59	3.77	3.54	3.41	3.45	3.75	3.88	4.12	4.86	5.94	5.87	4.19
1919	4.92	4.32	4.83	4.99	5.12	5.09	5.02	4.68	4.58	3.92	3.48	3.29	4.52
1920	3.23	2.83	2.27	2.06	1.96	1.82	1.78	1.58	1.84	1.86	1.89	2.01	2.09
Average 1914–1920	2.99	2.80	2.91	2.92	3.02	3.01	3.10	3.07	3.09	3.02	3.19	3.26	3.03
1921	2.02	1.81	1.81	1.89	2.13	2.46	2.57	2.70	2.80	2.50	2.59	2.29	2.10
1922	2.26	2.36	2.46	2.62	2.89	3.04	3.07	3.40	2.94	2.80	2.70	2.34	2.58
1923	2.38	2.43	2.41	2.46	2.50	2.58	2.49	2.47	2.46	2.44	2.47	2.44	2.46
1924	2.26	2.46	2.53	2.84									

Division of Statistical and Historical Research. Compiled from Annual Reports of the Minneapolis Chamber of Commerce and the Minneapolis Daily Market Record. From Jan. 1, 1924, averages of daily prices weighted by car-lot sales.

TABLE 126.—*Flaxseed, 4 per cent extraneous matter: Average price per bushel of 56 pounds at Buenos Aires, 1913–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1913	$1.14	$1.14	$1.12	$1.17	$1.20	$1.20	$1.28	$1.34	$1.28	$1.23	$1.20	$1.26	$1.21
1920	2.30	2.64	3.05	3.09	3.01	2.92	2.52	2.48	2.46	1.93	1.77	1.54	2.48
1921	1.40	1.33	1.33	1.15	1.30	1.40	1.56	1.65	1.55	1.33	1.36	1.44	1.40
1922	1.62	1.91	1.86	1.80	1.96	1.84	1.91	1.58	1.69	1.84	1.77	1.82	1.81
1923	1.72	1.88	1.87	2.02	1.72	1.94	1.86	1.62	1.70	1.94	1.98	1.78	1.88
1924	1.62	1.66	1.58	1.58	1.60	1.68	1.88	1.96	1.99	2.12	2.21	2.26	1.84

Division of Statistical and Historical Research.
International Yearbook of Agricultural Statistics and Review of the River Plate.
Conversions to United States currency during 1913 at par of exchange; 1920–1924 at monthly average rates of exchange at New York as quoted in Federal Reserve Bulletins.

TABLE 127.—*Flaxseed, bold* [1]*: Average price per bushel of 56 pounds at Bombay, 1913–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av
1913	$1.39	$1.42	$1.33	$1.26	$1.31	$1.23	$1.30	$1.42	$1.36	$1.31	$1.12	$1.30	$1.31
1920	3.96	4.28	4.21	4.04	3.60	3.46	3.28	3.06	2.94	3.06	2.71	2.15	3.40
1921	1.96	1.76	1.78										
1922	1.67	1.80	2.00	1.88	2.12	2.12	2.21	2.14	1.92	1.90	2.03	2.01	1.98
1923	2.10	2.07	2.09	2.12	2.14	2.02	2.09	1.98	2.01	2.16	2.10	2.19	2.09
1924	2.14	2.10	1.94	1.90	1.88	1.88	2.05	2.26	2.24	2.32	2.43	2.40	2.17

Division of statistical and Historical Research.
International Yearbook of Agricultural Statistics, 1923, and Indian Trade Journal. Average for first week of each month.
Conversions to United States currency during 1913 at old par of exchange—i. e., 1 rupee=32.44 cents; 1920–1924 at monthly average rates of exchange at New York as quoted in Federal Reserve Bulletins.

[1] So designated in original sources as distinguished from small seed.

LINSEED OIL

TABLE 128.—*Linseed oil: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913 [1]		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	886	[2] 2	487	1,202	374	2,036	555	1,144
Belgium	10,233	28,790	11,205	25,623	1,439	19,860	1,197	18,445
Denmark	[3]	[3]	865	2,281	819	391		1,081
Netherlands	467	73,034	2,124	145,569	62	157,920	498	116,317
United Kingdom	58,018	58,013	110	123,764	9,052	133,020	9,184	84,379
PRINCIPAL IMPORTING COUNTRIES								
Australia [4]	12,252		5,737	55				
Austria			[5] 6,863		5,131	112		
Austria-Hungary	16,367	6,542						
Brazil	8,726		4,616		9,399			
British India	3,430	1,967	1,953	399	2,792	290	2,091	748
Canada	2,279		254	58	1,058	94	1,968	59
Chile	2,854	15	777		1,260			
Czechoslovakia			7,070	[1] 320	1,629	9	183	
Dutch East Indies	[6] 3,199		3,307		2,849		[6] 2,696	
Egypt	3,647		2,608	13	3,120	6	3,579	7
Finland	812		1,642		[8] 2,695		4,438	
France	3,382	10,931	29,511	3,035	9,062	3,371	11,931	6,225
Germany	5,231	4,377	99,060	[7] 2,022	64,458	3,394	47,601	673
Greece	246		1,267		915		746	
Italy	1,042	165	7,564	474	6,617	196	2,357	239
Hungary			[1] 2,484					
New Zealand	4,188		3,318		2,699		3,406	1
Norway	1,609	[6] 53	8,104	19	5,672	2	4,344	
Philippine Islands	809		1,037		852		874	
Sweden	923	5	1,302	7	119	467		
Switzerland	7,825	16	8,189	306	8,584	29	9,574	2
Union of South Africa	3,449		3,312		2,936	1	4,459	
United States	2,695	4,195	66,004	3,512	144,137	2,703	43,097	3,033
Other countries	7,562	1,480	4,692	479	4,624	283	2,066	80
Total	162,041	188,675	279,439	289,288	299,344	324,113	157,144	233,439

Division of Statistical and Historical Research. Official sources except where otherwise noted. Conversions made on the basis of 7.5 pounds to the gallon.

[1] International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
[2] Four-year average.
[3] Not separately stated.
[4] Year beginning July 1.
[5] Two-year average.
[6] Java and Madura only.
[7] Eight months, May–December.
[8] Includes reexports.

TABLE 129.—*Linseed oil: Average price per gallon at New York, 1910–1924*

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average
1910	$0.90	$0.90	$0.95	$0.95	$0.95	$0.96	$0.96	$0.91	$0.91	$0.89	$0.87	$0.80	$0.91
1911	.87	.88	.84	.71	.74	.71	.70	.73	.73	.76	.77	.66	.76
1912	.66	.62	.56	.43	.42	.46	.45	.44	.46	.45	.47	.49	.49
1913	.50	.47	.46	.48	.48	.48	.50	.51	.50	.50	.52	.59	.50
1914	.57	.49	.44	.45	.48	.56	.55	.58	.62	.63	.54	.50	.53
1915	.52	.55	.60	.61	.66	.72	.77	.76	.75	.67	.63	.71	.66
1916	.70	.82	.90	.92	.94	.95	.94	1.07	1.21	1.21	1.12	1.18	1.00
1917	1.25	1.18	1.15	1.21	1.29	1.29	1.41	1.57	1.57	1.57	1.64	1.88	1.42
1918	1.90	1.83	1.55	1.58	1.50	1.45	1.48	1.54	1.61	1.81	2.10	2.22	1.71
1919	2.04	1.79	1.75	1.82	1.77	1.77	1.80	1.83	1.69	1.65	1.52	1.41	1.74
1920	1.22	1.20	.98	.82	.78	.66	.66	.61	.70	.75	.75	.74	.82
Av. 1914–1920	1.17	1.12	1.05	1.06	1.06	1.06	1.09	1.14	1.16	1.18	1.19	1.23	1.13
1921	.74	.68	.67	.67	.72	.82	.82	.84	.90	.84	.89	.87	.79
1922	.88	.89	.88	.89	.89	.95	1.02	1.16	1.15	1.12	1.04	.97	.99
1923	.90	.94	.92	.92	.92	.91	.93	.90	.94	.94	.98	1.02	.94
1924	1.02	1.02	1.08	1.10									

Division of Statistical and Historical Research. Figures for 1910–1915 from Monthly Labor Review; 1916–1918 from War Industries Board Price Bulletin; 1919–1924 from Oil, Paint, and Drug Reporter, average of weekly range.

TABLE 130.—*Linseed oil meal: Average price per ton at New York, 1910–1924*

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average
1910	$37.46	$36.90	$35.50	$35.50	$35.50	$35.50	$35.50	$34.12	$33.75	$33.50	$34.33	$35.71	$35.27
1911	40.00	40.75	40.12	39.00	39.65	40.17	39.75	38.80	38.10	37.30	36.57	35.50	38.81
1912	35.38	35.30	34.38	32.75	32.34	31.90	29.20	27.86	28.12	28.25	29.40	30.12	31.25
1913	32.50	32.00	31.40	31.25	31.25	31.35	31.25	31.50	31.50	32.27	32.80	34.60	31.97
1914	33.62	32.83	32.75	35.10	38.75	41.00	37.13	35.50	32.50	32.50	35.31	37.71	35.39
1915	39.70	38.75	38.50	40.50	40.60	39.50	36.63	32.86	31.50	32.12	33.00	37.00	36.72
1916	39.50	42.28	45.45	47.50	48.50	48.50	48.33	47.00	49.44	49.25	51.08	53.50	47.53
1917	53.00	54.00	54.42	57.00	58.15	58.50	58.50	57.00	52.50	50.00	52.80	54.00	54.99
1918	55.00	56.00	55.75	56.50	62.15	63.35	65.50	65.50	70.50	75.50	82.30	90.25	66.52
1919	81.58	73.80	78.75	80.75	81.50	71.75	70.40	62.50	60.00	60.00	60.00	60.00	70.09
1920	60.00	60.00	56.80	52.00	48.38	43.12	43.75	46.00	36.25	37.00	41.60	46.88	47.65
Av. 1914–1920	51.77	51.09	51.77	52.76	54.00	52.25	51.46	49.48	47.53	48.05	50.87	54.19	51.27
1921	46.30	40.00	40.75	48.00	51.00	51.62	55.00	49.50	47.62	49.20	46.88	45.50	47.61
1922	43.50	43.60	(1)	(1)	53.50	54.12	46.30	43.25	42.50	38.00	38.00	38.00	
1923	45.00	45.62	43.88	45.00	43.75	42.00	42.00	40.50	40.00	39.90	43.75	45.00	43.03
1924	47.80	49.38	50.62	51.30									

Division of Statistical and Historical Research. From Annual Statistical Review of New York Produce Exchange and the Oil, Paint, and Drug Reporter.

[1] Nominal.

TABLE 131.—*Linseed meal, bagged: Average price per ton at 11 markets, 1924*

Market	Jan.	Feb.	Mar.	Apr	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Boston	$47.70	$45.10	$45.25	$44.40	$43.90	$44.90	$47.60	$50.80	$51.75	$51.50	$51.60	$50.70
Buffalo	43.00	40.25	41.70	39.50	40.00	40.75	40.75	47.60	46.50	47.10	45.25	45.75
Chicago	47.25	42.40	41.80	39.60	38.60	42.50	44.00	46.30	45.75	46.60	46.20	47.20
Cincinnati	48.10	46.25	44.80	41.60	41.70	44.40	45.60	48.80	47.90	48.75	48.30	48.50
Kansas City	49.10	45.50	44.70	43.90	42.40	45.30	48.80	49.40	48.40	49.90	49.40	50.90
Minneapolis	45.10	41.50	40.50	39.25	37.70	41.40	41.60	44.00	43.60	45.40	44.30	46.40
Omaha	50.50	47.60	45.70	44.25	43.20	45.20	47.20	49.10	48.60	50.10	48.70	50.80
Philadelphia	47.10	43.90	44.25	43.90	44.10	45.75	47.90	50.80	51.10	51.10	50.50	50.10
Pittsburgh	47.20	43.75	44.80	42.60	43.60	44.20	46.80	49.00	50.30	50.10	49.20	49.90
St. Louis	48.50	43.75	44.20	42.40	39.80	44.25	45.00	48.00	47.10	48.60	47.70	49.00
San Francisco	49.00	44.00	44.20	43.00	43.80	43.25	43.00	45.75	47.00	46.75	48.00	46.70

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division.

RICE

TABLE 132.—*Rice, rough: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]	Domestic exports, fiscal year beginning July 1 [2]	Net imports, fiscal year beginning July 1 [2]
	Acres	*Bush. of 45 lbs.*	*Bushels*	*Cents*	*Dollars*	*Dolls.*	*Bushels*	*Bushels*
1909	*610,000*	33.8	20,607,000	79.5	16,392,000	26.87	4,487,287	7,820,643
1910	723,000	33.9	24,510,000	67.8	16,624,000	22.99	5,134,355	7,292,960
1911	*696,000*	32.9	22,934,000	79.7	18,274,000	26.26	5,824,598	6,467,505
1912	723,000	34.7	25,054,000	93.5	23,423,000	32.40	5,672,996	7,539,206
1913	827,000	31.1	25,744,000	85.8	22,090,000	26.71	5,871,289	9,806,684
Av. 1909–1913	716,000	33.2	23,770,000	81.5	19,361,000	27.05	5,398,105	7,785,400
1914	694,000	34.1	23,649,000	92.4	21,849,000	31.48	7,334,389	7,848,181
1915	803,000	36.1	28,947,000	90.6	26,212,000	32.64	9,506,099	6,931,061
1916	869,000	47.0	40,861,000	88.9	36,311,000	41.78	12,315,486	6,180,934
1917	981,000	35.4	34,739,000	189.6	65,879,000	67.16	11,885,265	13,095,243
1918	1,119,000	34.5	38,606,000	191.8	74,042,000	66.19	12,892,196	5,309,014
1919	1,063,000	39.5	41,985,000	266.6	111,913,000	105.28	22,899,774	3,001,362
1920	1,336,000	39.0	52,066,000	119.1	62,036,000	46.43	22,449,930	1,267,391
Av. 1914–1920	981,000	38.0	37,265,000	152.7	56,892,000	58.01	14,183,306	6,233,312
1921	921,000	40.8	37,612,000	95.2	35,802,000	38.87	33,834,616	721,411
1922	1,055,000	39.2	41,405,000	93.1	38,562,000	36.55	21,583,817	1,168,077
1923	895,000	37.7	33,717,000	110.2	37,150,000	41.51	17,245,060	809,252
1924 [3]	892,000	38.1	33,956,000	138.6	47,053,000	52.75	----------	----------

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based upon farm price Dec. 1.

[2] Bureau of Foreign and Domestic Commerce. Domestic exports here include also shipments from the United States to Porto Rico and Hawaii; net imports are total imports minus reexports. Bushels are computed from pounds as reported in original by assuming 1 bushel of rough rice to yield 27½ pounds of cleaned rice.

[3] Preliminary.

TABLE 133.—*Rice, rough: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
South Carolina	8	8	7	208	200	126	239	240	176
Georgia	3	3	3	72	68	45	84	90	63
Florida	3	2	2	75	46	48	98	62	67
Mississippi	1	1	1	19	18	10	21	21	14
Louisiana	555	495	495	19,980	16,582	17,078	17,782	17,743	23,226
Texas	191	145	140	5,959	5,800	5,600	5,363	6,670	7,000
Arkansas	154	135	156	7,392	5,332	6,552	6,505	5,972	9,042
California	140	106	88	7,700	5,671	4,407	8,470	6,352	7,465
United States	1,055	895	892	41,405	33,717	33,956	38,562	37,150	47,053

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 134.—*Rice, rough: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
South Carolina	25.6	21.0	11.7	25.0	30.0	22.7	26.0	24.3	14.0	25.0	23.0	24.0	25.0	23.0	25.0	26.0	25.0	18.0
Georgia	23.9	22.0	26.8	30.0	32.0	26.9	28.0	29.3	20.0	30.0	26.0	24.0	26.0	26.2	26.0	24.1	22.7	15.0
Florida	25.0	21.0	25.0	25.0	25.0	24.2	25.0	25.0	25.0	26.0	24.0	26.0	24.0	25.0	22.0	25.0	23.0	24.0
Mississippi	30.0	30.0	36.0	35.0	28.0	31.8	30.0	25.0	28.0	30.0	23.0	29.1	31.0	28.0	20.0	19.0	18.0	10.0
Louisiana	33.8	34.4	31.5	33.5	29.0	32.4	32.1	34.2	46.0	31.0	28.8	35.2	36.0	34.8	36.0	36.0	33.5	34.5
Texas	34.0	33.0	34.3	35.5	32.0	33.8	33.8	30.5	45.0	30.0	32.0	32.0	34.0	33.9	36.1	31.2	40.0	40.0
Arkansas	40.0	40.0	39.0	37.5	36.0	38.5	39.8	48.4	50.5	41.0	37.9	46.0	49.0	44.7	53.5	48.0	39.5	42.0
California	----	33.0	40.0	50.0	48.0	-----	53.3	66.7	59.0	68.0	65.5	60.0	51.0	60.5	54.0	55.0	53.5	51.1
United States	33.8	33.9	32.9	34.7	31.1	33.3	34.1	36.1	47.0	35.4	34.5	39.5	39.0	37.9	40.8	39.2	37.7	38.1

Division of Crop and Livestock Estimates.

TABLE 135.—*Rice, rough: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant diseases	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost and freeze	Hail	Hot winds	Storms	Total climatic[1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	4.6	0.1	.....	.....	.....	1.1	6.6	12.4	2.7	0.9	0.2	0.1	0.7	17.0
1910	7.2	1.7	.....	0.1	.....	.1	1.0	10.1	3.4	.4	1.2	(2)	2.2	17.3
1911	6.5	3.2	.....	.2	.....	.7	.....	10.6	.7	.6	.5	.1	2.0	14.5
1912	3.1	1.1	6.2	.....	.....	.6	.5	11.6	2.5	2.0	.5	.6	2.4	19.6
1913	3.9	14.3	5.8	.....	.....	(2)	.....	24.0	.1	.7	.....	.....	3.7	28.5
1914	5.3	2.3	.1	.....	(2)	.6	.6	10.1	.1	1.3	(2)	.3	5.7	17.5
1915	7.0	.6	.1	.3	.....	.4	8.1	16.7	.4	.2	.....	(2)	2.1	19.4
1916	4.8	.2	.....	.3	.....	.3	.2	6.2	1.1	.3	.....	.2	1.7	9.5
1917	17.3	.7	.1	1.5	.2	.1	.1	20.0	.5	.2	.5	.1	4.1	25.4
1918	7.2	7.2	2.5	.2	.....	.4	1.5	18.8	.3	1.1	(2)	.....	1.5	21.7
1919	1.0	12.8	1.1	.3	.....	.1	2.6	18.4	.3	.5	.7	.1	(2)	20.6
1920	.5	8.0	.4	.....	.....	1.2	.2	10.3	3.1	1.6	.....	.....	1.7	16.7
1921	4.5	.2	(2)	.3	.....	.2	.1	5.3	1.7	2.7	.....	.1	2.0	11.8
1922	3.8	4.2	.....	.1	.....	.1	.....	8.2	3.4	1.0	.1	.....	1.4	14.1
1923	2.8	13.9	.5	1.5	.....	.1	.3	19.6	.7	1.0	.1	.....	.6	22.9

Division of Crop and Livestock Estimates.

[1] Includes all other climatic.

[2] Less than 0.05 per cent.

TABLE 136.—*Rice: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre in terms of cleaned rice				
	Average 1909–1913	1921	1922	1923	1924 preliminary	Average 1909–1913	1921	1922	1923	1924 preliminary
NORTHERN HEMISPHERE										
NORTH AMERICA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
United States	716	921	1,055	895	892	922	1,134	1,090	1,046	1,057
Mexico	[1] 162	.....	54	.....	.....	[1] 605	.....	824	.....	.....
Hawaii	[2] 9	.....	.....	.....	.....	.....	.....	.....	.....	.....
CENTRAL AND SOUTH AMERICA AND WEST INDIES										
Guatemala	.....	8	8	8	.....	.....	.....	.....	.....	.....
Salvador	.....	.....	.....	14	.....	.....	.....	.....	.....	.....
Costa Rica	[3] 7	.....	15	18	.....	.....	.....	.....	.....	.....
British Guiana	36	56	49	35	.....	1,496	1,198	917	1,216	.....
Porto Rico	[3] 16	.....	.....	.....	.....	269	.....	.....	.....	.....
Trinidad and Tobago	[4] 12	.....	.....	8	.....	.....	.....	.....	.....	.....
EUROPE										
France	[5] 1	(6)	(6)	.....	.....	.....	.....	.....	.....	.....
Spain	94	113	114	114	85	3,188	3,150	3,275	2,896	3,534
Portugal	.....	14	15	12	.....	.....	.....	1,851	.....	.....
Italy	[5] 358	286	294	303	334	1,806	2,243	2,150	2,340	2,241
Yugoslavia	[5] 5	5	5	5	.....	.....	.....	.....	.....	.....
Bulgaria	[5] 7	7	7	9	3	.....	.....	.....	.....	.....
Russia (northern Caucasia)	[2] 2	.....	.....	.....	.....	.....	.....	.....	.....	.....
AFRICA										
French West Africa:										
French Senegal	.....	222	39	.....	.....	.....	275	276	.....	.....
Upper Volta	.....	.....	.....	49	.....	.....	.....	.....	139	.....
Sudan	.....	.....	.....	79	.....	.....	.....	.....	775	.....
Sierra Leone	.....	400	400	350	.....	.....	605	588	632	.....
Egypt	257	324	50	[7] 170	[7] 260	2,132	1,456	1,106	1,767	1,690

[1] Three years only.

[2] Two years only.

[3] One year only.

[4] Four years only.

[5] Estimated for present boundaries.

[6] Less than 500 acres.

[7] Total area estimated from area reported for summer or main crop which was 154,500 acres in 1923 and 231,100 in 1924. This crop in the years 1918 to 1921 averaged 90 per cent of the total area under rice in Egypt.

TABLE 136.—*Rice: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Acreage					Yield per acre in terms of cleaned rice				
	Average 1909–1913	1921	1922	1923	1924 preliminary	Average, 1909–1913	1921	1922	1923	1924 preliminary
NORTHERN HEMISPHERE—Continued										
ASIA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Turkey	[3] 151									
India [8]	67,004	81,662	82,401	78,227	[9] 77,763	957	910	917	810	
Andaman and Nicobar		3	4	3						
British North Borneo		54	55	62			437	754	720	
French establishments in India	40	43	46	46		657	610	704	625	
Russia (Asiatic)	572					584				
Japanese Empire:										
Japan	7,300	7,680	7,698	7,713	7,710	2,163	2,257	2,477	2,259	2,369
Chosen (Korea)	2,905	3,753	3,817	3,800	3,152	1,133	1,189	1,226	1,243	1,278
Formosa (Taiwan)	1,193	1,860	1,263	1,253	[10] 1,300	1,184	840	1,355	1,220	1,154
Kwangtung	1	2	1							
French Indo-China	[3] 8,550	11,984	12,108	11,120	[11] 11,500	858	662	652	649	670
Siam	4,666	6,414	6,245	5,919		1,168	905	953	1,018	
Federated Malay States	[1] 118	254	197	178		670	422	537		
Unfederated Malay States	[3] 153	455	364	374			663	795		
Straits Settlements	93	77	63	77			797	937		
Philippine Islands	2,753	4,135	4,105	4,141		423	620	653	653	
Ceylon	695	799	850	800	800	686	618	615	370	432

Country	Average 1909–1913	1921–22	1922–23	1923–24	1924–25	Average 1909–1913	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE										
Peru	[2] 131	71	70			639	1,052	943		
Brazil			599	849				1,952		
Paraguay		2	2	2						
Argentina	[4] 11	27	16	9				1,293		
Belgian Congo		17	18				204	196		
Madagascar	[4] 979	1,249				916	813			
Java and Madura:										
Irrigated	5,953	6,472	7,319			1,206	1,073	1,158		
Nonirrigated		751	859				557	597		
Total Java and Madura	5,953	7,223	8,178	8,164	8,577					
Australia	(6)	(6)	(6)							
Fiji Islands	11	11	13							
Total comparable with 1909–1913	104,961									
Total comparable with 1924 [12]	28,028	34,950	35,434	34,341	34,613					

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture. Yield per acre not calculated when total acreage is below 15,000 acres.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere and during the crop seasons 1909–10 through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Three years only.
[2] Two years only.
[3] One year only.
[4] Four years only.
[6] Less than 500 acres.
[8] In addition it was estimated that rice grown in other tracts in British India for the five-year average ending 1921–22 was 925,000 acres, with a yield of 7,403,200,000 pounds. No recent estimates are made for this area, and it is not included in these figures for India.
[9] Estimated area reported in second forecast at 77,763,000 acres, compared with 75,455,000 last year at the same time. Last year the area reported in the second forecast was approximately 96 per cent of the final estimate.
[10] Estimated from area under rice for first six months, which was reported as 577,800 acres, compared with 552,500 last year. In 1923 this was approximately 44 per cent of the total area under rice.
[11] Estimated from reports received from Annam, Cochin-China, Laos, and Tonking, which report 7,734,500 acres, compared with 7,462,700 acres in 1923. This includes the area for the first six months only in Annam and Tonking and the total area in Cochin-China and Laos. Last year this area amounted to about 67 per cent of the total reported for Indo-China that year.
[12] India excluded, as only second estimate of acreage for 1924 is available, and this is not comparable with the final revised figures given for the other years.

TABLE 137.—*Rice, in terms of cleaned rice: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousands of pounds—i. e., 000 omitted]

Country	Average, 1909–1913	1921	1922	1923	1924 preliminary
NORTHERN HEMISPHERE					
NORTH AMERICA					
United States	660,272	1,044,778	1,150,139	936,583	943,222
Mexico	[1] 98,016		44,489		
Hawaii	[2] 25,820				
CENTRAL AND SOUTH AMERICA AND WEST INDIES					
Guatemala	[3] 2,208	2,651	3,882	4,080	
Salvador				13,611	
British Guiana	53,865	67,072	44,957	42,560	66,000
Dutch Guiana	2,254	12,041	13,202	10,303	
Porto Rico	[2] 4,298				
Trinidad and Tobago				3,470	
EUROPE					
France	[4] 2,017	41	75		
Spain	299,703	355,967	373,339	330,097	300,407
Portugal		14,650	27,771	21,204	
Italy	[4] 646,470	641,375	631,985	708,874	748,488
Yugoslavia	[4] 2,586	3,414	2,941	3,377	
Bulgaria	[4] 8,612	9,972	10,840	11,317	4,053
Russia (northern Caucasia)	[4] 1,218				
AFRICA					
French West Africa:					
French Senegal		61,000	109,000		
Upper Volta				6,800	
Sudan				61,200	
Sierre Leone		241,973	235,059	221,235	
Egypt	547,972	471,903	55,281	[5] 300,400	[5] 429,000
Kenya Colony		464			
ASIA					
India	64,144,192	74,278,400	75,523,840	63,387,520	
Andaman and Nicobar		2,431	2,780	2,478	
French establishments in India	26,268	26,250	32,378	28,745	
British North Borneo		23,587	41,496	44,621	
Russia (Asiatic)	334,061				
China				50,056,000	
Japanese Empire:					
Japan	15,787,020	17,335,796	19,067,307	17,424,997	18,264,834
Chosen (Korea)	3,292,776	4,462,978	4,679,313	4,724,513	4,027,101
Formosa (Taiwan)	1,412,504	1,563,330	1,710,832	1,528,459	[6] 1,690,000
Kwantung	1,074	3,131	3,094		
French Indo-China	[7] 7,332,350	7,931,000	7,893,012	7,212,679	[7] 7,700,000
Siam	[8] 5,447,671	5,805,552	5,953,997	[9] 6,026,000	
Federated Malay States	79,015	107,199	105,712		
Unfederated Malay States		301,444	289,400		
Straits Settlements		61,394	59,006		
Philippine Islands	1,165,293	2,564,881	2,679,589	2,703,135	2,683,878
Ceylon	476,536	493,792	522,706	296,296	345,679

[1] Three years only.
[2] One year only.
[3] Two years only.
[4] Estimated for present boundaries.
[5] Total production estimated from production reported for summer or main crop, which amounted to 386,068,000 pounds in 1924, compared with 270,383,000 in 1923.
[6] Total production estimated from production of first crop, which amounted to 896,058,000 pounds in 1924, compared with 815,099,000 in 1923. In 1923 this crop amounted to approximately 53 per cent of the total crop of Formosa.
[7] Total production estimated from that reported for Annam, Cochin-China, Laos, and the first crops in Tonking, aggregating 5,525,136,000 pounds, compared with 5,190,408,000 in 1923. In 1923 this aggregate amounted to 72 per cent of the total crop produced in Indo-China.
[8] Production estimated from official average yields for different grades of land as classified for revenue purposes according to fertility. These production figures are probably a little too high, as the area cultivated is always greater than that actually harvested.
[9] Estimated by multiplying 1923 acreage by average yield for last five years.

TABLE 137.—*Rice, in terms of cleaned rice: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Average 1909–1913	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE					
Peru	[1] 83,700	74,714	66,000	61,000	
Brazil	[2] 89,798	993,910	1,169,050		
Argentina	[3] 8,302		20,691		
Belgian Congo		3,463	3,525		
Nyasaland	1,191	548	319		
Madagascar	[1] 896,300	1,014,942			
Java and Madura:					
Irrigated	7,180,998	6,942,768	8,474,364		
Nonirrigated		418,133	513,106		
Total Java and Madura	7,180,998	7,360,901	8,987,470	[10] 9,500,000	[10] 10,400,000
Australia	[3] 19	2	8		
Fiji Islands	[1] 23,377	4,728	8,520		
Totals comparable with 1909–1913	110,137,756				
Totals comparable with 1924	38,864,371	44,303,745	47,806,770	45,719,310	47,602,662

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture.

Five-year averages are of the crops harvested during the calendar years 1909–1913 in the Northern Hemisphere, and during the crop seasons 1909–10, through 1913–14 in the Southern Hemisphere. For each individual year is shown the harvest in the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Three years only.
[2] One year only.
[3] Two years only.
[10] Estimated from incomplete data received.

TABLE 138.—*Rice, in terms of cleaned rice: World production, 1900–1923*

[Million pounds—i. e., 000,000 omitted]

Year	Production for countries reporting all years 1900–1923 [1]	Production as reported	Estimated world production excluding China	Production in chief producing countries [2]					
				India	Japan	Java and Madura	Indo China	Siam [3]	Chosen
1900	68,250	68,457	79,000	46,313	13,027	6,570			
1901	65,337	65,364	77,000	43,041	14,738	5,681			
1902	71,319	74,175	85,000	52,582	11,602	5,373		2,829	
1903	72,178	75,548	87,000	49,199	14,600	6,229		3,306	
1904	75,102	79,117	90,000	50,228	16,157	6,431		3,348	
1905	67,520	72,529	84,000	48,512	10,421	6,268		4,378	
1906	71,298	75,988	87,000	47,907	14,546	6,630		3,918	
1907	67,050	72,523	84,000	42,598	15,410	6,533		4,506	
1908	69,553	74,896	87,000	43,877	16,315	6,903		4,373	
1909	89,794	90,328	108,000	63,869	16,474	7,066		4,836	2,343
1910	88,487	99,935	108,000	64,552	14,650	7,084		4,457	3,269
1911	90,164	103,527	111,000	63,943	16,246	7,617		5,565	3,634
1912	88,972	109,163	111,000	63,802	15,778	7,187	6,614	6,101	3,413
1913	90,949	111,687	115,000	64,555	15,789	7,951	8,051	6,279	3,804
1914	89,373	114,377	116,000	61,109	17,909	7,826	9,521	6,345	4,439
1915	101,440	124,877	126,000	73,315	17,569	7,964	7,921	6,585	4,036
1916	107,298	129,166	131,000	78,521	18,360	7,912	6,733	6,770	4,377
1917	109,236	[4] 131,559	134,000	80,638	17,143	8,893	6,313	6,823	4,300
1918	83,142	106,460	109,000	54,526	17,184	8,978	6,302	6,414	4,805
1919	103,280	126,278	128,000	71,743	19,106	9,798	6,532	6,859	3,992
1920	92,699	[4] 117,799	118,000	61,963	19,849	8,347	6,284	6,658	4,675
1921	101,548	127,351	128,000	74,278	17,336	7,361	7,931	5,806	4,463
1922	106,308	131,523	133,000	75,524	19,067	8,987	7,893	5,954	4,679
1923	92,917	[4] 109,548	120,000	63,388	17,425	[5] 9,527	7,213	[5] 6,026	4,725

Division of Statistical and Historical Research. The figures for each year include the crop harvested in the Northern Hemisphere within the calendar year and the following harvest in the Southern Hemisphere.

[1] India, Japan, Java and Madura, Formosa, Dutch Guiana, Spain, and Italy.
[2] China would rank among the chief producing countries, but owing to lack of official statistics has been omitted.
[3] Estimated from official average yields for different grades of land as classified, for revenue purposes according to fertility.
[4] In addition there were estimates for China as follows: 70,219 million pounds in 1917; 52,788 million in 1920, and 50,056 million in 1923.
[5] Estimated.

TABLE 139.—*Rice, rough: Receipts at New Orleans, 1891–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Sacks	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*
1891	65, 235	194, 508	192, 926	161, 579	121, 864	84, 863	59, 421	15, 001	9, 815	18, 368	15, 823	8, 231	947, 634
1892	37, 781	340, 274	315, 056	242, 352	328, 861	262, 321	87, 830	66, 185	32, 690	24, 830	25, 723	13, 526	1, 777, 429
1893	16, 079	144, 434	191, 946	160, 388	117, 504	86, 980	35, 698	35, 579	16, 785	12, 051	6, 034	4, 210	827, 698
1894	34, 791	95, 310	141, 103	161, 246	119, 857	92, 877	16, 179	9, 099	10, 274	14, 962	6, 763	2, 284	704, 745
1895	53, 672	173, 613	275, 182	194, 475	199, 618	113, 352	51, 300	22, 590	30, 730	19, 978	8, 174	21, 045	1, 163, 729
1896	77, 805	75, 535	148, 141	43, 384	13, 114	5, 839	9, 955	1, 597	372	68	46	1, 544	377, 400
1897	63, 832	98, 823	31, 213	53, 359	93, 461	52, 528	36, 203	18, 550	13, 828	5, 163	2, 892	1, 072	470, 924
1898	69, 421	134, 125	125, 864	129, 813	72, 772	82, 853	22, 508	33, 222	8, 898	3, 219	773	1, 359	684, 827
1899	177, 359	205, 043	213, 768	117, 110	52, 689	32, 683	33, 314	18, 781	12, 286	4, 340	1, 249	888	869, 510
1900	164, 545	184, 566	192, 007	91, 934	88, 994	40, 200	30, 383	20, 693	16, 684	1, 226	104	1, 400	832, 736
1901	106, 476	189, 104	199, 576	157, 523	126, 174	143, 123	70, 661	24, 706	18, 086	9, 338	6, 486	8, 625	1, 061, 878
1902	247, 176	202, 656	161, 226	85, 766	66, 108	58, 126	28, 417	11, 547	4, 446	11, 150	1, 810	1, 232	879, 660
1903	90, 216	359, 071	281, 521	189, 304	206, 676	71, 120	56, 620	39, 031	29, 849	14, 224	7, 801	8, 413	1, 353, 846
1904	182, 693	294, 407	224, 812	183, 363	107, 864	80, 173	91, 153	69, 969	56, 348	27, 559	32, 484	13, 543	1, 364, 368
1905	137, 473	172, 332	132, 883	192, 008	83, 220	47, 163	52, 201	24, 114	9, 733	4, 947	10, 627	12, 571	879, 272
1906	138, 199	169, 241	207, 843	185, 306	119, 034	109, 789	111, 885	59, 286	83, 285	54, 838	4, 300	31, 091	1, 274, 097
1907	223, 009	203, 951	179, 476	131, 738	121, 718	149, 039	129, 579	34, 944	1, 962	857	2, 189	12, 442	1, 190, 904
1908	242, 015	214, 484	207, 152	131, 066	131, 481	92, 948	116, 533	96, 895	11, 831	10, 406	2, 931	5, 869	1, 263, 611
1909	283, 974	322, 339	217, 189	117, 975	77, 507	151, 750	85, 257	62, 776	34, 947	81, 723	65, 093	8, 817	1, 509, 347
1910	178, 691	320, 845	169, 886	110, 298	116, 610	109, 123	57, 123	51, 196	57, 742	64, 059	23, 499	30, 689	1, 289, 761
1911	114, 011	233, 663	233, 217	191, 919	81, 499	135, 770	107, 650	28, 718	5, 885	3, 868	510	19, 968	1, 156, 678
1912	112, 152	185, 820	189, 805	235, 008	190, 303	79, 293	16, 056	11, 309	2, 587	6, 703	24, 947	20, 507	1, 074, 491
1913	207, 267	156, 916	116, 727	196, 066	146, 384	149, 057	105, 964	45, 068	49, 118	26, 253	10, 664	7, 546	1, 217, 030
1914	195, 206	224, 773	152, 665	214, 241	194, 462	62, 061	86, 702	38, 750	4, 684	3, 575	10, 122	8, 496	1, 195, 737
1915	167, 961	297, 334	199, 521	252, 763	87, 759	125, 526	73, 025	84, 838	47, 153	11, 422	1, 446	973	1, 349, 721
1916	221, 968	288, 260	253, 145	233, 276	113, 264	30, 901	93, 454	146, 502	64, 833	11, 966	10, 602	9, 987	1, 478, 248
1917	160, 843	255, 102	249, 538	178, 079	59, 645	34, 144	58, 814	132, 926	56, 054	30, 350	1, 882	4, 524	1, 221, 901
1918	127, 893	345, 669	164, 037	99, 732	76, 789	92, 246	89, 522	61, 048	54, 581	47, 964	23, 373	16, 724	1, 189, 573
1919	115, 840	268, 561	207, 085	111, 712	153, 265	129, 527	60, 616	46, 042	52, 098	44, 786	54, 554	32, 960	1, 277, 046
1920	172, 155	247, 671	281, 608	209, 144	131, 886	113, 196	50, 944	142, 962	126, 032	227, 415	119, 643	86, 771	1, 909, 427
1921	221, 559	173, 694	143, 017	83, 941	193, 487	104, 856	101, 621	232, 778	85, 551	24, 236	20, 966	16, 378	1, 402, 084
1922	95, 959	178, 308	253, 557	194, 110	136, 372	86, 853	51, 284	17, 365	96, 324	19, 721	39, 402	43, 424	1, 212, 679
1923	43, 257	98, 896	119, 755	117, 374	108, 144								

Division of Statistical and Historical Research. Compiled from annual reports of the New Orleans Board of Trade.

A sack of rough rice contains 162 pounds.

TABLE 140.—*Rice, rough: Stocks at New Orleans as reported at the end of each month, 1905–1924*

Year beginning August	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31
	Sacks	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*	*Sacks*
1905	82, 161	96, 319	119, 113	180, 297	170, 208	125, 518	134, 505	90, 863	41, 867	20, 603	16, 378	13, 357
1906	44, 305	34, 818	32, 204	76, 843	119, 472	106, 526	120, 405	110, 904	96, 616	30, 290	17, 302	19, 860
1907	77, 089	62, 582	66, 718	85, 804	99, 263	131, 665	102, 268	78, 804	26, 895	10, 528	2, 150	1, 889
1908	68, 839	92, 226	102, 128	137, 499	159, 217	129, 673	149, 466	144, 226	121, 992	114, 430	82, 988	67, 793
1909	187, 548	223, 616	250, 743	228, 862	244, 030	276, 499	236, 948	184, 915	170, 713	154, 765	150, 993	120, 129
1910	168, 849	256, 155	249, 329	206, 309	222, 167	188, 907	185, 843	139, 147	121, 652	100, 316	67, 891	76, 114
1911	42, 523	104, 491	102, 064	121, 966	117, 705	113, 245	137, 887	79, 367	74, 114	77, 982	67, 568	47, 564
1912	55, 951	49, 215	81, 190	72, 760	113, 776	116, 737	79, 015	46, 100	27, 555	16, 690	14, 015	8, 145
1913	62, 952	30, 342	21, 008	33, 491	70, 882	57, 008	44, 485	32, 582	14, 907	17, 198	14, 676	6, 673
1914	21, 202	62, 574	79, 746	97, 410	128, 376	112, 480	118, 566	102, 286	91, 882	80, 527	37, 990	14, 801
1915	72, 546	75, 416	73, 052	131, 181	109, 918	137, 555	130, 693	107, 135	75, 338	39, 642	26, 457	14, 091
1916	69, 303	89, 995	81, 465	101, 734	78, 093	62, 228	62, 968	62, 490	27, 776	8, 887	4, 419	1, 162
1917	50, 517	69, 592	58, 907	67, 802	58, 607	75, 695	63, 233	58, 809	19, 344	5, 062	3, 693	368
1918	28, 751	128, 751	118, 040	117, 188	52, 614	24, 404	43, 607	43, 789	41, 869	50, 607	9, 117	13, 606
1919	38, 307	66, 400	53, 647	39, 733	51, 586	41, 709	46, 029	37, 192	28, 037	22, 266	15, 869	6, 428
1920	70, 906	125, 650	145, 054	99, 932	58, 082	36, 712	30, 486	46, 089	49, 172	60, 652	40, 758	24, 158
1921	38, 499	40, 419	37, 465	35, 826	69, 664	68, 660	66, 778	63, 200	76, 068	67, 151	48, 268	21, 184
1922	31, 218	37, 942	35, 848	56, 667	43, 668	56, 926	64, 249	54, 061	51, 526	34, 074	37, 879	41, 967
1923	41, 967	60, 013	40, 686	18, 446	26, 445							

Division of Statistical and Historical Research. Compiled from annual reports of the New Orleans Board of Trade.

A sack of rough rice contains 162 pounds.

TABLE 141.—*Rice, clean: Stocks at New Orleans as reported at the end of each month, 1905–1924*

Year beginning August	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31
	Pockets	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*	*Pockets*
1905	144, 618	157, 420	190, 752	232, 793	191, 609	186, 421	173, 296	188, 865	179, 741	189, 726	126, 730	87, 196
1906	90, 529	102, 147	98, 499	87, 070	90, 776	140, 093	179, 182	153, 699	142, 708	154, 664	99, 743	46, 088
1907	55, 721	98, 545	76, 149	66, 347	98, 796	162, 763	205, 361	195, 856	192, 572	162, 826	86, 565	49, 918
1908	48, 695	56, 482	73, 649	116, 412	122, 313	150, 556	144, 158	214, 777	170, 587	124, 758	95, 092	73, 548
1909	76, 132	94, 008	125, 794	101, 543	111, 286	112, 279	120, 021	92, 395	65, 504	111, 042	109, 505	139, 959
1910	122, 747	92, 384	94, 792	107, 576	106, 429	104, 536	97, 634	80, 190	65, 679	83, 126	76, 295	60, 258
1911	76, 236	59, 552	95, 387	142, 990	172, 236	206, 126	240, 708	273, 925	257, 546	205, 144	161, 738	202, 916
1912	161, 317	123, 701	179, 323	173, 897	197, 744	219, 185	225, 157	191, 090	159, 795	145, 754	93, 363	65, 289
1913	73, 386	69, 125	38, 589	73, 403	107, 334	118, 686	136, 081	104, 240	113, 723	117, 070	130, 651	88, 135
1914	55, 858	78, 427	70, 668	93, 456	129, 561	164, 413	224, 043	205, 858	170, 745	159, 009	140, 687	124, 779
1915	62, 172	77, 563	84, 685	126, 921	183, 242	219, 332	252, 751	257, 194	268, 484	243, 710	241, 344	202, 906
1916	143, 196	117, 844	157, 769	243, 810	252, 161	157, 092	123, 371	199, 188	258, 342	205, 059	154, 870	126, 552
1917	109, 947	96, 790	143, 409	227, 715	270, 364	237, 150	147, 517	126, 814	106, 975	72, 192	27, 618	3, 913
1918	27, 750	67, 082	76, 091	79, 973	107, 798	117, 467	185, 070	206, 819	199, 396	136, 995	184, 242	111, 459
1919	85, 554	152, 194	243, 152	243, 850	280, 245	363, 442	421, 258	399, 979	257, 079	248, 667	201, 019	166, 394
1920	172, 419	174, 156	175, 928	277, 228	400, 806	359, 321	201, 871	158, 452	142, 796	180, 450	179, 086	86, 504
1921	114, 635	128, 099	135, 454	114, 594	144, 587	177, 698	180, 096	294, 626	315, 960	244, 808	308, 557	238, 899
1922	123, 463	91, 028	97, 561	124, 710	193, 886	276, 407	172, 764	152, 171	151, 443	158, 965	189, 106	130, 240
1923	130, 240	73, 900	95, 516	120, 592	167, 105	-------	-------	-------	-------	-------	-------	-------

Division of Statistical and Historical Research. Compiled from annual reports of the New Orleans Board of Trade.

A pocket of cleaned rice contains 100 pounds.

TABLE 142.—*Rice, rough: Farm price per bushel December 1, 1909–1924, and value per acre, 1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre 1924[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
S. C	91	75	75	93	90	85	92	90	90	195	195	300	290	179	97	115	120	140	25. 20
Ga	87	75	77	90	83	82	89	88	87	195	175	275	225	162	92	117	132	140	21. 00
Fla	80	72	75	90	60	75	70	75	75	195	140	263	175	142	97	130	135	140	33. 60
Miss	80	70	77	90	70	77	85	88	80	190	150	190	200	140	118	110	115	136	13. 60
La	79	67	79	93	84	80	93	90	90	190	195	271	110	148	86	89	107	136	46. 92
Tex	78	68	80	94	86	81	92	89	86	200	197	280	125	153	101	90	115	125	50. 00
Ark	90	70	82	94	90	85	90	95	96	190	180	240	131	146	92	88	112	138	57. 96
Calif	----	65	75	91	100	-----	100	90	78	175	190	267	121	146	115	110	112	166	84. 83
U. S.	79. 2	67. 8	79. 7	93. 5	85. 8	81. 2	92. 4	90. 6	88. 9	189. 6	191. 8	266. 6	119. 1	148. 4	95. 2	93. 1	110. 2	138. 6	52. 75

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 143.—*Rice: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousands of pounds—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Brazil	24,753	[1] 102	16	124,790	8	83,478		75,294
British India	278,272	5,337,516	280,334	2,740,866	302,760	4,836,325	349,213	4,560,162
Chosen (Korea)	[2] 17,830	[2] 130,446	[2] 5,919	[2] 906,407	[2] 54,919	[2] 827,989		
French Indo-China	41	2,288,040		[3] 3,393,428		[2] 2,780,846		[2] 2,612,264
Italy	4,415	142,239	17,511	55,490	1,484	230,017	2,647	190,338
Siam		1,928,507	186	2,799,953	21	2,810,004	4	2,894,440
Spain	5,467	18,063	15	145,831	86	53,756	18	149,446
United States	209,814	16,215	76,237	600,059	62,371	411,542	48,520	348,839
PRINCIPAL IMPORTING COUNTRIES								
Austria			55,616	309	47,068	1,220	47,898	627
Austria-Hungary	183,411	461						
Belgium	180,830	99,948	166,289	60,069	69,620	10,487	80,535	1,549
British Malaya	[2] 1,999,672	[2] 1,299,475	1,118,737	471,643	[2] 1,766,085	[2] 937,536		
Canada	32,109	2,354	38,174	1,997	41,403	335	53,027	2,278
Ceylon	821,654		719,017	(3)	850,981	9	[2] 874,147	
China	704,992		874,835	2,857	1,576,640	3,713	1,846,499	5,193
Cuba	262,207		259,067		391,606			
Czechoslovakia			116,213	107	90,859	107	92,220	38
Dutch East Indies	1,178,111	132,400	1,685,518	4,961	1,377,099	48,524	[4] 440,732	[4] 60,222
Egypt	98,600	53,700	59,923	43,977	86,577	39,551	113,464	23,730
France	517,861	79,087	383,746	62,804	372,002	71,558	646,612	77,989
Germany	913,772	396,628	688,589	[5] 65,860	417,858	33,399	346,775	4,873
Hongkong					2,614,836	2,316,167	2,994,872	2,645,730
Hungary			[2] 30,000		26,515	[2] 336	25,279	
Japan	655,676	61,936	531,793	31,414	1,014,637	13,532	[2] 1,157,700	[6] 4,185
Mauritius	132,543	[7] 1,446	101,044		145,635		138,144	
Netherlands	778,682	476,276	189,948	27,889	162,162	29,249	186,868	50,771
Philippine Islands	412,781	[8] 4	131,235	715	93,243	892	146,494	1,390
Russia	250,461	5,746	[2] 32,385		[2] 52,327			
United Kingdom	768,863	90,564	759,058	18,606	305,281	20,483	310,215	21,777
Other countries	1,007,053	159,692	1,147,289	102,268	1,018,936	129,285	635,615	13,266
Total	11,439,950	12,720,845	9,468,694	11,662,300	12,943,009	15,690,340	10,537,488	13,744,401

Division of Statistical and Historical Research. Official sources except where otherwise noted.

Mostly cleaned rice. Under rice is included paddy, unhulled, rough, cleaned, polished, broken, and cargo rice, in addition to rice flour and meal. Rice bran is not included. Rough rice, or paddy, where specifically reported, has been reduced to terms of cleaned rice at the ratio of 162 pounds of rough or unhulled to 100 pounds of cleaned. "Rice, other than whole or cleaned rice," in the returns of the United Kingdom is not considered paddy, since the chief sources of supply indicate that it is practically all hulled rice. Cargo rice, a mixture of hulled and unhulled, is included without being reduced to terms of cleaned. Broken rice and rice flour and meal are taken without being reduced to terms of whole cleaned rice.

[1] Three-year average.
[2] International Institute of Agriculture.
[3] Less than 500.
[4] Java and Madura only.
[5] Eight months, May–December.
[6] Six months.
[7] Two-year average.
[8] One year only.

TABLE 144.—*Rice, rough: Wholesale price per 162 pounds at New Orleans, 1899–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1899	$2.88	$2.20	$2.38	$3.08	$2.30	$2.42	$2.55	$2.42	$2.38	$2.82	$2.25	$2.50	$2.52
1900	3.18	3.08	2.70	2.76	3.12	3.20	3.08	3.42	3.65	3.65	3.65	2.25	3.14
1901	3.68	3.00	2.78	2.82	3.00	3.05	3.05	3.05	3.05	2.50	2.58	3.38	3.00
1902	3.25	2.68	2.62	2.70	2.48	2.62	3.18	3.30	2.58	3.18	3.75	3.25	2.97
1903	3.88	3.55	3.08	2.12	2.60	2.42	2.25	2.28	1.95	2.05	2.00	2.40	2.55
1904	2.28	1.80	1.90	1.88	2.10	2.25	2.05	1.98	2.00	2.08	2.42	2.95	2.14
1905	3.10	3.10	3.08	3.45	3.16	3.30	3.38	3.18	2.78	3.25	3.60	3.70	3.26
1906	4.12	3.58	3.55	3.38	3.05	3.25	2.92	2.68	2.62	3.45	3.68	3.85	3.34
1907	4.13	3.08	2.72	2.98	3.20	3.32	3.28	2.95	3.62	3.88	3.88	4.50	3.46
1908	3.72	2.62	2.88	3.08	2.75	3.36	3.50	3.68	2.88	3.50	3.48	3.75	3.27
1909	3.50	2.98	2.80	2.75	2.62	3.05	2.75	2.50	2.90	2.86	2.55	3.90	2.93
1910	2.80	2.28	2.28	2.36	2.43	2.50	2.30	2.46	2.16	2.35	2.25	2.75	2.41
1911	2.82	2.50	2.68	2.78	2.66	2.92	3.30	3.52	3.92	3.82	3.55	4.28	3.23
1912	3.58	3.38	2.66	3.20	3.38	3.53	3.59	3.50	2.95	3.62	3.25	3.42	3.34
1913	3.75	3.40	3.16	4.00	2.75	3.10	2.70	2.20	2.62	3.12	3.08	3.38	3.10
1914	4.32	3.90	2.65	2.75	3.38	3.18	3.60	3.68	3.75	3.56	3.55	3.38	3.48
1915	3.20	2.86	2.66	3.13	2.82	2.78	3.35	3.56	3.62	2.73	------	3.10	------
1916	3.91	3.06	3.18	3.44	3.30	3.32	3.53	3.72	5.00	6.33	5.50	6.40	4.22
1917	6.62	6.50	6.00	6.88	7.10	7.25	7.63	8.31	7.70	8.53	7.88	7.12	7.29
1918	7.20	7.00	6.25	6.12	6.25	5.88	------	------	------	7.38	------	9.88	------
1919	13.00	9.50	8.38	8.48	8.38	10.51	------	------	9.62	8.88	9.88	------	------
1920	6.38	5.88	4.75	4.75	------	------	2.90	3.02	------	3.08	2.88	2.78	------
1921	3.52	3.62	3.58	3.24	------	4.11	3.58	4.01	3.35	3.22	3.65	4.01	------
1922	3.89	3.00	3.11	4.00	3.58	3.57	3.41	4.03	------	3.25	3.98	------	------
1923	4.44	3.96	3.88	4.18	4.28	------	------	------	------	------	------	------	------
1924	------	------	------	------	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research.

Compiled from annual reports of the New Orleans Board of Trade, average of monthly range.

TABLE 145.—*Rice, rough: Wholesale price per 162 pounds at Lake Charles, La., 1909–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1909	------	2.38	2.75	2.50	2.40	2.50	2.50	2.30	2.10	2.05	2.18	2.12
1910	2.22	2.42	2.28	2.45	2.25	2.25	2.18	2.18	2.25	2.25	------	------
1911	2.45	2.45	2.58	2.62	2.82	------	------	------	------	------	------	------
1912	------	------	------	------	------	3.16	3.10	------	------	------	------	------
1913	------	2.65	2.98	2.88	2.82	2.90	2.40	2.50	2.75	3.02	3.22	3.28
1914	3.78	4.02	3.50	3.00	2.78	3.48	3.75	3.81	------	------	------	------
1915	3.26	3.26	3.08	3.41	3.32	3.00	3.28	3.32	3.51	3.04	4.00	------
1916	------	2.99	3.02	3.50	3.42	3.05	3.38	3.72	4.90	5.55	------	5.75
1917	6.09	6.00	6.72	6.52	6.27	------	------	------	------	------	------	------
1918	------	------	------	------	------	7.00	6.75	------	6.50	6.50	6.75	7.50
1919	13.00	11.00	------	------	------	------	------	------	------	------	------	------
1920	------	------	------	------	------	------	2.00	1.75	1.50	2.50	2.00	2.50
1921	2.75	4.00	4.25	2.75	3.50	3.05	3.50	3.90	4.00	3.75	3.85	4.00
1922	4.25	3.30	3.30	3.25	3.25	3.25	3.20	3.50	3.40	3.10	3.40	3.35
1923	3.50	4.21	4.00	4.00	3.90	4.25	4.00	4.25	------	------	------	------
1924	------	4.80	5.00	5.60	5.90	------	------	------	------	------	------	------

Division of Statistical and Historical Research.

TABLE 146.—*Rice: Wholesale price per pound, 1909–1924*

NEW YORK (CLEANED, DOMESTIC, FANCY HEAD)

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1909	5.9	5.2	5.1	4.9	4.8	5.0	4.8	4.6	4.1	4.4	4.4	4.4	4.8
1910	4.4	4.6	4.4	4.1	4.1	4.2	4.0	3.9	3.8	3.8	3.7	3.8	4.1
1911	3.9	4.2	4.3	4.2	4.2	4.4	4.7	4.9	4.9	5.1	5.1	5.1	4.6
1912	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0	4.9
1913	5.1	5.1	5.1	5.1	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0
Av. 1909–1913	4.9	4.8	4.8	4.6	4.6	4.7	4.7	4.6	4.5	4.6	4.6	4.6	4.7
1914	5.3	5.7	5.6	5.6	5.4	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4
1915	5.2	4.9	4.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
1916	5.2	5.2	5.2	5.2	5.4	5.4	5.4	5.6	7.1	8.8	8.6	8.4	6.3
1917	7.9	7.8	8.2	9.0	8.9	8.9	8.9	9.4	9.6	9.9	10.0	10.1	9.0
1918	10.1	10.1	10.2	10.5	10.5	10.4	10.4	10.4	10.4	10.7	11.7	13.7	10.8
1919	14.3	14.1	13.6	13.8	14.2	14.8	14.8	14.8	14.8	14.8	14.8	14.4	14.4
1920	14.0	13.2	11.1	7.4	8.5	7.5	6.9	6.9	6.5	6.1	6.5	6.5	8.4
Av. 1914–1920	8.9	8.7	8.4	8.1	8.3	8.2	8.1	8.2	8.4	8.7	8.9	9.1	8.5
1921	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.5	7.5	7.1
1922	7.5	7.5	7.6	7.4	7.4	7.8	7.8	7.7	7.6	7.9	7.9	7.9	7.7
1923	7.9	7.7	7.6	7.6	7.6	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
1924	7.8	7.7	7.5	7.6	7.8								

NEW ORLEANS (HONDURAS, CLEAN, FANCY)

1909	4.1	3.6	3.8	3.7	3.7	3.8	3.8	3.4	3.2	3.6	3.5	3.7	3.7
1910	3.8	3.6	3.4	3.1	3.2	2.9	3.1	2.9	3.0	2.9	2.9	3.6	3.2
1911	3.6	3.5	3.3	3.4	3.4	3.8	3.9	4.0	3.9	4.6	4.2	4.6	3.8
1912	4.1	4.1	3.5	3.8	4.1	4.1	4.0	3.9	4.0	4.1	4.1	4.4	4.0
1913	4.4	3.8	3.8	3.6	3.7	3.9	3.8	3.7	3.6	3.9	3.8	3.7	3.8
Av. 1909–1913	4.0	3.7	3.6	3.5	3.6	3.7	3.7	3.6	3.5	3.8	3.7	4.0	3.7
1914	4.1	4.2	3.6	3.4	3.6	3.9	4.1	4.1	4.0	4.1	4.2	4.2	4.0
1915	3.6	3.3	3.8	3.8	3.8	3.5	3.6	3.9	3.8	4.0	4.2	3.9	3.8
1916	3.8	3.5	3.8	3.9	3.9	3.9	3.9	4.1	5.2	5.9	6.3	6.3	4.5
1917	6.1	6.4	6.7	6.6	6.8	6.8	7.0	7.6	8.2	8.3	8.3	8.4	7.3
1918	7.6	7.6	7.5	7.3	7.5	7.8	7.7	8.0	7.9	7.0	9.2	10.1	7.9
1919	10.9	12.2	11.8	11.9	12.3	12.7	12.8	12.5	12.3	12.2	12.3	12.5	12.2
1920	10.6	9.6	7.9	6.9	6.6	4.6	4.7	5.4	5.3	5.5	5.8	5.6	6.5
Av. 1914–1920	6.7	6.7	6.4	6.3	6.4	6.2	6.3	6.5	6.7	6.7	7.2	7.3	6.6
1921	5.7	5.4	5.3	5.4	5.7	5.7	5.7	5.9	6.4	6.4	6.4	6.4	5.9
1922	6.6	6.6	6.5	6.5	6.5	6.6	6.6	6.3	6.4	6.4	6.5	6.5	6.5
1923	6.5	6.4	6.3	6.3	6.4	6.4	6.5	6.3	6.4	6.5	6.6	6.6	6.4
1924	6.6	6.6	6.4	6.5	6.9								

HOUSTON (HEAD, CLEANED)

1909	5.6	5.4	5.2	4.9	4.9	4.1	4.4	3.9	3.8	4.0	3.9	4.0	4.5
1910	5.2	4.1	4.2	3.9	3.5	3.8	3.5	3.2	3.4	3.5	3.4	3.3	3.8
1911	4.1	4.1	4.1	4.1	4.1	4.4	4.7	4.8	5.0	5.0	4.8	5.0	4.5
1912	5.1	4.9	4.2	4.6	4.9	4.8	4.8	4.8	4.8	4.8	5.0	5.2	4.8
1913	5.5	5.2	4.9	4.8	4.7	4.9	4.9	4.8	4.1	4.5	4.4	3.5	4.7
Av. 1909–1913	5.1	4.7	4.5	4.5	4.4	4.4	4.5	4.3	4.2	4.4	4.3	4.2	4.5
1914	4.7	4.9	5.0	4.6	4.8	4.6	4.6	4.6	4.7	4.8	4.9	5.0	4.8
1915	5.1	5.0	4.9	4.9	4.9	4.2	4.4	4.4	4.2	4.0	4.0	4.0	4.5
1916	4.0	4.1	4.5	4.6	4.6	4.9	4.9	5.2	6.5	7.9	7.6	7.5	5.5
1917	7.2	7.1	7.8	8.0	8.0								[1] 7.6
1918						9.1	9.1	9.1	9.1	9.1	11.1	13.2	[2] 10.0
1919	13.0	13.1	10.6	10.5	11.2	12.8	12.5	12.8	12.5	12.0	11.6	11.2	12.0
1920	10.0	7.8	6.9	6.2	6.1	4.6	4.2	3.5	3.2	3.4	3.5	3.8	5.3
Av. 1914–1920	[3] 7.3	[3] 7.0	[3] 6.6	[3] 6.5	[3] 6.6	[3] 6.7	[3] 6.6	[3] 6.6	[3] 6.7	[3] 6.9	[3] 7.1	[3] 7.4	7.1
1921	4.2	4.6	4.8	4.8	4.4	4.2	4.4	4.5	4.9	4.8	4.5	4.5	4.6
1922	4.6	4.5	4.1	4.1	4.1	4.2	4.1	4.1	4.2	4.1	4.1	4.2	4.2
1923	4.4	4.6	5.0	4.8	4.8	4.9	5.1	4.8	4.9	4.9	6.1	6.1	5.0
1924	6.5	6.1	6.0	5.8	6.0								

Division of Statistical and Historical Research. Compiled from the New York Journal of Commerce; New Orleans Times-Picayune, averages of daily range; and reports received from the Houston Cotton Exchange.

[1] Average for 5 months. [2] Average for 7 months. [3] Average for 6 years.

BUCKWHEAT

TABLE 147.—*Buckwheat: Acreage, production, value, exports, etc., in the United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price Dec. 1	Farm value Dec. 1	Value per acre [1]	Domestic exports, fiscal year beginning July 1 [2]
	1,000 acres	*Bushels of 48 pounds*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*	*Bushels*
1909	878	20.5	17,983	70.2	12,628	14.38	158,160
1910	860	20.5	17,598	66.1	11,636	13.53	223
1911	833	21.1	17,549	72.6	12,735	15.29	180
1912	841	22.9	19,249	66.1	12,720	15.12	1,347
1913	805	17.2	13,833	75.5	10,445	12.98	586
Average, 1909–1913	843	20.4	17,242	69.8	12,033	14.27	32,099
1914	792	21.3	16,881	76.4	12,892	16.28	413,643
1915	769	19.6	15,056	78.7	11,843	15.40	515,304
1916	828	14.1	11,662	112.7	13,147	15.88	260,102
1917	924	17.3	16,022	160.0	25,631	27.74	5,567
1918	1,027	16.5	16,905	166.5	28,142	27.40	119,516
1919	700	20.6	14,399	146.1	21,032	30.05	244,785
1920	701	18.7	13,142	128.3	16,863	24.06	399,437
Average, 1914–1920	820	18.1	14,867	124.5	18,507	22.57	279,765
1921	680	20.9	14,207	81.2	11,540	16.97	484,763
1922	764	19.1	14,564	88.5	12,889	16.87	171,535
1923	739	18.9	13,965	93.3	13,029	17.63	92,587
1924 [3]	816	19.6	15,956	103.0	16,441	20.15	

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based on farm price Dec. 1.

[2] Compiled from reports of Bureau of Foreign and Domestic Commerce. Including buckwheat flour since Jan. 1, 1922.

[3] Preliminary.

TABLE 148.—*Buckwheat: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Maine	8	10	10	216	230	260	238	218	247
New Hampshire	1	1	1	25	22	23	31	22	25
Vermont	4	4	4	96	72	88	88	72	92
Massachusetts	1	1	1	21	20	19	29	23	24
Connecticut	2	2	2	36	32	38	50	35	41
New York	208	214	246	4,368	4,066	5,363	4,368	3,903	5,417
New Jersey	10	10	10	220	210	220	253	200	257
Pennsylvania	225	227	250	4,725	4,880	5,150	3,780	4,441	5,304
Delaware	8	8	7	153	144	118	122	131	120
Maryland	9	9	10	185	199	180	159	199	198
Virginia	18	18	19	351	347	348	288	330	369
West Virginia	33	33	33	693	660	627	589	634	702
North Carolina	7	9	10	140	198	210	136	214	259
Ohio	25	23	23	500	460	368	400	432	379
Indiana	6	6	7	96	102	112	90	97	115
Illinois	6	6	7	84	90	98	71	91	118
Michigan	62	53	61	868	753	964	694	633	925
Wisconsin	25	28	27	360	392	432	313	349	445
Minnesota	75	49	57	1,050	637	855	840	573	872
Iowa	5	5	6	70	75	90	88	70	98
Missouri	1	1	1	13	13	13	16	15	14
South Dakota	12	9	10	96	126	148	67	108	158
Nebraska	1	1	1	16	18	15	14	15	15
Kentucky	9	9	10	144	162	160	130	162	190
Tennessee	3	3	3	44	57	57	35	62	71
United States	764	739	816	14,564	13,965	15,956	12,889	13,029	16,441

Division of Crop and Livestock Estimates. [1] Preliminary

SORGHUMS

TABLE 153.—*Sorghums*[1]*: Acreage, production, and total farm value, United States, 1915–1924*

Year	Thousands of acres	Average yield in bushels per acre	Production, thousands of bushels	Average farm price, Nov. 15, cents per bushel	Farm value thousands of dollars
1915	4,153	27.6	114,460	44.7	51,157
1916	3,944	13.7	53,858	105.9	57,027
1917	5,153	11.9	61,409	161.9	99,433
1918	6,036	12.1	73,241	150.0	109,881
1919	5,060	25.8	130,734	127.4	166,510
1920	5,120	26.8	137,408	92.9	127,629
1921	4,635	24.6	113,990	39.1	44,575
1922	5,064	17.9	90,524	87.8	79,503
1923	5,792	18.3	105,835	94.0	99,473
1924[2]	5,085	22.5	114,231	85.3	97,405

Division of Crop and Livestock Estimates.

[1] Kafirs, milo maize, feterita. [2] Preliminary.

TABLE 154.—*Sorghums*[1]*: Acreage, production, and total farm value, by States, 1923 and 1924*

State	Thousands of acres		Average yield in bushels per acre		Production, thousands of bushels		Average farm price, Nov. 15, cents per bushel		Farm value, thousands of dollars	
	1923	1924[2]	1923	1924	1923	1924[2]	1923	1924	1923	1924[2]
Iowa	6	7	33.0	22.0	198	154	100	115	198	177
Missouri	13	12	21.0	22.0	273	264	100	115	273	304
Nebraska	26	25	25.6	18.0	666	450	88	91	586	410
Kansas	1,598	1,244	17.7	21.4	28,285	26,622	82	80	23,194	21,298
Texas	1,891	1,815	22.0	25.0	41,602	45,375	105	87	43,682	39,476
Oklahoma	1,523	1,340	12.0	22.1	18,276	29,614	92	77	16,814	22,803
Colorado	360	302	20.0	10.0	7,200	3,020	80	90	5,760	2,718
New Mexico	205	197	18.0	22.0	3,690	4,334	90	100	3,321	4,334
Arizona	35	35	34.0	30.0	1,190	1,050	100	130	1,190	1,365
California	135	108	33.0	31.0	4,455	3,348	100	135	4,455	4,520
Total	5,792	5,085	18.3	22.5	105,835	114,231	94.0	85.3	99,473	97,405

Division of Crop and Livestock Estimates.

[1] Kafirs, milo maize, feterita. [2] Preliminary.

TABLE 155.—*Kafir: Farm price per bushel, 15th of month, United States, 1916–1924*

Year beginning November	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Weighted average
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1916	102.4	101.5	119.1	129.0	147.0	152.0	188.0	206.3	214.0	243.3	187.7	174.1	152.6
1917	160.6	166.7	170.8	185.7	193.5	204.0	211.0	179.6	165.6	177.2	181.0	175.9	182.3
1918	150.5	154.8	153.7	156.9	150.9	162.1	173.6	174.1	175.9	176.9	153.7	139.7	160.4
1919	133.6	144.3	137.3	138.7	129.8	145.4	154.5	153.9	135.2	150.0	124.8	95.5	140.4
1920	95.5	81.7	65.6	57.8	67.3	53.8	51.5	62.0	51.0	58.0	54.9	48.3	63.6
1921	35.8	33.8	41.4	48.0	60.5	63.2	61.2	63.8	68.7	87.7	77.1	85.6	54.8
1922	89.2	89.3	89.0	92.1	98.6	108.2	96.4	100.2	109.8	102.2	94.1	100.8	96.6
1923	94.1	85.5	87.0	86.6	86.3	86.8	87.2	84.2	91.5	102.8	97.2	100.4	88.1
1924	86.8	90.1											

Division of Crop and Livestock Estimates.

TABLE 156.—*Kafir, No. 2 White: Weighted average price per 100 pounds of reported cash sales, Kansas City, 1909–1924*

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Weighted average[1]
1909	$1.20	$1.31	$1.53	$1.42	$1.37	$1.32	$1.46	$1.50	$1.53	$1.81	$1.78	$1.19	$1.45
1910	1.12	.96	.96	.93	.94	.94	1.06	1.24	1.42	1.34	1.27	1.21	1.12
1911	1.06	.99	1.19	(2)	1.29	1.43	1.44	1.25	1.63	1.68	1.36	1.13	1.31
1912	.98	.86	.85	.83	.81	.82	.88	1.11	1.09	1.41	1.53	1.51	1.06
1913	1.57	1.63	1.72	1.72	1.76	(2)	2.00	(2)	(2)	(2)	(2)	(2)	------
Av., 1909–1913	1.19	1.15	1.25	------	1.23	------	1.37	------	------	------	------	------	------
1914	1.04	1.14	1.33	1.38	1.28	1.18	1.14	1.20	1.16	1.09	1.04	1.06	1.17
1915	.91	.99	.99	.96	.93	1.06	1.05	1.11	1.22	1.58	1.71	1.84	1.19
1916	2.34	2.11	2.43	2.48	2.66	3.17	3.79	3.36	4.00	4.48	4.34	3.69	3.24
1917	3.40	3.25	3.33	3.69	3.84	3.37	2.93	2.65	3.03	3.40	3.40	3.27	3.28
1918	2.96	2.61	2.60	2.70	2.56	2.67	2.97	3.42	3.51	3.61	2.41	2.34	2.88
1919	2.67	2.93	2.49	2.17	2.31	2.38	2.65	2.52	2.36	2.43	2.24	1.81	2.41
1920	1.39	1.17	.98	.91	.85	.80	1.03	1.12	1.21	1.13	1.13	1.02	1.06
Av., 1914–1920	2.10	2.03	2.02	2.04	2.06	2.09	2.22	2.20	2.36	2.53	2.32	2.15	2.17
1921	.85	.90	.90	1.29	1.32	1.20	1.28	1.38	1.66	1.72	1.98	1.83	1.36
1922	1.78	1.63	1.59	1.60	1.66	1.72	1.76	1.67	1.50	1.48	(2)	(2)	------
1923	(2)	1.27	(2)	1.22	1.19	1.30	1.10	1.51	1.68	(2)	2.01	1.59	------
1924	1.64	1.78	------	------	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Kansas City Price Current and Market Review.

[1] Average of daily prices weighted by car-lot sales.
[2] No quotations.

TABLE 157.—*Kafir: Monthly and yearly receipts at Kansas City, 1909–1924*

[Thousand pounds—i. e., 000 omitted]

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	J ly	Aug.	Sept.	Oct.	Total
1909	5,940	2,820	7,020	8,400	9,000	2,520	1,800	1,140	660	420	300	200	40,220
1910	6,000	16,050	12,550	10,050	4,800	2,900	4,000	3,150	1,700	2,350	1,050	3,450	68,050
1911	11,300	18,100	14,201	22,945	10,718	11,068	10,410	6,776	4,189	2,587	3,450	5,790	121,044
1912	24,948	36,098	34,188	18,665	6,222	8,439	7,207	12,505	5,051	616	1,848	1,478	157,265
1913	1,232	2,957	7,454	4,004	1,417	862	924	862	185	62	493	2,341	22,793
Av., 1909–1913	9,884	15,205	15,101	12,813	6,431	5,162	4,868	4,887	2,357	1,207	1,428	2,652	81,994
1914[1]	17,433	40,286	37,022	34,619	10,595	27,227	14,106	10,410	11,519	11,396	6,283	7,269	28,165
1915[1]	20,574	62,524	32,088	32,424	35,616	33,376	30,352	33,880	21,504	9,576	5,600	2,016	319,530
1916[1]	1,512	5,432	10,780	15,338	4,004	2,526	2,156	493	431	431	308	308	43,719
1917[1]	4,928	15,585	25,995	21,560	28,336	18,049	5,482	5,975	2,218	1,602	493	370	130,593
1918[1]	2,834	9,117	8,562	9,425	21,498	18,418	21,006	5,298	8,932	3,634	4,866	4,497	118,087
1919[1]	1,232	13,059	41,703	40,410	51,519	25,133	30,246	45,769	42,997	13,182	8,932	6,899	321,081
1920[1]	6,283	36,652	54,886	25,934	31,847	16,078	16,878	36,036	13,121	16,386	6,714	11,704	272,519
Av., 1914–1920	7,828	26,094	30,148	25,673	26,202	20,115	17,175	19,694	14,389	8,030	4,742	4,723	204,813
1921[1]	14,722	19,589	28,365	30,061	21,930	17,494	11,149	11,889	8,378	4,682	1,971	6,714	174,944
1922	9,425	24,886	23,531	13,059	9,486	7,762	4,250	2,772	3,881	1,971	1,047	986	103,056
1923	10,903	19,589	28,358	32,402	22,299	19,034	15,338	14,661	13,983	5,914	3,511	5,790	276,605
1924	36,221	64,495	------	------	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Kansas City Annual Statistical Report, Board of Trade, and Grain Dealers Journal.

[1] Kafir, milo maize, and feterita included from January, 1915–December, 1921.

FRUITS AND VEGETABLES

APPLES

TABLE 158.—*Apples: Total production in the United States, 1889–1924*

Year	Production	Year	Production	Year	Production	Year	Production
	Bushels		*Bushels*		*Bushels*		*Bushels*
1889	*145, 106, 000*	1898	118, 061, 000	1907	119, 560, 000	1916	193, 905, 000
1890	80, 142, 000	1899	*175, 297, 000*	1908	148, 940, 000	1917	166, 749, 000
1891	198, 907, 000	1900	205, 930, 000	1909	*146, 122, 000*	1918	169. 625, 000
1892	120, 536, 000	1901	135, 500, 000	1910	141, 640. 000	1919	142, 086, 000
1893	114, 773, 000	1902	212, 330, 000	1911	214, 020, 000	1920	223, 677, 000
1894	134, 648, 000	1903	195, 680, 000	1912	235, 220, 000	1921	99, 002. 000
1895	219, 600, 000	1904	233, 630, 000	1913	145, 410, 000	1922	202, 702, 000
1896	232, 600, 000	1905	136, 220, 000	1914	253, 200, 000	1923	202, 842, 000
1897	163, 728, 000	1906	216, 720, 000	1915	230, 011, 000	1924	179. 443, 000

Division of Crop and Livestock Estimates. Census figures are in italics.

TABLE 159.—*Apples: Total production December 1, by States, 1915–1924*

[Thousands of bushels—i. e., 000 omitted]

State	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924 [1]
Maine	2, 160	5, 040	4, 275	2, 010	4, 829	1, 680	4, 060	1, 250	2, 500	3, 241
New Hampshire	1, 058	1, 596	1, 035	1, 155	1, 364	1, 200	700	775	935	1, 462
Vermont	972	3, 312	1, 248	990	960	993	600	960	521	924
Massachusetts	2, 655	3, 450	2, 163	2, 430	3, 187	3, 575	1, 125	3, 010	3, 300	3, 346
Rhode Island	176	261	195	189	334	390	63	200	450	324
Connecticut	1, 534	1, 776	1, 251	999	1, 395	2, 375	758	1, 300	1, 600	1, 700
New York	25, 585	35, 334	16, 266	40, 878	14, 350	47, 087	13, 500	36, 000	25, 000	23, 800
New Jersey	2, 331	2, 250	2, 058	2, 463	1, 666	2, 942	667	2, 610	2, 203	2, 300
Pennsylvania	15, 254	18, 621	11, 646	16, 080	5, 513	18, 584	2, 208	11. 400	10, 855	7, 267
Delaware	366	432	798	714	606	822	68	1, 414	1, 200	1, 200
Maryland	2, 400	2, 544	2, 559	2, 034	1, 519	2, 600	225	1, 500	2, 300	1, 749
Virginia	13, 176	13, 299	11, 778	10, 068	8, 943	13, 744	570	8, 960	10, 000	15, 184
West Virginia	7, 540	7, 752	4. 320	5, 856	4, 189	8, 040	420	5, 625	8, 320	7, 000
North Carolina	5, 916	5, 589	4, 500	3, 588	2, 000	6, 320	593	6, 000	2, 700	6, 500
South Carolina	663	1, 179	1, 635	1, 407	216	440	293	383	274	426
Georgia	1, 875	1, 623	1, 713	1, 713	417	1, 270	698	1, 135	864	1, 388
Ohio	17, 952	8, 601	5, 760	7, 005	2, 976	13, 960	3, 390	7, 298	12, 395	8, 325
Indiana	11, 648	3, 360	4, 836	1, 794	1, 190	4, 596	1, 029	4, 148	5, 035	2, 800
Illinois	14, 148	4, 848	7, 518	3, 459	4, 673	5, 866	2, 381	9, 720	7, 500	6, 200
Michigan	9, 450	9, 951	4, 146	9, 792	5, 844	16, 500	6, 317	11, 850	13, 159	7, 333
Wisconsin	4, 418	2, 604	3, 090	2, 811	1, 545	2, 250	1, 050	2, 024	2, 340	1, 378
Minnesota	1, 235	1, 266	1, 446	996	1, 336	1, 350	900	1, 020	1, 520	979
Iowa	9, 660	3, 573	3, 795	1, 584	1, 810	4, 410	630	4, 410	4, 350	3, 000
Missouri	18, 860	6, 003	8, 070	4, 245	5, 132	4, 724	480	9, 400	7, 072	5, 3 0
South Dakota	301	348	336	273	168	180	126	263	212	150
Nebraska	3, 800	1, 278	1, 854	525	907	797	125	1, 620	880	1, 162
Kansas	6, 375	2, 268	2, 853	1, 503	1, 835	1, 144	172	3, 280	2, 166	2, 812
Kentucky	12, 510	4, 416	5, 802	2, 799	1, 281	5, 022	636	5, 070	2, 625	6, 075
Tennessee	6, 076	4, 299	4, 170	4, 050	1, 259	4, 280	754	4, 250	1, 311	4, 500
Alabama	1, 596	1, 116	1, 449	1, 662	577	1, 186	890	1, 098	731	1, 190
Mississippi	424				218	190	145	216	120	315
Louisiana					44	34	35	37	31	45
Texas	562	468	357	273	487	274	274	264	270	365
Oklahoma	2, 340	669	1, 293	660	1, 600	585	486	1, 140	1, 240	1, 575
Arkansas	3, 550	1, 593	2, 574	1, 290	7, 164	3, 900	120	2, 400	3, 025	3, 630
Montana	1, 040	768	1, 044	792	850	825	975	610	990	574
Wyoming					30	18	19	40	35	35
Colorado	2, 080	2, 541	2, 190	2, 067	3, 418	2, 830	3, 200	4, 250	3, 010	3, 024
New Mexico	820	459	879	912	1, 100	434	483	760	1, 400	720
Arizona	120	138	129	138	125	80	47	77	128	70
Utah	427	99	906	786	760	1, 064	1, 037	1, 085	1, 119	650
Nevada	120				53	36	24	35	56	35
Idaho	1, 720	738	3, 843	1, 200	3, 800	3, 420	4, 500	3, 900	5, 600	2, 520
Washington	7, 300	17, 658	19, 830	16, 491	25, 295	21, 502	29, 062	25, 775	33, 000	23, 000
Oregon	3, 128	3, 855	4, 335	3, 384	6, 921	4, 158	6, 667	6, 300	8, 000	6, 500
California	4, 690	6, 930	6, 804	6, 560	8, 200	6, 000	6, 500	7, 850	10, 500	7, 370
United States	230, 011	193, 905	166, 749	169, 625	142, 086	223, 677	99, 002	202, 702	202, 842	179, 443

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 160.—*Apples (commercial crop): Production, by States, 1920–1924*

[Thousand barrels—i. e., 000 omitted]

State	1920	1921	1922	1923	1924 [1]	State	1920	1921	1922	1923	1924 [1]
Me	230	657	232	480	651	Iowa	420	25	220	290	150
N. H	170	110	119	150	292	Mo	924	30	1,250	850	588
Vt	190	116	128	89	160	S. Dak	5	0	4	3	
Mass	375	172	461	600	660	Nebr	110	17	130	103	120
R. I	75	8	20	80	64						
						Kans	286	29	546	400	471
Conn	215	70	108	200	260	Ky	218	31	169	70	162
N. Y	6,500	3,300	6,000	4,200	3,738	Tenn	204	45	95	30	106
N. J	848	132	552	470	474	Ala	20	15	18	12	
Pa	1,547	221	1,216	1,266	780						
						Tex	21	21	15	15	
Del	219	14	380	340	310	Okla	29	21	38	42	54
Md	399	20	280	460	254	Ark	724	16	520	656	787
Va	1,988	80	1,400	1,950	2,520	Mont	128	175	115	130	70
W. Va	1,340	130	881	1,400	800						
						Colo	736	812	1,034	803	806
N. C	250	25	236	100	307	N. Mex	108	123	150	315	150
Ga	106	58	95	60	110	Ariz	10	6	9	14	7
Ohio	1,445	360	608	1,033	694	Utah	196	198	198	260	140
Ind	542	109	277	300	145						
						Idaho	756	1,359	1,150	1,600	714
Ill	1,369	397	1,450	1,400	925	Wash	5,734	8,300	7,341	9,600	6,650
Mich	3,167	1,208	1,699	2,118	1,222	Oreg	832	1,667	1,260	1,750	1,750
Wis	161	64	101	136	98	Calif	1,230	1,352	1,399	2,100	1,474
Minn	78	64	41	61	38						
						United States	33,905	21,557	31,945	35,936	28,701

Division of Crop and Livestock Estimates. Included in "Apples" (preceding table).

By commercial crop is meant that portion of the total crop which is sold for consumption as fresh fruit. One barrel is equivalent to three boxes.

[1] Preliminary.

TABLE 161.—*Apples: Percentage reduction from full yield, from stated causes, as reported by crop correspondents, 1912–1923*

Year	Adverse weather conditions								Plant disease	Insect pests	Animal pests	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic [1]					
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1912	2.5	0.9	0.3	10.2	0.7	0.3	0.9	16.9	4.2	3.1	0.1	8.1	32.4
1913	10.3	.4	.4	24.3	.6	.9	.6	39.9	1.0	5.2	[2]	7.4	53.5
1914	6.5	.3	[2]	6.4	.6	.4	.6	15.2	.8	5.0	.1	7.1	28.2
1915	1.2	1.9	.2	15.8	.9	.1	1.2	21.8	5.2	3.0	.1	5.3	35.4
1916	5.4	3.2	.2	9.9	.9	.6	1.4	22.8	5.6	3.0	.1	7.1	38.6
1917	4.1	3.8	.1	15.3	1.0	.3	1.1	27.0	4.7	2.8	.1	9.6	44.2
1918	7.5	.7	.2	19.1	.8	1.0	.7	30.7	4.2	2.8	.2	7.0	44.9
1919	4.3	2.9	.1	29.1	.6	.6	1.0	39.1	5.1	2.7	.1	5.7	52.7
1920	2.2	.8	.2	21.6	.8	.2	.7	16.6	4.4	1.9	.1	2.9	25.9
1921	5.0	.7		50.3	.6	.3	.6	57.7	3.0	1.9	.1	2.4	65.1
1922	4.1	1.3		13.4	.8	.4	.7	21.3	4.8	2.4	.1	1.7	30.3
1923	5.7	.6	.1	16.9	1.0	.1	.7	25.3	4.5	2.7	.1	2.0	34.6

Division of Crop and Livestock Estimates.

[1] Includes all other climatic.

[2] Less than 0.05 per cent.

TABLE 162.—*Apples: Car-lot shipments, by State of origin, June, 1917–June, 1924*

State	Crop movement season [1]						
	1917	1918	1919	1920	1921	1922	1923 [2]
BOX AREA	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Montana	171	262	500	430	686	351	462
Colorado	2,064	1,984	3,225	2,861	3,886	3,385	2,716
New Mexico	636	407	959	279	615	438	1,367
Arizona				5	2	14	9
Utah	355	441	199	619	735	718	947
Idaho	3,528	536	3,943	2,881	5,811	4,230	6,912
Washington	15,837	16,232	27,169	[3] 21,627	32,961	28,291	37,649
Oregon	3,448	2,246	5,443	3,170	6,543	3,893	6,428
California	1,630	3,473	4,153	4,503	5,055	4,966	6,504
Total box	27,669	25,581	45,591	[3] 36,375	56,294	46,286	62,994
BARREL AREA							
Maine	1,248	257	2,343	414	4,306	278	876
New Hampshire	276	120	507	249	321	187	311
Massachusetts	358	252	407	627	159	284	246
New York	5,867	22,900	10,286	[4] 33,860	17,735	29,981	20,357
New Jersey	1,001	936	737	856	179	447	399
Pennsylvania	913	1,794	1,266	3,402	226	2,038	4,030
Delaware	349	375	498	751	126	1,751	1,590
Maryland	436	714	600	1,637	138	1,124	2,179
Virginia	4,589	4,227	7,075	8,762	323	6,975	9,827
West Virginia	1,280	2,919	2,849	4,880	801	2,240	7,384
Ohio	274	448	255	976	615	424	1,044
Illinois	5,554	[5] 2,676	2,935	3,471	445	4,840	6,824
Michigan	1,385	2,862	3,435	6,212	5,992	6,015	9,237
Missouri	2,600	1,167	2,155	1,725	[6]	3,080	4,011
Kansas	1,131	398	535	758	62	1,083	1,412
Arkansas	1,545	1,065	4,553	2,666	[6]	2,620	2,759
All other	1,931	939	1,008	1,679	[7] 592	2,630	2,518
Total barrel	30,737	[5] 44,049	41,444	[4] 72,905	[7] 32,020	65,997	75,004
Total box and barrel	58,406	[5] 69,630	87,035	[8] 109,280	[7] 88,314	112,283	137,998

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] The crop movement season extends from June 1 of one year through June of the following year.
[2] Preliminary.
[3] Includes 10 cars in July, 1921.
[4] Includes 3 cars in July, 1921.
[5] Includes 2 cars in July, 1919.
[6] Included in all other.
[7] Includes 1 car in May, 1921.
[8] Includes 13 cars in July, 1921.

TABLE 163.—*Apples: Car-lot shipments, by State of origin, June, 1917–December, 1924*

State and year	Crop movement season [1]												Total
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
New York:	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1917			19	397	1,339	1,149	439	444	693	685	470	186	46	5,867
1918		8	486	2,026	7,662	4,199	2,388	2,215	1,951	1,130	564	228	43	22,900
1919		23	169	978	3,195	1,171	829	632	992	1,218	576	447	56	10,286
1920		4	747	2,488	9,125	7,996	3,376	2,600	3,254	2,655	1,074	449	[2] 92	[2] 33,860
1921		98	970	3,064	5,855	1,206	839	1,090	1,485	1,472	970	563	123	17,735
1922		68	1,360	3,502	7,988	5,711	1,968	2,193	2,241	2,309	1,482	963	166	29,981
1923		4	334	1,715	4,297	3,317	1,201	1,694	2,000	2,821	1,697	993	284	20,357
1924 [3]		7	583	1,530	3,772	2,808	1,177							
Pennsylvania:														
1917			12	36	526	145	62	28	42	18	39	5		913
1918		25	39	253	839	247	124	143	73	45	6			1,794
1919		2	14	170	699	121	76	93	62	21	3	5		1,266
1920		27	27	190	1,379	674	382	299	262	151	10	1		3,402
1921			1	67	109	9	7	7	15	9	2			226
1922		19	23	270	840	372	220	177	71	21	17	8		2,038
1923		20	30	382	1,611	933	292	303	288	142	19	8	2	4,030
1924 [3]		4	5	67	552	299	161							
Virginia:														
1917	6	36	115	1,091	1,887	548	131	131	250	211	156	27		4,589
1918		29	100	867	1,569	740	235	283	171	83	92	49	9	4,227
1919		43	238	1,933	2,732	592	394	313	336	308	114	72		7,075
1920		46	102	1,523	3,143	1,275	811	680	468	354	219	116	25	8,762
1921			9	126	87	17	34	16	10	16	8			323
1922	5	32	300	1,741	2,349	1,139	465	342	133	94	98	160	117	6,975
1923		50	129	1,963	3,892	1,482	773	711	309	201	115	98	104	9,827
1924 [3]		56	168	2,323	5,464	2,375	512							

[1] The crop movement season extends from June 1 of one year through June of the following year.
[2] Includes 3 cars in July.
[3] Preliminary.

TABLE 163.—*Apples: Car-lot shipments, by State of origin, June, 1917–December, 1924*—Continued

State and year	Crop movement season [1]												Total
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
West Virginia:	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	
1917		9	24	231	478	223	98	37	87	66	27			1,280
1918		23	71	504	1,254	718	202	78	34	32		3		2,919
1919		23	90	620	1,267	365	160	95	82	71	61	15		2,849
1920		63	75	744	2,269	874	209	179	118	146	109	84	10	4,880
1921		4	18	412	176	19	27	15	42	59	27	2		801
1922	10	28	75	451	1,005	310	141	84	37	36	38	25		2,240
1923		78	118	1,162	3,446	1,585	340	314	115	119	42	30	35	7,384
1924 [2]		46	91	505	1,724	623	126							
Illinois:														
1917	12	353	140	1,242	3,001	664	3	12	49	33	37	8		5,554
1918	24	244	81	518	1,210	219	46	66	100	69	46	39	[4] 14	[4] 2,676
1919	36	340	70	807	1,142	131	11	73	90	111	47	55	13	2,985
1920	50	528	217	789	1,268	296	34	45	28	113	69	26	8	3,471
1921	35	24	51	114	94	8	9	33	46	12	7	12		445
1922	312	526	253	1,294	1,557	492	58	65	85	88	61	48	1	4,840
1923	22	481	203	1,603	3,519	607	78	75	61	45	69	41	20	6,824
1924 [3]	37	483	304	1,149	2,648	396	79							
Michigan:														
1917			127	271	432	511	23	6	5	10				1,385
1918		88	414	480	1,532	307	27	5	4	4	1			2,862
1919		12	608	1,040	1,587	175	7	2		1	1	2		3,435
1920		55	1,152	1,188	2,102	1,300	175	51	92	70	26	1		6,112
1921		516	1,219	1,772	2,327	112	15	12	11	7	1			5,992
1922		307	913	997	2,717	854	95	42	33	35	20	2		6,015
1923		39	1,220	1,406	3,851	1,970	240	80	142	180	83	23	3	9,237
1924 [3]	1	2	387	654	1,335	647	45							
Washington:														
1917			56	409	5,280	4,582	1,447	1,043	1,461	967	513	77	2	15,837
1918		22	138	1,023	6,209	4,481	2,139	700	814	420	211	60	15	16,232
1919		35	164	1,763	9,401	6,682	1,875	1,854	1,881	1,864	1,133	498	19	27,169
1920		33	111	653	7,521	4,967	2,069	1,123	1,699	1,498	1,056	700	[5] 197	[5] 21,627
1921		33	120	2,509	12,758	7,749	3,124	2,070	2,368	994	636	491	112	32,961
1922		33	78	2,187	6,792	5,596	3,208	4,194	3,007	2,004	780	294	28	28,291
1923		65	204	2,486	13,111	7,871	2,708	3,411	3,812	1,960	1,073	813	135	37,649
1924 [3]	8	26	192	3,186	8,936	5,515	2,047							
Oregon:														
1917			4	43	629	1,207	627	219	260	335	117	7		3,448
1918		2	9	59	723	746	359	126	128	72	15	7		2,246
1919		4	10	192	1,354	1,478	781	798	406	232	108	80		5,443
1920		1	3	36	961	1,079	452	260	207	116	43	12		3,170
1921		9	11	300	2,340	1,897	1,032	496	298	109	44	6	1	6,543
1922		1	1	98	867	1,238	706	451	314	191	23	3		3,893
1923		19	27	371	2,241	2,012	635	482	394	186	59	1	1	6,428
1924 [3]			40	497	2,375	1,469	640							
California:														
1917		112	173	514	404	216	62	22	31	36	30	25	2	1,630
1918	6	66	468	486	797	585	501	198	226	81	42	12	5	3,473
1919	5	273	441	877	908	709	370	155	118	173	48	41	5	4,153
1920	6	244	723	967	1,018	765	373	106	84	73	79	56	9	4,503
1921	13	352	690	1,224	1,494	699	181	120	117	101	42	21	1	5,055
1922	2	220	998	782	918	887	494	179	103	168	107	78	30	4,966
1923	61	1,200	984	1,277	1,431	771	219	122	77	122	55	65	30	6,504
1924 [4]	16	720	619	942	1,174	691	187							
All other:														
1917	36	241	638	1,485	7,919	4,920	1,101	420	351	521	258	12	1	17,903
1918	148	642	553	1,854	4,885	1,321	299	230	178	127	29	32	3	10,301
1919	61	592	899	3,879	10,381	4,430	798	378	422	379	138	61	6	22,424
1920	107	854	704	2,465	8,498	3,861	994	703	486	519	134	50	18	19,393
1921	[6] 28	171	295	3,568	9,817	2,748	723	340	364	124	26	22	[6] 6	[6] 18,232
1922	515	1,358	922	3,648	8,982	4,028	1,371	845	587	466	181	96	14	23,044
1923	70	1,314	873	4,324	12,477	6,023	1,575	1,128	993	561	230	129	61	29,758
1924 [5]	139	969	683	3,685	9,942	4,222	1,096							
Total:														
1917	54	751	1,308	5,719	21,895	14,165	3,993	2,362	3,232	2,882	1,647	347	51	58,406
1918	178	1,149	2,359	8,070	26,680	13,563	6,320	4,044	3,679	2,903	1,006	430	[4] 89	[4] 69,630
1919	102	1,347	2,712	12,259	32,666	15,854	5,301	4,393	4,419	4,378	2,229	1,276	99	87,035
1920	163	1,855	3,861	11,043	37,284	23,087	8,875	6,046	6,698	5,695	2,819	1,495	[7] 359	[7] 109,280
1921	[6] 77	1,207	3,384	13,153	35,057	14,464	5,991	4,199	4,756	2,903	1,763	1,117	243	[6] 88,314
1922	874	2,592	4,923	14,970	34,015	20,627	8,816	8,573	6,611	5,502	2,807	1,617	356	112,283
1923	153	3,360	4,122	16,689	49,876	26,571	8,061	8,320	8,191	6,337	3,442	2,201	675	137,998
1924 [4]	201	2,313	3,072	14,538	37,922	19,045	6,070							

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Preliminary.
[2] Includes 2 cars in July.
[3] Includes 10 cars in July.
[4] Includes 1 car in May.
[5] Includes 13 cars in July.

TABLE 164.—*Apples, green or ripe: Exports from the United States, by countries, 1900–1924*

Year ended June 30—	United Kingdom	Germany	France	Sweden	Norway	Denmark	Other Europe	Total Europe	Canada	Mexico	Australia	Cuba	Brazil	Argentina	Other countries	Total
	Barrels	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*	*Barrels*
1900	388,966	64,086	3,346	[1] 3,255	(2)	105	1,427	461,185	17,869	4,243	9,270	8,361	1,724	.....	23,984	526,636
1901	794,660	33,495	101	[1] 1,554	(2)	4	789	830,603	16,489	5,041	7,142	8,229	2,012	2	14,155	883,673
1902	380,495	21,873	333	[1] 2,024	(2)	43	1,381	406,149	19,650	5,488	10,836	5,424	86	5	12,081	459,719
1903	1,428,242	156,717	3,556	105	1,255	972	1,312	1,592,159	18,451	6,678	6,161	7,928	3,394	12	21,346	1,656,129
1904	1,553,341	333,586	37,205	259	927	6,608	22,892	1,954,818	15,629	9,071	10,003	6,637	4,005	.....	18,099	2,018,262
1905	1,250,118	165,903	474	155	857	1,042	4,314	1,422,863	21,840	12,278	7,770	11,505	5,596	1	18,089	1,499,942
1906	925,087	167,752	26,912	62	662	1,314	14,208	1,135,997	20,900	11,312	14,204	9,628	4,354	.....	12,594	1,208,989
1907	1,171,987	201,218	1,336	3,488	2,538	7,863	10,846	1,399,276	51,438	16,294	12,859	18,864	7,697	3	32,836	1,539,267
1908	806,224	124,618	742	185	1,781	4,744	3,072	941,366	44,045	10,834	11,399	13,580	6,331	72	21,918	1,049,545
1909	677,371	36,463	882	1,226	2,103	10,655	2,094	730,794	65,920	17,157	21,120	16,699	7,205	256	37,129	896,279
1910	646,726	108,786	255	14	2,321	4,569	3,015	765,686	68,920	20,899	3,400	16,835	9,462	580	36,296	922,078
1911	1,318,110	112,319	842	2,283	4,914	11,959	4,810	1,455,237	155,081	18,539	12,230	21,928	13,387	1,180	43,524	1,721,106
1912	994,551	122,823	1,421	350	3,705	10,626	5,155	1,138,631	206,857	23,799	427	18,962	20,956	8,464	38,285	1,456,381
1913	1,318,426	272,382	2,308	3,926	14,628	17,439	4,906	1,634,015	376,951	31,271	14,346	19,745	14,172	7,239	52,393	2,150,132
1914	827,028	168,792	3,374	1,236	6,857	6,455	13,010	1,026,752	299,347	11,080	35,536	13,764	25,314	36,266	58,510	1,506,569
1915	1,747,396	.....	369	6,111	20,021	47,437	20,231	1,841,565	318,840	8,000	22,679	26,595	26,297	49,179	58,346	2,351,501
1916	874,587	.....	1,549	8,787	25,323	56,520	1,005	967,771	301,986	10,365	34,809	28,210	28,486	44,003	50,691	1,466,321
1917	1,147,412	.....	6,144	3,573	20,410	11,989	1,463	1,190,991	314,955	36,686	25,343	30,093	25,297	58,453	58,179	1,739,997
1918	1,766	.....	5	.....	.....	168	968	2,907	457,948	57,465	7,603	30,854	15,347	29,176	34,109	635,409
1919	1,016,945	.....	2,125	32,732	116,791	31,455	2,173	1,202,221	264,665	33,442	.....	26,936	11,718	6,576	30,790	1,576,348
1920	600,578	55	634	14,273	76,382	15,105	2,389	709,416	188,543	25,676	13	28,151	23,557	28,336	46,906	1,050,598
1921	2,061,622	1,498	445	13,039	74,960	21,576	4,981	2,178,121	327,561	46,500	3,755	40,233	13,247	14,907	40,777	2,665,101
1922 bbls.	458,227	74	63	2,803	27,839	9,031	1,287	499,324	44,824	20,983	.....	20,523	6,774	7,857	28,896	629,181
1922 boxes[3]	939,675	2	259	33,399	57,534	23,587	4,695	1,059,151	264,677	26,011	.....	10,365	8,280	4,200	22,250	1,394,934
1923 bbls.	480,437	18	25	1,180	13,261	7	988	495,916	47,005	4,414	.....	20,156	1,602	13,083	10,105	592,581
1923 boxes	2,503,633	14,483	1,258	25,254	128,537	21,969	4,536	2,699,670	347,919	103,824	2	49,973	39,550	60,777	189,529	3,491,244
1924 bbls.	1,734,786	42,568	35	78,768	30,244	26,428	7,685	1,920,514	45,459	1,749	234	24,537	232	26,794	12,722	2,032,241
1924 boxes	3,661,826	476,633	1,290	179,274	175,862	118,238	267,690	4,880,813	645,817	126,223	.....	85,425	84,543	86,716	288,662	6,198,199

Division of Statistical and Historical Research.
Compiled from Foreign Commerce and Navigation of the United States.

[1] Includes Norway.
[2] Included in Sweden.
[3] Six months, January–June. Previous to January, 1922, boxed apples were included with barreled apples.

TABLE 165.—*Apples: Cold-storage holdings in the United States, October 1, 1914–December 1, 1924* [1]

[Thousands—i. e., 000 omitted]

BARRELS

Season beginning October	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1
1914				2,929	2,438	1,716	896	299	61
1915		3,093	4,213	3,743	3,324	2,543	1,561	799	218
1916		2,530	3,166	2,680	2,121	1,560	1,044	543	183
1917		2,558	3,195	2,754	2,226	1,575	978	356	101
1918		2,915	3,280	2,582	1,704	962	487	198	68
1919	824	3,108	3,326	2,693	2,092	1,385	705	274	64
1920	452	3,516	4,570	3,966	3,016	2,020	1,027	449	170
1921	570	1,822	1,979	1,742	1,424	996	561	248	74
1922	1,219	4,133	4,319	3,708	2,839	2,013	1,199	578	150
1923	664	4,619	5,477	4,962	3,993	3,024	1,925	1,113	451
1924	543	3,551	4,167						

BOXES

1914				4,091	3,441	2,323	1,341	525	142
1915		1,789	3,685	3,210	2,738	2,096	1,268	709	258
1916		2,190	3,977	4,356	3,790	2,646	1,504	796	246
1917		2,216	4,483	5,534	5,192	3,764	2,416	986	172
1918		2,513	4,945	5,137	4,205	2,431	1,410	545	170
1919	440	4,244	7,793	8,508	7,296	5,331	2,982	1,598	447
1920	277	2,878	6,651	7,259	6,266	4,890	3,548	2,009	826
1921	667	5,464	11,281	11,061	8,667	6,282	4,107	2,088	721
1922	699	4,164	7,271	8,319	7,612	5,593	3,345	1,475	380
1923	789	6,886	13,866	14,201	11,550	8,821	5,837	2,901	949
1924	829	6,620	9,917						

BARRELS AND BOXES [2]

1914				4,293	3,585	2,491	1,343	474	108
1915		3,689	5,441	4,813	4,236	3,242	1,984	1,035	304
1916		3,260	4,492	4,132	3,385	2,442	1,545	808	265
1917		3,296	4,689	4,599	3,957	2,830	1,783	678	159
1918		3,752	4,928	4,294	3,105	1,772	956	380	125
1919	971	4,523	5,923	5,529	4,524	3,162	1,699	806	213
1920	544	4,475	6,787	6,386	5,105	3,650	2,210	1,119	445
1921	792	3,643	5,739	5,429	4,313	3,090	1,930	944	314
1922	1,452	5,521	6,743	6,481	5,376	3,877	2,314	1,070	277
1923	927	6,914	10,099	9,696	7,843	5,965	3,871	2,080	768
1924	820	5,758	7,473						

Division of Statistical and Historical Research.

[1] All apples, except those packed in western-style boxes, are tabulated in terms of barrels, on the basis of 3 bushels to the barrel; since Oct. 1, 1923, apples packed in bushel baskets are also included in this tabulation. Three boxes are considered the equivalent of 1 barrel.

[2] In terms of barrels.

TABLE 166.—*Apples: Farm price per bushel, 15th of month, United States, 1910–1924*

Year beginning June	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	112.0	76.9	73.8	73.6	77.4	89.3	100.2	115.7	118.6	124.7	138.8	138.6	88.1
1911	135.4	94.8	73.0	70.2	65.8	73.1	86.1	92.7	98.8	103.5	114.9	128.8	76.6
1912	108.0	82.5	67.5	62.2	61.3	63.5	72.6	74.3	78.4	82.4	85.0	94.0	66.8
1913	101.2	86.0	75.2	76.5	85.6	94.4	103.6	110.6	123.0	128.9	137.1	146.4	93.0
Av. 1910–1913	114.2	85.0	72.4	70.6	72.5	80.1	90.6	98.3	104.7	109.9	119.0	127.2	81.1
1914	135.6	91.2	68.6	61.6	56.0	57.3	66.6	69.3	73.1	73.4	80.1	90.6	62.7
1915	90.3	78.4	61.8	58.0	66.1	72.4	77.0	86.1	90.5	91.2	94.8	97.5	71.0
1916	104.9	86.5	80.7	75.6	82.5	92.0	103.4	104.3	114.4	126.9	137.1	142.9	90.7
1917	146.5	125.1	100.6	96.6	105.1	116.8	127.4	132.9	138.5	142.6	143.9	155.8	113.6
1918	144.6	125.7	114.5	118.9	129.4	138.9	150.9	148.9	159.8	190.1	203.5	220.8	137.5
1919	223.4	187.6	161.4	153.2	175.6	184.9	213.9	215.9	229.2	236.7	253.5	285.8	186.1
1920	249.1	196.7	152.1	134.8	125.9	130.7	143.2	130.8	132.8	134.7	142.2	162.3	134.4
Av. 1914–1920	156.3	127.3	105.7	99.8	105.8	113.3	126.1	126.9	134.0	142.2	150.7	165.1	113.7
1921	173.9	165.3	165.1	171.4	196.4	215.7	224.5	188.5	206.7	206.2	194.5	241.4	196.2
1922	202.7	181.7	100.4	94.3	93.4	101.5	108.6	131.5	142.3	144.9	156.5	178.7	107.5
1923	188.6	166.7	121.4	108.0	114.0	114.6	114.0	121.3	125.0	129.1	129.4	131.3	117.3
1924	159.3	141.3	121.6	109.8	115.9	119.5	128.2						

Division of Crop and Livestock Estimates.

TABLE 167.—*Apples: Average l. c. l. price to jobbers at 10 markets, 1920-1924*—Continued

IN BOXES—Continued

Market, Season beginning September	September [1]		October		November average	December average	January average	February average	March average	April		May [2]	
	Range	Average	Range	Average						Range	Average	Range	Average
St. Louis:													
1921							$2.70	$3.09	$2.97				
1922													
1923													
1924													
Cincinnati:													
1920							2.40						
1921													
1922						$2.05							
1923													
1924													
St. Paul:													
1920			$3.25–$3.75	$3.50	$3.34	3.23	3.09	3.54	3.28	$3.00–$3.75	$3.29	$3.00–$3.50	$3.27
1921	$2.25–$3.75	$2.81	3.00– 4.25	3.62	3.56	3.62	3.32	3.15	3.33	3.00– 3.50	3.26		
1922	2.25– 2.50	2.38	1.80– 3.50	2.20	2.64	2.45	2.27	2.21	2.41	2.40– 2.75	2.56	2.50– 2.85	2.72
1923			2.00– 3.00	2.42	2.50	2.59	2.78	2.88	2.85	2.15– 3.50	2.53	2.25– 2.75	2.33
1924													
Minneapolis:													
1920			3.40– 4.40	3.80	3.74	3.59	3.18	3.45	3.41	3.00– 3.75	3.38	3.00– 3.75	3.38
1921	2.25– 4.75	3.22	2.90– 4.75	3.75	3.57	3.77	3.46	3.39	3.57	3.00– 4.00	3.46		
1922	2.40– 3.37	2.59	1.75– 3.50	2.50	2.70	2.62	2.59	2.40	2.58	2.50– 3.00	2.79	2.50– 3.00	2.78
1923			1.30– 3.15	2.55	2.49	2.37	2.60	2.88	2.73	2.10– 3.50	2.53	2.25– 2.75	2.37
1924	2.75– 3.50	3.09	2.75– 4.50	3.09	3.70	3.79							
Kansas City:													
1920			3.00– 4.50	3.61	3.60	3.07	2.84	3.29	3.53	3.50– 4.50	4.00	3.50– 4.50	4.00
1921	3.75	3.75	2.75– 4.50	3.54	3.63	3.52	3.49	3.59	3.75	3.00– 4.50	3.48		
1922			1.75– 3.50	2.76	2.78	2.75	2.74	2.70	3.18	2.75– 4.00	3.32	2.75– 3.25	3.00
1923	2.50– 3.25	2.74	1.25– 4.00	2.69	2.38	2.38	2.68	2.75	2.86	2.25– 3.75	2.92	2.40– 3.75	3.06
1924	1.75– 4.00	2.67	1.75– 5.00	3.63	3.62	3.62							
Washington:													
1921			2.25– 5.00	3.75	3.64	3.38	3.06	3.52	3.44	3.00– 4.50	3.54		
1922					2.79	2.54	2.62	2.38	2.39	2.00– 3.25	2.85	2.50– 4.25	3.05
1923	1.50– 3.50	2.85	1.25– 3.75	2.77	2.69	2.62	2.74	2.89	2.72	1.50– 4.00	2.38	1.75– 2.75	2.36
1924	2.75– 4.00	3.30	2.50– 4.50	3.72	3.60	3.63							

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices. Since all varieties are included, these figures can be taken only as an index of the changes in the level of apple prices.

[1] Quotations began on Sept. 1 in 1920, 1922, 1923; Sept. 7, 1921; Sept. 2, 1924. [2] Last reported quotations of season May 28, 1921; May 1, 1922; May 12, 1923, June 8, 1924.

TABLE 168.—*Apples: Average l. c. l. price to jobbers per barrel at New York, September, 1900–December, 1924*

Season beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1900	$1.93	$1.97	$2.53	$3.10	$2.75	$3.15	$3.55	$3.81	$3.72
1901	3.41	3.62	4.78	5.00	5.00	5.06	4.90	4.25	4.40
1902	1.91	1.97	2.20	2.00	2.37	2.59	2.12	2.00	2.52
1903	2.69	2.43	2.94	2.71	2.90	2.97	3.06	3.02	2.91
1904	2.00	2.03	1.96	2.25	2.38	2.44	2.75	2.43	2.97
1905	3.18	2.97	3.75	3.75	3.75	4.50	4.82	6.06	5.59
1906	2.67	3.32	3.06	2.62	2.88	3.25	3.22	3.66	5.00
1907	3.72	3.56	3.55	3.34	3.46	3.52	3.22	3.00	2.60
1908	2.68	3.04	3.16	3.50	4.09	4.53	4.68	5.00	5.02
1909	3.72	4.22	3.81	3.69	3.82	3.21	3.28	3.48	3.71
1910	3.50	3.65	3.75	4.14	4.12	4.50	4.75	5.35	5.31
1911	2.55	3.06	2.71	3.12	2.84	2.96	3.39	4.20	4.00
1912	2.66	3.06	2.75	2.62	2.71	2.78	2.70	3.12	4.00
1913	3.29	3.44	3.75	4.00	4.06	4.79	4.75	5.34	5.14
Average, 1909–1913	3.14	3.49	3.35	3.51	3.53	3.65	3.77	4.30	4.43
1914	2.38	2.22	2.78	3.12	2.80	2.91	2.84	3.56	3.65
1915	2.38	2.95	3.12	3.06	3.05	3.19	3.33	3.12	2.96
1916	3.30	3.38	4.18	4.60	5.00	5.38	5.91	5.53	5.28
1917	4.08	4.44	4.94	5.10	5.00	4.88	4.92	5.75	6.75
1918	5.38	6.03	5.98	6.31	6.50	7.88	9.55	10.00	10.80
1919	6.12	7.81	7.55	7.50	7.00	8.06	7.50	7.08	9.25
1920	4.86	5.23	5.66	4.71	4.80	5.01	6.01	6.79	8.03
Average, 1914–1920	4.07	4.58	4.89	4.91	4.88	5.33	5.72	5.98	6.67
1921	8.09	7.72	7.18	7.82	8.23	8.62	7.64	7.44	.....
1922	3.53	4.63	4.94	4.67	5.08	5.09	5.37	6.03	6.75
1923	5.16	4.80	4.58	4.71	4.46	4.59	4.50	4.82	4.29
1924	4.53	5.82	6.51	6.21	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. September, 1900, to May, 1920, compiled from the American Agriculturist, average of weekly range; subsequently, compiled from data of the Fruit and Vegetable Division, average of daily range. Since all varieties are included, these figures can be taken only as an index of the changes in the level of apple prices.

TABLE 169.—*Apples: Average l. c. l. price to jobbers per barrel at New York for October 15, January 1, and March 1, 1881–1924*

Season beginning	Oct. 15	Jan. 1	Mar. 1	Season beginning	Oct. 15	Jan. 1	Mar. 1	Season beginning	Oct. 15	Jan. 1	Mar. 1
1881	$3.00	$3.00	$2.75	1899	$2.38	$2.62	$3.12	1914	$2.50	$2.88	$3.25
1882	2.25	2.88	3.40	1900	1.88	3.12	3.12	1915	2.88	3.00	3.00
1883	2.25	3.25	3.48	1901	3.50	5.00	5.25	1916	3.12	4.88	5.62
1884	1.38	1.88	2.85	1902	1.88	2.25	2.25	1917	4.50	5.00	5.00
1885	1.50	1.94	1.56	1903	2.50	2.75	3.00	1918	5.38	6.50	9.25
1886	2.00	4.00	3.00	1904	1.88	2.38	2.62	1919	6.75	6.50	8.25
1887	1.68	2.88	2.50	1905	3.00	3.75	4.62	1920	5.25	5.50	5.38
1888	2.25	1.88	1.38	1906	3.38	2.55	3.12	Average 1914–1920	4.34	4.89	5.68
1889	2.75	3.00	3.25	1907	3.75	3.38	3.50				
1890	3.00	4.00	4.25	1908	3.25	3.75	4.75	1921	8.75	9.00	10.00
1891	1.50	1.50	1.72	1909	4.00	4.12	3.25	1922	4.62	6.12	6.38
1892	2.00	3.00	2.50	1910	3.75	4.00	4.50	1923	4.88	4.75	5.50
1893	2.25	3.88	4.52	1911	3.25	2.75	2.88	1924	6.12	.....	.....
1894	2.00	2.50	4.00	1912	3.00	2.75	2.88				
1895	1.62	2.50	3.02	1913	3.50	4.25	4.88				
1896	1.38	1.31	2.38	Average 1909–1913	3.50	3.57	3.68				
1897	2.88	3.75	3.25								
1898	3.00	3.75	4.25								

Division of Statistical and Historical Research. To March 1, 1920, compiled from the American Agriculturist; subsequently compiled from data of the Fruit and Vegetable Division, average of the daily range. Since all varieties are included, these figures can be taken only as an index of the changes in the level of apple prices.

CITRUS FRUITS

TABLE 170.—*Oranges: Production and value, 1915–1924*

Year	Florida			California			Total		
	Production	Average price per box Dec. 1	Farm value Dec. 1	Production	Average price per box Dec. 1	Farm value Dec. 1	Production	Average price per box Dec. 1	Farm value Dec. 1
	1,000 boxes	*Dollars*	*1,000 dollars*	*1,000 boxes*	*Dollars*	*1,000 dollars*	*1,000 boxes*	*Dollars*	*1,000 dollars*
1915	6,150	1.88	11,562	15,050	2.60	39,130	21,200	2.39	50,692
1916	6,933	2.05	14,213	17,500	2.70	47,250	24,433	2.52	61,463
1917	3,500	2.30	8,050	7,093	2.75	19,506	10,593	2.60	27,556
1918	5,700	2.65	15,105	18,500	3.75	69,375	24,200	3.49	84,480
1919	7,000	2.50	17,500	15,528	2.75	42,702	22,528	2.67	60,202
1920	8,100	2.20	17,820	21,600	2.18	47,088	29,700	2.19	64,908
1921	7,300	2.00	14,600	13,000	2.80	36,400	20,300	2.51	51,000
1922	9,700	2.30	22,310	20,500	2.00	41,000	30,200	2.10	63,310
1923	12,400	1.35	16,740	24,100	2.00	48,200	36,500	1.78	64,940
1924[1]	13,400	1.35	18,090	22,000	2.10	46,200	35,400	1.82	64,290

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 171.—*Citrus fruits: Car-lot shipments, by State of origin, September, 1917–September, 1924*

GRAPEFRUIT

State	Crop movement season[1]						
	1917	1918	1919	1920	1921	1922	1923[2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Florida	2,914	6,100	10,820	11,062	12,941	16,969	19,482
Texas					7	48	99
Arizona		13	25	51	62	103	156
California	234	353	479	433	475	552	430
Total	3,148	6,466	11,324	11,546	13,485	17,672	20,167

LEMONS

Texas							1
Arizona						1	2
California	5,030	9,636	8,948	11,794	10,562	8,488	12,740
Total	5,030	9,636	8,948	11,794	10,562	8,489	12,743

ORANGES

Florida	7,418	15,259	16,912	20,890	15,369	22,639	33,410
Alabama	2	6	5	71	150	396	600
Mississippi							13
Louisiana							3
Texas							3
Arizona	21	77	93	48	78	70	94
California	14,413	33,905	34,154	46,829	28,372	48,342	41,788
Total	21,854	49,247	51,164	67,838	43,969	71,447	75,906

TOTAL CITRUS FRUITS (GRAPEFRUIT, LEMONS, AND ORANGES)

Florida	10,332	21,359	27,732	31,952	28,310	39,608	52,892
Alabama	2	6	5	71	150	396	600
Mississippi							13
Louisiana							3
Texas					7	48	103
Arizona	21	90	118	99	140	174	252
California	19,677	43,894	43,581	59,056	39,409	57,382	54,953
Total	30,032	65,349	71,436	91,178	68,016	97,608	108,816

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from Sept. 1 of one year through September of the following year.
[2] Preliminary.

TABLE 172.—*Grapefruit, Florida: Average auction price per box at New York, 1919–1924*

Season beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1919	$3.72	$3.67	$3.29	$3.16	$3.28	$3.60	$4.05	$5.02	[1]$2.61	[1]$6.20	[2]$3.70
1920	5.31	4.71	3.92	4.86	4.30	4.71	4.55	4.54	4.21	[1] 4.33	[2] 4.55
1921	3.37	3.52	3.86	3.47	3.78	3.91	4.46	5.20	6.18	[1] 5.22	[2] 4.03
1922	3.75	3.84	4.00	3.73	3.96	3.63	3.98	3.48	3.26	2.96	3.70
1923	2.89	2.80	2.91	3.00	2.86	3.15	3.02	3.45	2.72	3.06	2.98
1924	4.19	2.99	2.39								

Division of Statistical and Historical Research. Compiled from New York Daily Fruit Reporter.
Monthly average obtained by taking simple average of reported averages of all sales of "golden" grade. Includes all sizes. Yearly average weighted by number of sales reported during each month.

[1] Ten sales or less during month.
[2] See footnotes to figures used in obtaining this average.

TABLE 173.—*Lemons, California: Average auction price per box at New York, 1919–1924*

Season beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1919	$7.33	$3.79	$2.45	$2.25	$6.00	$3.81	$3.76	$3.12	$2.60	$1.87	$3.18	$2.61	$3.59
1920	4.73	2.78	3.04	3.39	4.11	3.14	2.91	3.82	8.17	8.99	3.72	5.87	4.64
1921	4.96	3.40	4.34	4.79	4.68	4.15	3.84	4.95	4.50	3.45	4.37	8.52	4.38
1922	8.51	7.44	5.61	5.01	5.42	4.20	4.79	6.12	7.92	6.07	7.68	7.28	6.25
1923	4.40	3.31	3.42	3.01	3.37	3.37	3.51	3.18	3.40	2.80	4.80	4.65	3.56
1924	4.90	6.80	4.65										

Division of Statistical and Historical Research. Compiled from New York Daily Fruit Reporter.
Monthly average obtained by taking simple average of reported averages of all sales. Includes all sizes and grades. Yearly average weighted by number of sales reported during each month.

TABLE 174.—*Oranges, California navel: Average auction price per box at New York, 1919–1924*

Season beginning December	December	January	February	March	April	May	June	Average
1919	$5.80	[1] $5.98	[1] $6.39	$5.13	$7.10	$5.71	$4.76	[2] $5.70
1920	5.79	4.96	3.56	4.20	4.41	5.01	5.71	4.63
1921	6.46	4.64	[1] 4.81	6.51	[1] 6.97	[1] 6.78		[2] 6.07
1922	5.00	4.34	4.17	3.91	4.60	4.61	4.67	4.45
1923	4.44	3.50	3.50	3.23	4.05	3.49	[1] 4.35	[2] 3.67
1924	4.71							

Division of Statistical and Historical Research. Compiled from New York Daily Fruit Reporter.
Monthly average obtained by taking simple average of reported averages of all sales of the following-named brands: Paul Neyron, Golden Cross, Glendora Heights, Pinnacle, Earlibest, and Big Tree. Includes all sizes. Yearly average weighted by number of sales reported during each month.

[1] Ten sales or less during month.
[2] See footnotes to figures used in obtaining this average.

TABLE 175.—*Oranges, California Valencia: Average auction price per box at New York, 1919–1924*

Season beginning May	May	June	July	August	September	October	November	December	Average
1919	[1] $6.03	$5.56	$5.49	$5.90	$6.91	$6.63	$5.56	$5.24	[2] $5.69
1920	4.91	6.52	7.05	7.57	7.88	7.91	9.22	[1] 8.07	[2] 7.56
1921	5.08	5.76	5.35	6.24	6.23	6.82	6.31		6.09
1922	7.86	8.42	9.33	8.95	9.09	8.45	5.04	[1] 5.90	[2] 8.13
1923	4.81	5.65	4.77	4.45	5.56	5.87	6.89		5.36
1924	4.34	4.97	4.57	5.81	5.92	6.64	6.53	[1] 5.19	[2] 5.70

Division of Statistical and Historical Research. Compiled from New York Daily Fruit Reporter.
Monthly average obtained by taking simple average of reported averages of all sales of the following-named brands: Carmencita, Shamrock, Bird Rocks, Bowman, Advance, and Premium. Includes all sizes. Yearly average weighted by number of sales reported during each month.

[1] Ten sales or less during month.
[2] See footnotes to figures used in obtaining this average.

TABLE 176.—*Oranges, Florida: Average auction price per box at New York, 1919–1924*

Season beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1919	[1] $3.16	$2.80	$3.95	$4.22	$6.43	$6.63	$9.40	$8.32	.....	.....	[2] $5.91
1920	[1] 5.47	4.65	3.17	4.37	3.94	4.20	4.82	5.56	[1] $4.88	[1] $3.51	[2] 4.17
1921	3.06	4.18	4.29	3.95	4.85	6.68	7.15	8.06	8.99	[1] 9.79	[2] 5.44
1922	3.69	3.88	4.08	4.53	4.34	4.72	5.67	5.47	4.45	3.90	4.65
1923	[1] 3.11	3.55	2.68	2.84	3.02	3.16	3.51	3.85	4.88	[1] 4.81	[2] 3.27
1924	.....	3.63	3.57	.....	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Compiled from New York Daily Fruit Reporter.
Monthly average obtained by taking simple average of reported averages of all sales of "golden" grade. Includes all sizes. Yearly average weighted by number of sales reported during each month.

[1] Ten sales or less during month.
[2] See footnotes to figures used in obtaining this average.

OLIVE OIL

TABLE 177.—*Olive oil, including inedible: International trade, calendar years, average 1909–13, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913[1]		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Algeria	[3] 974	[2] 11,566	288	4,120	246	20,830	171	24,533
Greece	.....	22,272	206	25,004	127	36,464	77	8,528
Italy	[2] 6,643	75,130	25,196	30,908	9,321	40,510	1,116	94,557
Spain	30	86,464	1	105,768	9	102,472	1	125,463
Tunis	2,020	18,090	8	58,322	20	68,319	.....	.....
PRINCIPAL IMPORTING COUNTRIES								
Australia	510	11	305	1	.....	.....	.....	.....
Belgium	[2] 4,295	[3] 582	1,373	186	2,386	207	2,495	147
Brazil	8,409	.....	1,224	.....	5,896	.....	.....	.....
Canada	1,593	.....	1,557	.....	1,744	.....	2,188	.....
Chile	7,255	.....	3,941	.....	5,635	.....	.....	.....
Cuba	.....	.....	7,915	.....	12,419	.....	.....	.....
Denmark	146	.....	157	9	186	.....	.....	.....
Egypt	4,803	.....	3,127	108	3,213	81	3,356	79
France	[2] 42,502	12,935	44,847	10,009	58,300	13,742	49,645	13,183
Germany	6,085	.....	1,332	.....	769	4	937	13
Japan	126	.....	134	.....	.....	.....	.....	.....
Morocco	267	375	5,514	.....	3,812	301	.....	.....
Netherlands	[2] 282	[2] 205	151	43	139	24	260	13
New Zealand	68	.....	54	.....	120	.....	148	.....
Norway	3,458	33	873	[3] 4	4,434	.....	4,184	.....
Peru	[2] 684	[3] 77	825	.....	481	(3)	1,067	.....
Philippine Islands	360	.....	115	.....	177	.....	214	.....
Sweden	889	2	253	5	420	8	.....	.....
Switzerland	4,138	71	2,554	[3] 9	2,914	.....	3,084	.....
United Kingdom	22,950	823	9,854	164	17,136	190	17,853	367
United States	39,903	.....	68,739	.....	87,974	.....	117,795	.....
Uruguay	4,249	.....	5,486	.....	[4] 3,664	.....	[4] 4,895	.....
Other countries	102,014	30,132	7,198	324	2,316	9	1,414	2
Total	264,653	258,758	193,227	234,984	223,858	283,161	210,900	266,885

Division of Statistical and Historical Research. Official sources except where otherwise noted. Conversion on basis of 7.5 pounds to the gallon.

[1] International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
[2] Four-year average.
[3] Less than 500 pounds.
[4] Six months.

FRUITS AND NUTS

TABLE 178.—*Fruits and nuts: Production and value in California, 1919–1924*

Crop and year	Production	Farm value, Dec. 1		Crop and year	Production	Farm value, Dec. 1	
		Per unit	Total			Per unit	Total
Apples:	*Bushels*			Grapes (table):	*Tons*		
1919	8,200,000	$1.45	$11,890,000	1919	200,000	$75.00	$15,000,000
1920	6,000,000	1.60	9,600,000	1920	190,000	75.00	14,250,000
1921	6,500,000	1.35	8,775,000	1921	210,000	75.00	15,750,000
1922	7,850,000	.90	7,065,000	1922	308,000	52.00	16,016,000
1923	10,500,000	.75	7,875,000	1923	442,000	35.00	15,470,000
1924	7,370,000	1.22	8,991,000	1924	480,000	38.00	18,240,000
Pears:	*Tons*			Grapes (wine):			
1919	115,000	72.00	8,280,000	1919	400,000	50.00	20,000,000
1920	102,000	90.00	9,180,000	1920	375,000	75.00	28,125,000
1921	86,000	62.50	5,355,000	1921	310,000	82.00	25,420,000
1922	150,000	50.00	7,500,000	1922	450,000	65.00	29,250,000
1923	133,000	50.00	6,650,000	1923	428,000	40.00	17,120,000
1924	117,000	65.00	7,605,000	1924	350,000	63.00	22,050,000
Peaches:				Oranges:[2]	*Boxes*		
1919	430,000	60.00	25,800,000	1919	15,528,000	2.75	42,702,000
1920	360,000	76.00	27,360,000	1920	21,600,000	2.18	47,088,000
1921	310,000	41.60	12,910,000	1921	13,000,000	2.80	36,400,000
1922	410,000	45.00	18,450,000	1922	20,500,000	2.00	41,000,000
1923	380,000	24.00	9,120,000	1923	24,100,000	2.00	48,200,000
1924	285,000	35.00	9,975,000	1924	22,000,000	2.10	46,200,000
Apricots:				Lemons:[2]			
1919	175,000	80.00	14,000,000	1919	3,499,000	2.00	6,998,000
1920	110,000	85.00	9,350,000	1920	4,955,000	2.92	14,469,000
1921	100,000	50.00	5,000,000	1921	4,050,000	3.45	13,973,000
1922	145,000	70.00	10,150,000	1922	3,400,000	3.30	11,220,000
1923	210,000	25.00	5,250,000	1923	6,732,000	1.60	10,771,000
1924	137,000	46.00	6,302,000	1924	6,100,000	2.40	14,640,000
Prunes:[1]				Figs:	*Tons*		
1919	135,000	240.00	32,400,000	1919	12,000	150.00	1,800,000
1920	97,250	130.00	12,643,000	1920	12,300	90.00	1,107,000
1921	100,000	130.00	13,000,000	1921	9,600	145.00	1,392,000
1922	110,000	140.00	15,400,000	1922	11,000	120.00	1,320,000
1923	130,000	100.00	13,000,000	1923	9,500	90.00	855,000
1924	115,000	110.00	12,650,000	1924	6,000	100.00	600,000
Plums:				Olives:			
1919	42,000	60.00	2,520,000	1919	8,800	160.00	1,408,000
1920	35,000	90.00	3,150,000	1920	8,000	95.00	760,000
1921	42,000	53.00	2,226,000	1921	8,200	90.00	738,000
1922	48,000	50.00	2,400,000	1922	10,000	125.00	1,250,000
1923	69,000	30.00	2,070,000	1923	17,000	65.00	1,105,000
1924	39,000	45.00	1,755,000	1924	5,500	92.00	506,000
Cherries:				Almonds:			
1919	12,400	150.00	1,860,000	1919	7,250	440.00	3,190,000
1920	17,500	200.00	3,500,000	1920	5,500	360.00	1,980,000
1921	13,000	125.00	1,625,000	1921	6,000	320.00	1,920,000
1922	14,000	180.00	2,520,000	1922	8,500	290.00	2,465,000
1923	17,000	160.00	2,720,000	1923	11,000	260.00	2,860,000
1924	13,500	140.00	1,890,000	1924	9,200	300.00	2,760,000
Raisins:[1]				Walnuts:			
1919	182,500	210.00	38,325,000	1919	28,100	550.00	15,455,000
1920	177,000	235.00	41,595,000	1920	21,000	400.00	8,400,000
1921	145,000	190.00	27,550,000	1921	19,500	400.00	7,800,000
1922	237,000	105.00	24,885,000	1922	27,000	360.00	9,720,000
1923	290,000	70.00	20,300,000	1923	25,000	400.00	10,000,000
1924	180,000	80.00	14,400,000	1924	21,500	420.00	9,030,000

Division of Crop and Livestock Estimates; California estimates in cooperation with California Department of Agriculture. 1924 estimates are preliminary.

[1] Dried basis.

[2] Representing the commercial crop year beginning Oct. 1; the numbers for 1924, for instance, represent the fruit that set during the season of 1924 and will be picked and marketed from Oct. 1, 1924, to Sept. 30, 1925.

TABLE 179.—*Fruit: Production and value in Florida, 1919–1924*

Crop and year	Production	Farm value, Dec. 1		Crop and year	Production	Farm value, Dec. 1	
		Per unit	Total			Per unit	Total
Oranges:	*Boxes*			Limes:	*Boxes*		
1919	7,000,000	$2.50	$17,500,000	1919	28,000	$3.45	$97,000
1920	8,100,000	2.20	17,820,000	1920	26,000	3.10	81,000
1921	7,300,000	2.00	14,600,000	1921	33,000	2.75	91,000
1922	9,700,000	2.30	22,310,000	1922	35,000	2.90	102,000
1923	12,400,000	1.35	16,740,000	1923	40,000	3.00	120,000
1924	13,400,000	1.35	18,090,000	1924	36,000	3.25	117,000
Grape fruit: [1]				Pineapples:	*Crates*		
1919	5,500,000	1.85	10,175,000	1919	26,000	4.25	111,000
1920	5,100,000	2.30	11,730,000	1920	47,000	4.30	202,000
1921	6,000,000	1.70	10,200,000	1921	11,000	5.00	55,000
1922	7,200,000	1.90	13,680,000	1922	22,000	4.75	105,000
1923	8,000,000	1.20	9,600,000	1923	57,000	4.00	228,000
1924	8,600,000	1.30	11,180,000	1924	90,000	2.50	225,000

Division of Crop and Livestock Estimates; 1924 estimates are preliminary

[1] Price Nov. 15.

CRANBERRIES

TABLE 180.—*Cranberries: Production and farm value, United States, 1914–1924*

Year	Production, thousands of barrels	Average farm price per barrel Dec. 1	Farm value, thousands of dollars	Year	Production, thousands of barrels	Average farm price per barrel Dec. 1	Farm value, thousands of dollars
1914	697	$3.97	2,766	1920	449	$12.28	5,514
1915	441	6.59	2,908	1921	384	16.99	6,526
1916	471	7.32	3,449	1922	560	10.18	5,702
1917	249	10.24	2,550	1923	652	7.15	4,664
1918	352	10.77	3,791	1924 [1]	523	9.88	5,165
1919	549	8.37	4,597				

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 181.—*Cranberries: Production and total farm value, by States, 1923 and 1924*

State	Production, thousands of barrels		Average farm price per barrel, Dec. 1		Farm value, thousands of dollars	
	1923	1924 [1]	1923	1924	1923	1924 [1]
Massachusetts	410	280	$6.50	$10.00	2,665	2,800
New Jersey	205	198	8.00	9.50	1,640	1,881
Wisconsin	37	45	9.70	10.75	359	484
Total	652	523	7.15	9.88	4,664	5,165

Division of Crop and Livestock Estimates. [1] Preliminary.

GRAPES

TABLE 182.—*Grapes: Estimated production, by States, 1923 and 1924*

State	1923	1924 [1]	State	1923	1924 [1]
	Tons	*Tons*		*Tons*	*Tons*
Maine	52	46	Kansas	2,700	2,925
New Hampshire	88	84	Kentucky	845	1,094
Vermont	37	37	Tennessee	1,032	1,496
Massachusetts	456	440	Alabama	735	825
Rhode Island	256	289	Mississippi	252	281
Connecticut	978	1,075	Louisiana	25	36
New York	62,000	80,000	Texas	1,162	1,320
New Jersey	2,244	2,338	Oklahoma	1,470	1,875
Pennsylvania	16,500	19,750	Arkansas	960	1,230
Delaware	770	1,400	Colorado	297	280
Maryland	880	770	New Mexico	585	520
Virginia	2,016	2,349	Arizona	340	350
West Virginia	1,092	1,539	Utah	689	615
North Carolina	5,832	6,525	Nevada		170
South Carolina	1,476	1,425	Idaho	300	240
Georgia	1,500	1,638	Washington	2,000	1,732
Ohio	19,355	20,400	Oregon	1,365	1,350
Indiana	3,990	3,185	California	2,030,000	1,550,000
Illinois	5,494	4,900			
Michigan	44,000	51,000	United States	2,227,395	1,777,462
Wisconsin	288	279			
Minnesota	74	88			
Iowa	5,940	4,658			
Missouri	6,000	5,840			
Nebraska	1,320	1,068			

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 183.—*Grapes: Car-lot shipments, by State of origin, June, 1917–December, 1924*

State	Crop movement season [1]							
	1917	1918	1919	1920	1921	1922	1923	1924 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	3,621	2,017	3,751	6,079	2,451	7,728	4,312	5,567
Pennsylvania	801	367	881	1,245	390	1,558	847	1,148
Ohio	196	50	87	50	68	80	92	24
Michigan	3,298	1,635	3,783	4,607	1,237	6,020	4,202	4,140
Iowa	85	68	108	106	68	236	217	76
Missouri	28	21	36	26	4	128	58	109
Washington	31	59	37	8	67	47	62	82
California	13,251	16,639	21,605	26,974	32,879	43,884	55,342	56,110
All other	68	59	61	110	38	177	198	1,089
Total	21,379	20,915	30,349	39,205	37,202	59,858	65,330	68,345

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from June 1 through December of a given year. [2] Preliminary.

PEACHES

TABLE 184.—*Peaches: Production, United States, 1899–1924*

Year	Production	Year	Production	Year	Production
	Bushels		*Bushels*		*Bushels*
1899	*15,433,000*	1908	48,146,000	1917	48,765,000
1900	49,438,000	1909	*55,470,000*	1918	33,094,000
1901	46,445,000	1910	48,171,000	1919	53,178,000
1902	37,831,000	1911	34,880,000	1920	45,620,000
1903	38,850,000	1912	52,343,000	1921	32,602,000
1904	41,079,000	1913	39,707,000	1922	55,852,000
1905	36,634,000	1914	54,109,000	1923	45,382,000
1906	44,104,000	1915	64,097,000	1924 [1]	51,679,000
1907	22,527,000	1916	37,505,000		

Division of Crop and Livestock Estimates. Census figures in italics. [1] Preliminary.

TABLE 185.—*Peaches: Production, by States, 1915–1924*

[Thousands of bushels—i. e., 000 omitted]

State	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924 [1]
New Hampshire	58	24	46	.....	39	0	29	32	40	3
Massachusetts	152	66	144	.....	213	4	185	200	205	50
Rhode Island	29	14	.....	.....	29	3	9	28	31	29
Connecticut	335	134	390	.....	195	10	290	262	232	230
New York	2,106	1,238	4,823	700	1,262	2,600	1,700	3,400	1,700	2,178
New Jersey	1,275	689	990	832	1,653	2,134	347	2,000	2,642	2,480
Pennsylvania	2,044	1,069	1,848	720	1,100	2,000	350	1,560	1,907	1,504
Delaware	842	346	324	136	227	203	7	320	225	280
Maryland	1,248	600	1,038	235	564	692	59	495	631	681
Virginia	1,358	660	928	510	682	1,092	52	764	504	1,218
West Virginia	1,164	520	900	680	760	992	48	715	526	936
North Carolina	1,955	897	1,978	1,150	575	1,539	644	1,010	260	2,070
South Carolina	864	545	1,030	998	390	832	566	845	550	912
Georgia	5,330	3,510	3,668	6,092	5,895	3,799	6,550	4,900	5,248	8,342
Florida	177	119	.....	.....	148	150	130	130	120	176
Ohio	2,448	1,350	341	174	618	3,238	335	1,584	1,386	660
Indiana	648	888	518	.....	82	405	26	650	445	175
Illinois	874	780	461	.....	450	770	76	1,100	675	525
Michigan	2,360	2,010	744	85	448	1,500	358	1,440	1,125	464
Iowa	112	64	.....	.....	2	100	30	200	40	2
Missouri	3,300	1,050	728	.....	1,263	1,427	0	2,300	1,040	910
Nebraska	120	30	.....	.....	0	5	0	81	45	.....
Kansas	2,442	150	.....	.....	214	187	24	630	78	231
Kentucky	1,320	880	1,100	110	460	988	80	1,218	450	1,134
Tennessee	2,460	900	595	833	1,285	1,500	320	2,002	460	1,826
Alabama	2,640	1,110	1,281	2,440	1,083	974	1,230	810	779	1,425
Mississippi	1,540	400	.....	.....	776	412	322	375	260	996
Louisiana	456	587	.....	.....	382	269	264	180	175	325
Texas	4,081	2,860	1,728	2,333	4,621	800	2,200	1,920	1,700	3,000
Oklahoma	2,408	230	798	167	2,924	180	360	2,070	1,032	1,837
Arkansas	5,940	750	1,824	217	3,340	117	435	2,040	1,110	2,800
Colorado	650	405	1,096	959	722	670	810	900	750	920
New Mexico	154	40	124	34	204	6	8	98	189	34
Arizona	60	56	.....	.....	140	48	54	128	70	45
Utah	212	84	1,365	1,050	884	471	763	885	802	750
Nevada	7	1	.....	.....	6	6	4	6	5	1
Idaho	162	25	211	51	293	42	150	244	282	102
Washington	566	415	1,747	575	1,545	155	772	950	1,333	364
Oregon	432	276	273	93	504	100	105	300	500	189
California	9,768	11,733	15,724	11,920	17,200	15,200	12,910	17,080	15,830	11,875
United States	64,097	37,505	48,765	33,094	53,178	45,620	32,602	55,852	45,382	51,679

Division of Crop and Livestock Estimates.
[1] Preliminary.

TABLE 186.—*Peaches: Car-lot shipments, by State of origin, May, 1917–October, 1924*

State	Crop movement season [1]							
	1917	1918	1919	1920	1921	1922	1923	1924 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	[3] 7,308	1,057	1,434	4,666	2,840	6,862	2,777	[4] 3,416
New Jersey	1,218	748	1,148	1,307	5	1,595	1,790	1,463
Pennsylvania	879	257	366	316	45	268	615	447
Virginia	125	63	137	370	.....	265	69	513
West Virginia	990	322	425	488	.....	19	170	312
North Carolina	65	56	66	343	589	1,452	215	1,657
Georgia	4,098	7,995	7,236	5,663	10,636	7,368	8,701	13,464
Michigan	[5] 445	76	270	[6] 2,275	198	1,650	1,087	97
Tennessee	10	152	116	149	218	248	53	752
Texas	825	1,579	1,940	62	964	25	102	756
Oklahoma	278	244	866	.....	42	155	93	336
Arkansas	1,597	190	2,335	20	596	1,521	724	2,872
Colorado	1,347	1,111	1,334	773	1,219	1,420	1,254	1,782
Utah	1,146	577	1,102	402	839	1,261	1,203	1,110
Washington	1,920	647	2,219	204	1,097	990	1,645	411
California	2,858	4,518	7,846	7,354	7,606	9,085	10,212	6,842
All other	[4] 2,128	817	2,083	2,605	406	4,107	2,815	2,848
Total	[7] 27,237	20,409	30,923	[8] 26,967	27,300	38,291	33,525	[4] 39,078

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from May 1 through October of a given year.
[2] Preliminary.
[3] Includes 8 cars in November.
[4] Includes 1 car in November.
[5] Includes 2 cars in November.
[6] Includes 3 cars in November.
[7] Includes 11 cars in November.

TABLE 187.—*Peaches: Car-lot shipments, by State of origin, May, 1917–October, 1924*

State and year	Crop-movement season[1]						
	May	June	July	Aug.	Sept.	Oct.	Total
New York:	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1917					4,292	[2] 3,016	[2] 7,308
1918				18	999	40	1,057
1919			5	97	1,289	43	1,434
1920				22	3,442	1,202	4,666
1921				1,663	1,173	4	2,840
1922			3	106	5,953	800	6,862
1923				10	2,166	601	2,777
1924[3]					2,309	[4] 1,107	[4] 3,416
Georgia:							
1917	37	1,076	2,983	2			4,098
1918	1,030	3,511	3,438	10			7,995
1919	295	3,073	3,863	5			7,236
1920	41	1,315	4,157	150			5,663
1921	1,402	3,650	5,564	11			10,636
1922	682	3,002	3,681	3			7,368
1923	1	2,238	5,898	564			8,701
1924[3]	25	1,714	10,379	1,330	13	3	13,464
Arkansas:							
1917		10	1,009	485	3		1,597
1918			179	11			190
1919	2		1,375	956	2		2,335
1920				20			20
1921	2	3	591				596
1922		5	1,264	252			1,521
1923		2	198	524			724
1924[5]		9	266	2,596	1		2,872
Colorado:							
1917				51	922	374	1,347
1918			5	670	434	2	1,111
1919				860	470	4	1,334
1920				62	708	3	773
1921				554	659	6	1,219
1922				455	965		1,420
1923				572	681	1	1,254
1924[3]				491	1,285	6	1,782
California:							
1917	1	154	173	2,136	361	33	2,858
1918	1	201	762	2,396	1,122	36	4,518
1919	4	205	1,520	4,363	1,753	1	7,846
1920	2	222	2,314	3,186	1,624	6	7,354
1921		43	1,672	4,231	1,652	8	7,606
1922		64	127	5,258	3,352	284	9,085
1923		110	4,473	3,875	1,705	49	10,212
1924[3]	3	65	2,650	2,899	1,206	19	6,842
All other:							
1917	3	54	894	3,069	5,453	[6] 556	[6] 10,029
1918	82	309	1,952	2,080	1,070	45	5,538
1919	27	235	2,453	4,996	2,971	56	10,738
1920	2	51	410	2,844	4,754	[5] 430	[5] 8,491
1921	25	307	1,560	865	1,632	14	4,403
1922	13	113	2,465	5,812	3,508	124	12,035
1923		34	394	4,212	5,102	115	9,857
1924[3]		85	1,139	6,122	3,068	288	10,702
Total shipments:							
1917	41	1,294	5,149	5,743	11,031	[6] 3,979	[6] 27,237
1918	1,119	4,021	6,336	5,185	3,625	123	20,409
1919	328	3,513	9,216	11,277	6,485	104	30,923
1920	45	1,588	6,881	6,284	10,528	[5] 1,641	[5] 26,967
1921	1,429	4,012	9,387	7,324	5,116	32	27,300
1922	695	3,184	7,540	11,886	13,778	1,208	38,291
1923	1	2,384	10,963	9,757	9,654	766	33,525
1924[3]	28	1,873	14,434	13,438	7,882	[4] 1,423	[4] 39,078

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from May 1 through October of a given year.
[2] Includes 8 cars in November.
[3] Preliminary.
[4] Includes 1 car in November.
[5] Includes 3 cars in November.
[6] Includes 11 cars in November.

TABLE 188.—*Peaches: Farm price per bushel, 15th of month, United States, 1910–1924*

Year	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Weighted average	Year	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Weighted average
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*		*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910			110.9	115.1	122.8	113.3	1918	165.1	169.4	178.9	185.3	193.2	176.6
1911	135.0	151.0	138.0	129.0	131.0	138.2	1919	191.1	201.6	199.6	205.7	211.7	200.9
1912	119.2	112.1	108.3	110.0	105.0	111.2	1920	236.8	226.9	235.0	219.8	244.2	228.9
1913		130.5	126.2	136.3	145.0	131.3	1921	189.3	205.3	216.3	227.5	244.3	213.5
1914		120.4	105.0	202.2	105.3	108.7	1922	172.0	161.4	143.7	143.5	150.4	152.3
1915		99.5	85.4	81.1	85.2	88.2	1923	178.6	181.4	171.8	173.0	183.0	175.8
1916	119.6	109.1	114.9	118.3	112.1	115.0	1924	182.9	149.7	152.0	144.1	173.8	153.7
1917	170.3	144.8	143.3	143.8	160.6	148.0							

Division of Crop and Livestock Estimates.

TABLE 189. *Peaches: Average l. c. l. price to jobbers at 10 markets, 1921–1924*

Market. Season beginning May	Price per 6-basket carrier				Price per bushel					
	May [1]	June [1]	July	Aug. [2]	May [1]	June [1]	July	Aug. [2]	Sept.	Oct. [2]
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
New York:										
1921		3.34	3.04	5.00			2.62			
1922	3.72	3.05	2.57	2.16			2.29	1.90	1.78	1.43
1923		3.31	2.10	2.03			2.18	2.16	2.48	1.94
1924		2.97	2.25	2.31			1.74	2.18	2.09	2.46
Chicago:										
1921		2.47	2.95	4.23		2.74	3.20			
1922	3.50	2.72	2.65			2.76	2.51	1.91	1.70	1.38
1923		2.79	2.39	2.56			2.76	3.06	2.11	2.25
1924		1.98	1.88	2.07		1.84	1.86	2.30	2.91	2.17
Philadelphia:										
1921		2.73	2.86	4.28			2.07			
1922	2.81	2.65	2.44	2.14				1.88	1.60	1.67
1923		2.98	2.24	2.70					2.08	2.18
1924		2.56	1.94	2.41			1.57	2.12		1.57
Pittsburgh:										
1921		2.59	2.87	4.29			3.38			
1922	3.50	2.78	2.58	2.20			2.89	2.47	1.62	1.84
1923		3.15	2.22	2.75			2.32	2.79	2.01	2.09
1924		2.45	1.87	2.32		2.11	1.69	2.41	2.42	1.82
St. Louis:										
1921		2.84	3.12	4.74			3.27			
1922		2.74	2.48			2.50	2.59	1.89	1.95	1.54
1923		2.35	2.17	3.01			2.65	3.39	2.46	
1924		2.14	1.86			2.11	1.82	2.32	2.76	2.13
Cincinnati:										
1921		2.27	2.78			2.42	3.02			
1922		2.21	2.13		2.50	2.05	2.59	2.17	1.69	1.90
1923		2.55	1.96	2.20			2.28	3.21	2.35	2.31
1924		2.05	1.49	1.50		1.68	1.64	2.42	2.75	1.78
St. Paul:										
1921										
1922								2.17	2.03	1.70
1923										
1924										
Minneapolis:										
1921										
1922			2.49					2.21	1.99	1.56
1923									2.53	2.20
1924			1.91	2.25			1.67	2.50		
Kansas City:										
1921		2.59				4.04	3.29			
1922		2.60	2.58				2.48	2.15	1.99	1.01
1923			2.55					3.24	2.25	1.98
1924			2.17				1.89	1.94	2.45	
Washington: [3]										
1921		3.04	3.29	4.75						
1922		3.07	2.43	2.27				2.55	2.30	2.07
1923		3.90	2.64	2.68				3.12	2.48	2.20
1924		2.90	2.11	2.27			2.15	2.34	2.50	1.87

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices.

[1] Quotations began June 3, 1921; May 25, 1922; June 5, 1923; June 3, 1924.

[2] Last reported quotations of season Aug. 9, 1921; Oct 11, 1922; Oct 13, 1923 and 1924.

[3] Sales direct to retailers to September, 1923.

PEARS

TABLE 190.—*Pears: Production, United States, 1909–1924*

Year	Production	Year	Production	Year	Production
	Bushels		*Bushels*		*Bushels*
1909	8,841,000	1915	11,216,000	1921	11,297,000
1910	10,431,000	1916	11,874,000	1922	20,705,000
1911	11,450,000	1917	13,281,000	1923	17,845,000
1912	11,843,000	1918	13,362,000	1924[1]	17,961,000
1913	10,106,000	1919	15,006,000		
1914	12,086,000	1920	16,805,000		

Division of Crop and Livestock Estimates. Census figures in italics.

[1] Preliminary

TABLE 191.—*Pears: Production, by States, 1915–1924*

[Thousands of bushels, i. e., 000 omitted]

State	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924[1]
Maine	30	36	24	20	14	10	15	14	7	12
New Hampshire	18	25	19	15	17	18	17	24	12	17
Vermont	17	24	14	13	10	10	6	10	6	12
Massachusetts	75	114	71	77	84	83	45	84	58	84
Rhode Island	10	14	7	10	11	11	6	12	10	12
Connecticut	36	46	29	34	57	61	50	60	37	62
New York	1,375	1,675	1,708	1,352	1,830	2,700	1,650	3,200	1,000	2,100
New Jersey	596	687	590	650	402	690	185	405	662	624
Pennsylvania	494	509	448	518	421	845	220	576	612	629
Delaware	228	164	294	238	98	140	9	158	370	328
Maryland	483	378	525	455	287	421	35	256	374	335
Virginia	261	122	194	119	288	438	30	270	200	430
West Virginia	63	42	33	33	40	66	2	38	41	84
North Carolina	150	75	150	108	120	208	100	110	65	273
South Carolina	91	56	100	98	99	120	115	104	88	114
Georgia	203	135	140	188	178	173	171	202	192	232
Florida	104	54	46	132	43	24	40	50	35	55
Ohio	560	376	334	304	157	478	126	450	332	326
Indiana	410	351	410	260	107	375	70	300	334	180
Illinois	496	354	456	302	375	603	100	510	307	410
Michigan	550	1,007	1,080	704	405	1,044	532	1,500	1,005	10
Wisconsin	23	26	-------	-------	20	24	16	19	16	15
Iowa	106	63	82	32	30	90	5	75	62	40
Missouri	294	164	265	112	431	418	4	450	475	75
Nebraska	18	10	14	6	25	22	2	27	24	30
Kansas	133	106	140	38	221	41	7	243	134	262
Kentucky	264	160	204	140	55	132	4	150	70	117
Tennessee	195	59	75	112	115	200	65	180	83	250
Alabama	168	90	80	152	163	158	180	176	174	224
Mississippi	160	50	30	136	125	167	167	190	90	187
Louisiana	55	48	52	52	59	47	38	48	45	65
Texas	301	322	280	246	637	338	406	390	340	483
Oklahoma	68	11	45	38	250	42	36	197	100	235
Arkansas	135	68	102	64	123	42	39	100	45	124
Montana	12	6	11	6	6	6	7	8	8	-------
Colorado	99	99	320	194	345	386	502	519	400	550
New Mexico	64	36	46	56	67	32	24	18	49	28
Arizona	22	18	21	19	20	12	16	18	18	11
Utah	31	12	48	51	76	87	81	98	64	70
Nevada	4	2	6	6	4	5	3	4	7	6
Idaho	75	50	70	60	49	58	55	72	72	60
Washington	564	551	595	1,300	1,781	1,140	1,710	1,740	2,700	1,600
Oregon	525	555	600	672	761	760	836	1,400	1,580	1,225
California	1,650	3,124	3,523	4,240	4,600	4,080	3,570	6,250	5,542	4,875
United States	11,216	11,874	13,281	13,362	15,006	16,805	11,297	20,705	17,845	17,961

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 192.—*Pears: Car-lot shipments, by State of origin, June, 1917–May, 1924*

State	Crop movement season [1]						
	1917	1918	1919	1920	1921	1922	1923 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	1,748	1,226	1,509	3,962	2,855	5,418	1,702
New Jersey	62	52	121	42	20	40	75
Delaware	461	413	55	267	----	151	541
Maryland	54	43	18	36	----	36	63
Ohio	29	47	5	54	17	96	33
Indiana	45	11	49	78	----	44	39
Illinois	334	97	324	1,140	----	468	318
Michigan	696	343	127	1,142	610	1,860	543
Texas	18	127	100	88	96	47	99
Colorado	382	347	524	604	733	774	696
Utah	27	34	25	75	31	82	65
Washington	1,700	2,421	2,452	1,906	2,827	2,678	4,274
Oregon	699	799	930	847	974	1,862	2,575
California	5,191	4,003	3,661	4,594	4,431	6,461	7,143
All other	170	208	257	202	142	314	423
Total	11,616	10,171	10,157	15,037	12,736	20,331	18,589

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from June 1 of one year through May of the following year.
[2] Preliminary.

TABLE 193.—*Pears: Farm price per bushel, 15th of month, United States, 1910–1924*

Year	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Weighted average.	Year	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Weighted average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*		*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	----	100.9	98.6	100.8	122.4	100.9	1918	168.4	157.8	147.5	140.1	156.6	161.1
1911	118.0	103.8	97.2	85.1	111.0	109.3	1919	188.4	183.0	181.3	182.0	219.5	185.7
1912	106.3	100.0	83.1	79.3	92.8	100.4	1920	195.5	197.9	184.2	170.1	164.5	194.1
1913	109.9	119.3	95.6	93.0	97.9	111.2	1921	165.2	175.1	186.4	194.9	198.7	172.2
1914	98.8	92.8	80.4	77.5	82.5	93.7	1922	147.1	----	116.2	119.8	118.7	130.7
1915	80.8	83.8	82.7	89.8	89.7	82.5	1923	168.3	172.5	165.1	150.2	133.0	165.5
1916	109.0	102.7	96.9	93.3	105.6	104.8	1924	175.2	157.8	155.0	141.0	----	165.4
1917	132.2	125.0	118.2	116.1	----	127.4							

Division of Crop and Livestock Estimates.

STRAWBERRIES

TABLE 194.—*Strawberries, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 quarts*	*1,000 quarts*	*1,000 quarts*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
Alabama	2,450	3,660	3,960	5,116	7,686	5,544	870	1,076	832
Florida	2,170	3,810	3,100	4,305	8,382	5,735	1,205	1,509	1,606
Louisiana	11,560	14,350	14,280	21,085	18,655	17,493	3,795	4,664	3,848
Mississippi	790	970	820	1,593	1,649	984	271	297	167
Texas	630	900	1,140	983	1,350	1,368	226	256	356
Second early:									
Arkansas	18,360	16,960	13,570	30,845	16,960	20,355	3,393	2,544	2,850
California (S. district)	960	1,580	2,310	2,258	3,950	15,015	384	1,066	2,102
North Carolina	3,880	5,320	5,690	10,554	13,300	15,363	2,111	2,261	2,151
South Carolina	140	460	540	314	1,030	1,210	78	237	133
Tennessee	19,640	21,210	20,870	42,422	33,936	28,049	4,242	3,054	3,085
Virginia	5,000	6,500	10,700	14,400	14,300	22,470	2,304	1,144	1,798
Intermediate:									
California (other)	2,340	2,120	1,800	5,988	6,960	5,593	958	1,253	951
Delaware	5,040	6,100	5,620	10,483	14,640	13,488	1,992	1,903	1,349
Illinois	3,370	3,410	3,250	5,662	5,456	6,500	623	709	780
Indiana	1,780	2,000	1,980	3,204	3,800	3,960	384	418	436
Iowa	2,950	3,300	3,330	4,956	7,590	5,661	1,090	1,214	736
Kansas	300	280	460	504	560	1,012	55	101	101
Kentucky	4,520	5,080	3,680	9,221	9,921	4,593	1,383	1,389	643
Maryland	8,890	10,320	10,200	17,069	20,640	22,440	2,731	3,096	2,244
Missouri	9,990	10,560	9,050	18,701	10,560	14,480	2,244	1,584	1,882
New Jersey	5,650	5,500	6,000	9,040	7,700	10,200	1,356	1,155	1,122
Late:									
Michigan	5,850	6,000	5,580	9,828	8,400	11,160	1,081	1,092	1,562
New York	3,860	3,900	3,940	8,029	10,530	8,274	2,007	1,790	1,158
Ohio	2,740	2,800	2,660	4,472	5,600	5,320	447	840	692
Oregon	3,440	3,500	3,640	6,605	5,600	5,824	660	392	815
Pennsylvania	2,920	3,200	3,780	5,256	7,360	6,048	1,051	1,398	907
Washington	2,960	3,770	3,940	6,394	8,294	7,092	1,279	1,576	780
Wisconsin	620	800	860	1,116	1,600	1,720	134	240	206
Total	132,800	148,360	146,750	260,403	256,409	266,951	38,354	38,258	35,292

Division of Crop and Livestock Estimates.

TABLE 195.—*Strawberries, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per quart [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Qts.	*Qts.*	*Qts.*	*Qts.*	*Qts.*	*Qts.*	*Qts.*	*Dols*	*Dols*	*Dols*	*Dols*	*Dols*	*Dols*	*Dols*
Early:														
Alabama	1,800	1,992	1,440	2,016	2,088	2,100	1,400	0.16	0.20	0.18	0.18	0.17	0.14	0.15
Florida	1,600	1,856	1,984	1,440	1,984	2,200	1,850	.25	.27	.24	.38	.28	.18	.28
Louisiana	1,488	2,088	1,680	2,040	1,824	1,300	1,225	.24	.26	.28	.27	.18	.25	.22
Mississippi	1,320	1,800	1,824	1,440	2,016	1,700	1,200	.14	.14	.14	.18	.17	.18	.17
Texas	1,272	1,200	1,560	1,440	1,560	1,500	1,200	.11	.12	.13	.29	.23	.19	.26
Second early:														
Arkansas	1,200	1,800	1,560	1,440	1,680	1,000	1,500	.17	.19	.18	.15	.11	.15	.14
California (S. district)	2,256	2,520	2,400	2,440	2,352	2,500	6,500	.14	.16	.16	.16	.17	.27	.14
North Carolina	2,240	1,920	2,080	2,240	2,720	2,500	2,700	.16	.19	.18	.26	.20	.17	.14
South Carolina	1,600	1,920	1,920	1,920	2,240	2,240	2,240	.28	.30	.28	.23	.25	.23	.11
Tennessee	1,272	1,680	1,680	1,680	2,160	1,600	1,344	.14	.17	.17	.20	.10	.09	.11
Virginia	1,792	1,792	1,792	2,496	2,880	2,200	2,100	.12	.19	.20	.20	.16	.08	.08
Intermediate:														
California (other)	2,958	2,349	2,066	2,651	2,559	3,283	3,107	.14	.15	.16	.26	.16	.18	.17
Delaware	1,632	1,920	1,664	1,920	2,080	2,400	2,400	.11	.18	.16	.14	.19	.13	.10
Illinois	1,152	1,680	1,440	1,200	1,680	1,600	2,000	.14	.19	.20	.16	.11	.13	.12
Indiana	1,560	1,440	1,824	1,200	1,800	1,900	2,000	.12	.15	.20	.22	.12	.11	.11
Iowa	1,440	1,920	1,776	1,440	1,680	2,300	1,700	.13	.16	.17	.21	.22	.16	.13
Kansas	1,440	1,920	1,872	1,200	1,680	2,000	2,200	.13	.19	.18	.17	.11	.18	.10
Kentucky	1,824	1,080	1,560	1,800	2,040	1,953	1,248	.13	.24	.21	.20	.15	.14	.14
Maryland	1,600	1,600	1,600	1,856	1,920	2,000	2,200	.12	.19	.18	.16	.16	.15	.10
Missouri	1,488	1,992	1,488	1,440	1,872	1,000	1,600	.18	.23	.24	.17	.12	.15	.18
New Jersey	1,856	1,920	1,600	1,600	1,600	1,400	1,700	.18	.22	.22	.22	.15	.15	.11
Late:														
Michigan	1,680	1,920	1,680	1,200	1,680	1,400	2,000	.18	.23	.24	.15	.11	.13	.14
New York	2,048	1,920	1,600	1,920	2,080	2,700	2,100	.15	.19	.23	.23	.25	.17	.14
Ohio	1,560	1,800	1,752	1,728	1,632	2,000	2,000	.14	.17	.18	.25	.10	.15	.18
Oregon	1,800	1,800	1,728	2,160	1,920	1,600	1,600	.29	.27	.35	.20	.10	.07	.14
Pennsylvania	1,560	1,440	1,560	1,920	1,800	2,300	1,600	.21	.25	.23	.25	.20	.19	.15
Washington	1,680	1,680	1,704	2,280	2,160	2,200	1,800	.24	.28	.28	.17	.20	.19	.11
Wisconsin	1,560	1,920	1,872	1,320	1,800	2,000	2,000	.16	.16	.18	.15	.12	.15	.12
Average	1,602	1,793	1,666	1,731	1,961	1,728	1,819	.16	.20	.21	.20	.15	.15	.13

Division of Crop and Livestock Estimates.

[1] Average for season.

TABLE 196.—*Strawberries: Car-lot shipments by State of origin, January, 1917–December, 1924*

State	Crop movement season[1]							
	1917	1918	1919	1920	1921	1922	1923	1924[2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	210	242	112	362	244	328	301	342
New Jersey	829	445	326	559	425	274	187	402
Delaware	2,340	822	430	640	856	940	924	1,307
Maryland	2,193	838	611	787	1,069	1,646	1,916	2,153
Virginia	1,352	342	208	349	697	1,670	1,193	1,919
North Carolina	696	585	484	446	479	1,101	1,668	2,046
Florida	193	79	21	153	108	322	1,038	580
Illinois	347	125	80	98	74	260	224	307
Michigan	475	272	391	439	455	640	408	386
Missouri	673	620	1,081	318	466	1,963	872	990
Kentucky	676	410	132	239	387	772	827	467
Tennessee	1,781	1,234	1,099	1,182	1,393	3,607	3,279	2,902
Alabama	196	279	229	147	285	460	693	408
Louisiana	1,100	556	682	858	1,531	1,576	1,678	1,865
Arkansas	1,096	651	1,034	896	1,094	2,165	1,342	1,613
California	245	509	703	569	291	201	226	191
All other	663	443	482	448	541	791	1,028	844
Total	15,065	8,452	8,105	8,490	10,695	18,716	17,804	18,782

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from Jan. 1 through December of a given year.
[2] Preliminary.

TABLE 197.—*Strawberries: Average l. c. l. price to jobbers per quart at 10 markets, 1921–1924*

Market. Season beginning March	Mar.[1]	Apr.	May	June[2]	Market. Season beginning March	Mar.[1]	Apr.	May	June[2]
New York:	*Cents*	*Cents*	*Cents*	*Cents*	Cincinnati:	*Cents*	*Cents*	*Cents*	*Cents*
1921	47	41	27	20	1921	33	27	23	------
1922	60	37	21	16	1922	53	18	12	------
1923	65	43	20	18	1923	48	30	15	10
1924	------	41	20	13	1924	------	40	17	15
Chicago:					St. Paul:				
1921	31	37	24	14	1921	38	44	28	24
1922	45	29	14	12	1922	------	30	19	16
1923	45	41	20	15	1923	------	44	25	20
1924	------	46	22	17	1924	------	36	25	20
Philadelphia:					Minneapolis:				
1921	33	34	23	13	1921	37	41	31	24
1922	53	32	18	17	1922	------	29	18	14
1923	55	40	18	15	1923	58	45	26	19
1924	------	41	19	10	1924	------	45	27	19
Pittsburgh:					Kansas City:				
1921	34	34	26	20	1921	33	36	23	20
1922	50	34	17	18	1922	------	31	16	13
1923	62	41	22	16	1923	46	40	21	16
1924	------	49	24	16	1924	------	40	22	15
St. Louis:					Washington:[3]				
1921	31	33	23	14	1921	50	35	22	15
1922	54	26	14	16	1922	55	27	20	14
1923	49	40	18	------	1923	42	34	17	11
1924	------	44	20	11	1924	------	31	17	12

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Quotations began Mar. 17, 1921; Mar. 23, 1922; Mar. 28, 1923; Mar. 31, 1924.
[2] Last reported quotations of season June 3, 1921; June 6, 1922; June 13, 1923; June 17, 1924.
[3] Sales direct to retailers to April, 1924.

ASPARAGUS

TABLE 198.—*Asparagus for consumption fresh, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 crates* [1]	*1,000 crates* [1]	*1,000 crates* [1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
California	6,140	8,100	8,750	1,044	1,555	1,540	4,479	8,055	6,283
Georgia	1,520	2,020	2,660	94	111	120	340	467	540
South Carolina	1,600	2,080	3,500	100	125	245	358	410	914
Late:									
Delaware	440	510	720	28	41	50	132	191	244
Illinois	2,400	2,440	2,640	185	220	211	370	521	490
Iowa	140	140	140	11	10	10	19	20	19
Maryland	420	440	900	23	25	63	92	62	214
Michigan	150	190	280	12	17	15	30	52	41
New Jersey	3,750	4,200	5,210	281	399	365	1,520	994	1,219
New York	130	140	160	7	8	12	38	44	60
Pennsylvania	700	750	800	55	49	58	396	210	276
Washington	.....	450	520	.....	36	30	.....	114	78
Total	17,390	21,460	26,280	1,849	2,596	2,719	7,744	11,140	10,373

Division of Crop and Livestock Estimates. [1] 24-pound crates.

TABLE 199.—*Asparagus for consumption fresh, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per crate [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Crts.	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Early:														
California	160	150	150	165	170	192	176	2.05	2.19	2.12	1.95	4.29	5.18	4.08
Georgia	60	56	40	60	62	55	45	2.61	2.68	2.84	2.81	3.62	4.21	4.50
South Carolina	80	76	81	79	68	60	70	2.45	2.60	2.25	2.87	3.28	3.28	3.73
Late:														
Delaware	73	62	66	68	64	80	70	3.41	3.42	3.67	4.12	4.70	4.67	4.89
Illinois	81	98	99	98	77	90	80	1.59	1.96	2.27	2.10	2.00	2.37	2.32
Iowa	68	70	72	76	76	75	70	2.00	1.80	1.20	2.00	1.77	2.00	1.93
Maryland	62	57	57	59	55	56	70	4.00	3.50	3.00	2.88	2.69	2.48	3.40
Michigan	70	65	68	68	80	90	55	3.86	3.84	2.88	3.12	2.50	3.06	2.72
New Jersey	78	68	76	70	75	95	70	2.03	1.90	2.46	5.54	5.41	2.49	3.34
New York	75	70	72	70	52	60	74	3.60	4.32	4.80	3.00	5.41	5.50	4.97
Pennsylvania	78	74	70	68	78	65	72	4.00	6.50	7.50	4.25	7.20	4.28	4.75
Washington	.....	.....	.....	.....	.....	80	58	.....	.....	.....	.....	.....	3.16	2.42
Average	105	95	97	104	106	121	103	2.22	2.39	2.48	2.76	4.19	4.29	3.82

Division of Crop and Livestock Estimates. [1] Average for season.

TABLE 200.—*Asparagus for canning, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	15,400	20,480	23,010	26,200	38,900	48,300	2,182	3,902	4,767
New York	70	110	130	100	200	200	19	39	42
Total	15,470	20,590	23,140	26,300	39,100	48,500	2,201	3,941	4,809

Division of Crop and Livestock Estimates.

TABLE 201.—*Asparagus for canning, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per ton						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols*
California	1.3	1.7	1.5	1.2	1.7	1.9	2.1	68.75	85.58	106.00	70.00	83.30	100.30	98.70
New York	1.8	1.8	1.8	1.8	1.3	1.5	1.7	153.33	164.75	190.00	160.00	187.50	195.00	208.00
Average	1.3	1.7	1.5	1.2	1.7	1.9	2.1	69.14	85.92	106.38	70.94	83.69	100.79	99.15

Division of Crop and Livestock Estimates.

BEANS

TABLE 202.—*Beans, snap, for table consumption, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
				1,000 hampers [1]	*1,000 hampers* [1]	*1,000 hampers* [1]			
Early:	*Acres*	*Acres*	*Acres*				*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Alabama	1,150	700	1,060	166	54	52	251	92	109
California	2,180	1,980	2,000	382	697	680	1,100	2,697	714
Florida	12,310	14,460	19,780	1,256	1,865	1,484	2,839	3,581	3,205
Georgia	230	650	1,850	34	68	104	51	162	104
Louisiana	1,970	1,840	2,240	154	129	197	243	330	540
Mississippi	3,530	2,540	2,660	385	147	149	404	184	265
North Carolina	1,910	2,140	2,630	178	340	263	267	456	189
South Carolina	4,320	4,600	4,490	540	511	364	967	1,175	517
Texas	2,600	3,210	3,030	151	302	361	151	806	704
Virginia	1,490	3,100	3,720	295	223	372	295	502	688
Late:									
Illinois		580	600		52	48		63	77
Maryland	560	3,830	4,070	80	306	285	120	398	382
New Jersey	4,460	4,520	5,030	535	755	865	1,166	1,178	1,496
Tennessee	380	720	2,190	38	50	256	33	62	241
Total	37,090	44,870	55,350	4,194	5,499	5,480	7,887	11,686	9,231

Division of Crop and Livestock Estimates.

[1] 1-bushel hampers.

TABLE 203.—*Beans, snap, for table consumption, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per hamper [2]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Alabama	106	112	95	89	144	77	49	2.50	2.30	2.75	1.95	1.51	1.71	2.10
California	350	267	308	358	175	352	340	1.25	1.50	1.60	1.54	2.88	3.87	1.05
Florida	115	106	105	125	102	129	75	1.38	2.00	1.88	2.05	2.26	1.92	2.16
Georgia	125	120	100	120	150	105	56	1.64	1.30	1.42	1.50	1.50	2.38	1.00
Louisiana	182	163	178	165	78	70	88	2.23	2.36	2.23	2.75	1.58	2.56	2.74
Mississippi	102	90	74	76	109	58	56	1.44	1.64	1.40	1.93	1.05	1.25	1.78
N. Carolina	175	178	180	128	93	159	100	1.05	1.58	1.85	1.02	1.50	1.34	.72
S. Carolina	125	96	82	128	125	111	81	1.56	1.77	2.07	2.28	1.79	2.30	1.42
Texas	175	198	138	170	58	94	119	2.25	2.38	2.50	1.75	1.00	2.67	1.95
Virginia	178	178	182	175	198	72	100	1.58	2.04	2.12	1.81	1.00	2.25	1.85
Late:														
Illinois						90	80						1.21	1.61
Maryland	220	144	205	142	142	80	70	1.40	1.50	1.39	1.56	1.50	1.30	1.34
New Jersey	175	144	181	121	120	167	172	1.09	1.39	1.45	1.40	2.18	1.56	1.73
Tennessee	65	70	100	110	100	70	117	1.02	1.65	1.85	1.80	.88	1.25	.94
Average	173	137	154	149	113	123	99	1.37	1.76	1.74	1.85	1.88	2.13	1.68

Division of Crop and Livestock Estimates.

[2] Average for season.

TABLE 204.—*Beans, snap, for canning, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	890	1,060	1,220	4,000	3,700	3,400	250	247	212
Colorado	610	750	1,200	1,500	2,600	3,600	85	156	216
Louisiana	380	460	370	800	500	300	36	25	15
Maine	310	460	640	600	900	1,400	30	45	84
Maryland	860	950	920	1,700	2,500	1,000	89	130	61
Michigan	930	1,290	1,990	1,100	1,000	2,200	61	62	125
New York	3,570	4,570	5,900	7,100	9,100	13,000	511	741	1,110
Oregon	320	750	1,040	800	1,900	3,100	49	119	194
Pennsylvania	240	430	430	500	900	1,100	20	36	50
Tennessee	420	390	670	800	600	1,600	30	26	80
Utah	210	290	360	400	600	1,000	19	28	50
Washington	430	280	380	1,800	900	1,000	93	58	68
Wisconsin	1,590	2,830	3,400	4,800	5,700	3,700	264	358	263
Other States	1,700	1,900	1,520	3,400	3,400	2,300	184	175	125
Total	12,460	16,410	20,040	29,300	34,300	38,700	1,721	2,206	2,653

Division of Crop and Livestock Estimates.

TABLE 205.—*Beans, snap, for canning, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per ton						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California	4.9	4.8	3.7	4.3	4.5	3.5	2.8	57.47	59.28	55.58	50.00	62.50	66.67	62.50
Colorado	3.3	4.1	2.4	3.3	2.5	3.5	3.0	53.67	53.33	65.00	50.00	60.67	60.00	60.00
Louisiana	2.7	3.0	1.8	2.0	2.6	1.0	.8	57.83	40.00	40.00	48.00	45.00	50.00	50.00
Maine	1.7	2.3	1.4	2.0	2.0	2.0	2.2	62.00	61.67	60.00	50.00	50.00	50.00	60.00
Maryland	2.5	2.2	2.7	2.5	2.0	2.6	1.1	63.80	58.70	60.83	60.00	52.50	52.12	60.62
Michigan	1.3	1.0	1.0	.8	1.2	.8	1.1	62.83	74.17	64.38	70.00	55.50	62.50	57.00
New York	2.8	2.2	2.0	2.4	2.0	2.0	2.2	53.12	51.54	67.00	67.23	72.00	81.39	85.41
Oregon	3.3	3.3	2.6	3.2	2.5	2.5	3.0	66.88	53.33	58.96	56.67	61.67	62.50	62.50
Pennsylvania	1.9	2.4	1.4	2.2	2.0	2.0	2.6	57.63	57.09	57.49	57.43	40.00	40.00	45.00
Tennessee	2.3	2.2	2.3	2.0	2.0	1.6	2.4	57.83	46.60	56.66	55.00	37.78	43.33	50.00
Utah	2.8	3.5	3.2	3.0	2.0	2.0	2.9	57.83	53.33	60.00	55.00	47.50	46.88	50.00
Washington	2.8	3.1	2.6	3.0	4.3	3.3	2.7	57.83	55.00	45.00	50.00	51.67	64.17	68.34
Wisconsin	2.4	2.4	1.9	1.9	3.0	2.0	1.1	57.83	57.09	74.17	73.00	55.00	62.86	71.00
Other States	2.7	3.0	1.8	2.0	2.0	1.8	1.5	57.83	56.98	53.89	53.80	54.04	51.35	54.44
Average	2.7	2.5	2.0	2.3	2.4	2.1	1.9	56.90	55.32	62.87	60.79	58.74	64.31	68.55

Division of Crop and Livestock Estimates.

CABBAGE

TABLE 206.—*Cabbage, commercial crop: Acreage, production, and total value, by States, 1922–1924* [1]

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
California	7,320	5,300	5,670	43,900	37,100	35,200	1,156	1,581	1,099
Florida	11,280	2,050	4,920	79,000	16,400	41,800	1,735	764	1,590
Louisiana	1,670	1,640	1,780	10,000	7,400	8,900	200	414	461
Texas	14,880	4,440	10,540	74,400	22,200	105,400	723	710	2,321
Second early:									
Alabama	2,200	2,250	1,200	18,700	16,900	7,800	415	841	355
Georgia	520	220	220	2,600	1,200	1,300	66	43	50
Mississippi	4,640	4,770	3,090	23,200	16,700	13,300	464	812	699
North Carolina	350	440	520	2,100	3,300	2,600	72	99	109
South Carolina	4,100	3,450	2,550	30,800	39,700	15,300	723	2,300	696
Virginia (Eastern Shore and Norfolk)	3,500	3,750	4,000	28,000	22,500	32,000	818	622	1,177
Intermediate:									
Illinois	1,880	1,400	1,400	15,000	7,000	11,200	96	118	199
Iowa	1,840	1,200	1,200	14,700	6,600	9,000	138	110	96
Kentucky	300	300	380	1,800	1,500	2,300	38	45	56
Maryland	1,930	2,050	2,170	9,600	12,300	17,400	141	402	432
Missouri	700	800	750	4,900	4,800	4,500	147	135	126
New Jersey	4,500	4,100	4,080	36,000	22,600	20,400	785	898	443
New Mexico	400	300	250	3,600	2,100	1,500	81	105	58
New York (Long Island)	4,500	4,200	4,200	41,400	29,400	39,500	642	486	865
Ohio (Washington County)	520	550	580	4,300	4,100	4,100	88	132	66
Tennessee	1,500	1,200	1,000	10,500	8,400	5,000	206	218	87
Washington	950	890	1,060	8,600	7,100	8,500	207	414	377
Late:									
Colorado	5,240	5,270	3,910	62,900	75,400	43,000	269	558	408
Indiana	1,660	1,300	1,730	11,600	13,000	13,700	118	177	88
Michigan	3,570	3,290	3,390	39,300	32,200	32,500	222	300	272
Minnesota	3,840	3,340	2,300	34,600	25,100	21,800	199	304	164
New York (except Long Island)	24,900	22,680	23,380	224,100	170,100	266,500	1,443	2,825	1,564
Ohio (except Washington County)	2,350	4,020	4,060	19,500	36,200	39,800	295	370	315
Oregon	760	830	920	5,300	4,200	6,000	132	148	150
Pennsylvania	2,800	2,750	2,750	22,400	13,800	24,800	341	329	229
Virginia (southwest)	2,670	2,620	2,750	24,000	18,300	21,700	422	413	309
Wisconsin	16,560	13,480	13,210	182,200	128,100	116,200	906	1,266	844
Total	133,830	104,880	109,960	1,089,000	805,700	973,000	13,288	17,939	15,705

Division of Crop and Livestock Estimates.

[1] Includes sauerkraut.

TABLE 211.—*Cabbage, Danish: Range and average l. c. l. price to jobbers per 100 pounds, at 10 markets, 1920–1924*

Market. Season beginning October	October		November		December, average	January, average	February		March	
	Range	Average	Range	Average			Range	Average	Range	Average
New York:										
1920	$0.88–$1.00	$0.99	$0.75–$1.13	$0.94	$0.76	$1.00	$0.68–$0.83	$0.73	$0.68–$0.95	$0.81
1921	1.82–2.05	1.98	1.78–2.40	2.08	2.49	2.60	1.75–2.25	2.02	1.75–2.50	2.11
1922	.90–1.25	1.01	.50–1.25	.79	1.18	1.33	1.60–3.00	2.08	2.25–3.50	3.16
1923	1.10–1.60	1.33	.75–1.40	1.01	1.36	1.66	1.40–3.75	1.97	1.75–3.75	2.44
1924	.75–1.00	.88	.70–1.25	.92	.93					
Chicago:										
1920	.46–.63	.58	.43–.73	.52	.70	.92	.47–.83	.71	.30–.78	.64
1921	1.75–2.25	2.02	2.00–3.25	2.47	2.59	2.21	1.50–2.15	1.83		
1922			.75–1.10	.83	1.21	1.51	1.90–3.75	2.40	1.70–3.50	3.01
1923			.50–1.20	.85	1.13	1.66	1.35–2.00	1.60		
1924										
Philadelphia:										
1920	.70–1.00	.81	.55–1.18	.82	.62	.93	.55–.80	.69	.55–.83	.69
1921	1.50–2.00	1.87	1.50–2.38	1.91	2.42	2.39	1.25–2.25	1.77	2.00–2.50	2.22
1922	.75–1.10	.87	.35–1.15	.71	1.09	1.25	1.25–3.00	1.78	1.00–3.75	2.38
1923	1.00–1.65	1.32	.75–1.25	.95	1.27	1.63	1.25–3.25	2.14	1.75–3.25	2.52
1924	.50–1.00	.77	.40–1.15	.73	.86					
Pittsburgh:										
1920	.88–1.40	1.12	.70–1.50	1.00	.69	1.04	.70–.95	.80	.55–.78	.66
1921	2.15–2.75	2.48	2.25–2.88	2.57	2.67	2.58	1.90–2.75	2.21	1.75–2.75	2.36
1922	1.50–2.50	1.91	.40–1.50	.86	1.57	1.25	1.25–3.50	2.06	2.50–4.50	3.16
1923	1.15–2.00	1.51	.75–1.40	1.10	1.34	1.58	1.25–4.00	2.14	1.75–4.00	2.40
1924	.60–1.10	.85	.55–1.10	.82	.88					
St. Louis:										
1920					.91	1.12	.75–1.25	.99	.63–1.25	.96
1921	1.69–2.75	2.15	1.81–2.50	2.30	2.65	2.57	1.50–2.25	2.02		
1922					1.30	1.37	2.00–4.25	2.84	2.75–4.50	3.32
1923			.60–1.50	1.08	1.39	2.14	1.50–2.75	2.06	1.75–3.00	2.26
1924	.65–1.50	1.00	.50–1.25	.89	1.20					
Cincinnati:										
1920			.55–1.33	.96	.72	1.03	.95–1.18	1.05	.50–1.13	.82
1921	1.50–2.62	2.14	1.50–2.50	2.10	2.73	2.59	1.75–2.50	2.32		
1922	.90–1.40	1.21	.50–1.00	.71	1.31	1.46	1.85–3.50	2.31	2.50–3.75	3.18
1923	1.25–1.90	1.58	.90–1.50	1.16	1.39	1.95	1.75–3.00	2.02	1.50–4.00	2.55
1924	.90–1.25	1.11	.50–1.50	.93	1.10					
St. Paul:										
1921						3.34	2.50	2.50		
Minneapolis:										
1921						3.32				
Kansas City:										
1920					1.05	1.39	.75–1.50	1.05	.50–1.00	.78
1921	1.50–2.50	2.09	1.75–3.25	2.61	3.15	3.26	2.00–2.75	2.43		
1922	.60–1.25	.90	.50–.85	.66	1.22	1.62	2.00–4.00	2.85	3.25–5.00	3.84
1923	.90–1.50	1.18	.90–1.50	1.07	1.24	2.22	1.50–2.25	1.89	1.50–2.25	1.97
1924			.75–1.25	.97	1.37					
Washington:[1]										
1920						1.93	1.25–1.50	1.47	1.00–1.50	1.25
1921	2.50–3.00	2.74	2.00–3.00	2.53	3.03	3.41	2.50–4.00	3.01		
1922	1.50–2.25	1.97	1.00–2.00	1.43	1.82	1.88	2.00–3.00	2.47		
1923	1.75–2.50	1.96	1.25–2.00	1.44	1.68	1.93	2.00–2.25	2.06		
1924	1.25–1.50	1.33	.80–1.25	1.02	1.34					

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Sales direct to retailers to October, 1923.

TABLE 212.—*Cabbage: Farm price per 100 pounds, 15th of month, United States, 1910–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted average
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	2.27	1.89	1.94	1.58	1.36	1.49	1.56	1.48	1.26	1.33	1.38	2.46	1.57
1911	2.93	2.47	1.94	1.58	1.51	1.83	1.89	2.24	2.88	3.17	2.98	2.67	2.28
1912	2.29	1.88	1.25	1.08	1.04	1.15	1.26	1.19	1.03	1.15	1.58	2.18	1.28
1913	2.64	2.15	1.79	1.69	1.58	1.75	1.87	2.07	2.03	2.24	2.05	2.61	1.95
Av. 1910–1913	2.53	2.10	1.73	1.48	1.37	1.56	1.64	1.74	1.80	1.97	2.00	2.48	1.76
1914	2.66	1.74	1.50	1.31	1.14	1.26	1.36	1.41	1.38	1.99	2.53	2.34	1.60
1915	1.95	1.61	1.24	1.00	.97	1.07	1.17	1.21	1.38	1.50	1.93	2.27	1.33
1916	2.15	2.26	2.17	2.40	2.61	3.04	3.95	5.65	6.77	7.61	7.53	5.10	4.45
1917	3.23	2.19	1.76	1.79	2.66	2.28	2.74	3.26	2.86	2.98	3.23	3.55	2.62
1918	3.41	2.96	2.45	2.16	1.99	2.05	2.19	2.33	2.71	3.79	4.97	4.68	2.83
1919	4.23	3.73	3.08	2.88	2.74	3.49	4.31	5.05	5.25	5.59	6.75	5.47	4.31
1920	4.71	3.28	2.03	1.95	1.67	1.77	1.91	1.86	1.71	2.03	3.10	4.04	2.19
Av. 1914–1920	3.19	2.54	2.03	1.93	1.97	2.14	2.52	2.97	3.15	3.64	4.29	3.92	2.76
1921	3.95	3.16	2.61	2.39	2.42	2.77	3.05	3.09	3.02	3.10	3.68	3.36	2.92
1922	2.96	2.12	1.72	1.55	1.46	1.63	2.11	2.42	3.00	3.62	4.01	4.11	2.44
1923	3.85	3.20	2.90	2.59	2.12	2.30	2.56	2.76	3.01	3.28	3.50	3.57	2.84
1924	3.16	2.76	2.34	2.13	2.01	2.24							

Division of Crop and Livestock Estimates.

CANTALOUPES

TABLE 213.—*Cantaloupes, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 crates* [1]	*1,000 crates* [1]	*1,000 crates* [1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
California (Imperial)	31,330	26,100	30,200	4,386	4,776	5,738	15,833	10,794	8,377
Florida	840	2,520	760	84	86	78	268	200	126
Georgia	8,410	5,070	2,980	841	223	289	1,295	446	329
Texas (lower valley)	370	1,100	1,050	56	151	105	77	486	353
Intermediate:									
Arizona	2,700	2,000	3,500	486	450	752	656	450	1,030
Arkansas	7,510	3,900	4,500	488	179	360	834	333	565
California (Turlock and other)	7,380	6,770	7,420	930	1,219	1,410	790	2,365	1,833
Delaware	4,080	3,200	3,300	632	464	317	973	770	539
Illinois	880	720	040	141	73	54	241	131	74
Indiana	3,300	3,550	3,840	363	327	580	628	458	1,038
Maryland	5,560	4,900	5,500	890	725	550	1,771	1,791	1,023
Missouri	630	260	160	63	26	16	127	29	19
Nevada	1,400	1,400	900	126	164	99	220	246	148
North Carolina	3,900	2,280	2,400	436	229	180	449	234	124
Oklahoma	400	100	150	24	4	15	40	6	16
South Carolina	1,510	1,070	500	151	77	52	193	115	45
Texas (other)	540	870	3,790	35	64	265	50	151	464
Late:									
Colorado	14,000	8,620	7,170	1,400	1,078	1,219	2,450	1,822	1,463
Iowa	1,020	930	890	82	83	53	123	83	66
Kansas	50	180	780	4	18	98	5	30	135
Michigan	1,500	1,700	1,600	172	223	104	215	301	170
New Jersey	3,360	3,860	4,360	612	594	698	863	1,307	1,249
New Mexico	1,100	1,400	2,100	138	234	525	200	316	719
Tennessee	350	880	360	49	132	65	74	317	68
Washington	1,120	770	850	216	146	167	486	320	257
Total	103,300	84,160	89,700	12,805	11,745	13,789	28,861	23,501	20,230

Division of Crop and Livestock Estimates.

[1] Standard crate.

TABLE 214.—*Cantaloupes, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per crate [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California (Imperial)	200	209	182	173	140	183	190	2.88	2.17	1.83	1.63	3.61	2.26	1.46
Florida	123	116	124	150	100	34	102	1.00	1.00	.75	1.62	3.19	2.33	1.61
Georgia	138	122	164	195	100	44	97	1.25	1.17	1.45	1.38	1.54	2.00	1.14
Texas (lower valley)	150	146	162	98	150	137	100	2.75	5.00	3.00	2.00	1.37	3.22	3.36
Intermediate:														
Arizona	180	160	170	172	180	225	215	1.85	1.75	1.75	1.25	1.35	1.00	1.37
Arkansas	74	83	79	87	65	46	80	1.48	1.62	2.20	1.46	1.71	1.86	1.57
California (Turlock and other)	182	162	170	156	126	180	190	1.48	1.21	.93	.90	.85	1.94	1.30
Delaware	117	118	111	96	155	145	96	1.61	.93	.90	1.18	1.54	1.66	1.70
Illinois	142	156	160	165	160	102	84	1.11	1.08	1.25	.86	1.71	1.80	1.37
Indiana	150	152	140	125	110	92	151	1.45	1.56	1.24	1.48	1.73	1.40	1.79
Maryland	174	174	135	154	160	148	100	1.82	1.25	1.28	1.12	1.99	2.47	1.86
Missouri	157	166	150	147	100	100	100	2.12	2.25	2.00	1.62	2.01	1.11	1.20
Nevada	140	145	146	80	90	117	110	1.80	1.70	1.65	1.35	1.75	1.50	1.50
North Carolina	124	126	116	126	110	100	75	1.19	1.05	1.03	1.30	1.03	1.02	.69
Oklahoma				125	60	40	100				1.25	1.67	1.44	1.07
South Carolina	114	110	100	90	100	72	104	.92	1.00	1.16	1.38	1.28	1.49	.87
Texas (other)	156	146	162	60	65	74	70	1.32	1.45	1.62	1.08	1.44	2.36	1.75
Late:														
Colorado	176	165	150	182	100	125	170	1.50	1.25	1.60	.84	1.75	1.69	1.20
Iowa	176	172	135	126	80	89	60	1.50	1.62	1.50	1.25	1.50	1.00	1.25
Kansas					90	100	125					1.25	1.69	1.38
Michigan	145	166	140	125	115	131	65	1.60	1.60	2.00	1.70	1.25	1.35	1.63
New Jersey	165	158	160	174	182	154	160	.77	.73	.84	.97	1.41	2.20	1.79
New Mexico	150	160	200	180	125	167	250	1.50	1.25	1.25	.85	1.45	1.35	1.37
Tennessee	152	150	158	175	140	150	180	1.25	1.12	1.38	1.25	1.50	2.40	1.05
Washington	156	160	217	194	193	190	197	1.80	1.75	1.50	1.20	2.25	2.19	1.54
Average	157	154	166	149	124	140	154	1.83	1.53	1.51	1.30	2.25	2.00	1.47

Division of Crop and Livestock Estimates.

[1] Average for season.

TABLE 215.—*Cantaloupes: Car-lot shipments by State of origin, April, 1917–November, 1924*

State	Crop movement season [1]							
	1917	1918	1919	1920	1921	1922	1923	1924 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Delaware	702	429	590	581	943	843	818	537
Maryland	855	490	835	771	1,206	1,233	1,270	699
North Carolina	1,106	418	523	359	821	700	620	399
South Carolina	157	31	109	110	299	270	70	115
Georgia	789	551	314	389	640	1,632	216	586
Indiana	664	443	462	635	644	894	681	820
Michigan	42	37	204	209	176	465	306	113
Arkansas	797	699	1,106	936	1,501	990	337	1,051
Colorado	1,898	1,818	3,132	2,454	3,215	4,420	2,195	2,640
New Mexico	227	256	378	937	421	275	364	518
Arizona	1,215	1,169	1,832	1,164	1,474	1,558	1,208	1,864
Washington	145	110	100	329	209	371	207	298
California	8,258	6,848	12,010	13,100	13,177	15,304	15,449	18,335
All other	575	320	453	403	843	962	1,030	980
Total	17,430	13,619	22,039	22,377	25,569	29,917	24,771	28,955

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from Apr. 1 through November of a given year.
[2] Preliminary.

CAULIFLOWER

TABLE 216.—*Cauliflower, commercial crop: Acreage, production, and total value, by States, year beginning October, 1921–1923*

State	Acreage			Production			Total value, basis, average price for season		
	1921	1922	1923	1921	1922	1923	1921	1922	1923
	Acres	*Acres*	*Acres*	*1,000 crates*	*1,000 crates*	*1,000 crates*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	6,700	7,260	6,550	2,010	2,105	1,703	3,960	2,736	2,010
Colorado	-------	260	400	-------	72	112	-------	131	202
New York	2,240	3,500	4,350	495	1,015	1,044	1,381	2,223	1,931
Oregon	310	510	1,820	84	117	637	176	170	924
Virginia	-------	50	70	-------	13	18	-------	24	36
Total	9,250	11,580	13,190	2,589	3,322	3,514	5,517	5,284	5,103

Division of Crop and Livestock Estimates.

TABLE 217.—*Cauliflower, commercial crop: Yield per acre and price, year beginning October, 1918–1923*

State	Yield per acre						Price per crate [1]					
	1918	1919	1920	1921	1922	1923	1918	1919	1920	1921	1922	1923
	Crts.	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California	261	273	268	300	290	260	1.00	1.25	1.00	1.97	1.30	1.18
Colorado	-------	-------	-------	-------	275	280	-------	-------	-------	-------	1.82	1.80
New York	258	252	274	221	290	240	2.08	1.84	2.00	2.79	2.19	1.85
Oregon	240	231	270	270	230	350	1.30	1.25	1.25	2.10	1.45	1.45
Virginia	-------	-------	-------	-------	265	250	-------	-------	-------	-------	1.85	2.00
Average	260	268	269	280	287	266	1.26	1.36	1.24	2.13	1.59	1.45

Division of Crop and Livestock Estimates.

[1] Average for season.

CELERY

TABLE 218.—*Celery, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 Crts.*[1]	*1,000 Crts.*[1]	*1,000 Crts.*[1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
California	4,520	5,480	5,250	1,026	1,167	1,155	2,698	2,276	1,721
Florida	2,920	3,200	4,000	1,264	1,494	1,680	3,767	6,335	8,282
Late:									
Colorado	600	670	800	170	179	240	325	252	487
Michigan	4,090	4,120	3,940	871	911	957	1,237	1,312	1,924
Minnesota	-------	100	120	-------	23	26	-------	48	59
New Jersey	500	840	1,300	146	280	384	293	395	703
New York	3,530	4,000	4,720	882	972	1,407	1,526	1,584	2,012
Ohio	780	800	710	156	157	131	471	349	296
Oregon	90	150	160	26	43	43	69	89	94
Pennsylvania	200	400	380	60	107	91	133	164	164
Total	17,230	19,760	21,380	4,601	5,333	6,114	10,519	12,804	15,742

Division of Crop and Livestock Estimates.

[1] Equivalents of New York crate, 21 by 16 by 22 inches.

TABLE 219.—*Celery, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per crate [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*Crt.*	*Crt.*	*Crt.*	*Crt.*	*Crt.*	*Crt.*	*Crt.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California	187	264	213	227	227	213	220	2.81	2.75	2.86	2.06	2.63	1.95	1.49
Florida	400	459	404	512	433	467	420	4.11	4.45	4.75	4.27	2.98	4.24	4.93
Late:														
Colorado	287	293	267	293	283	267	300	2.00	2.00	1.67	1.33	1.91	1.41	2.03
Michigan	185	170	220	240	213	221	243	1.00	1.00	1.16	1.62	1.42	1.44	2.01
Minnesota						233	213						2.07	2.28
New Jersey	291	267	307	333	293	333	295	1.73	1.75	1.31	1.67	2.01	1.41	1.83
New York	220	200	230	215	250	243	298	2.10	2.34	2.15	2.50	1.73	1.63	1.43
Ohio	220	200	220	190	200	196	185	3.04	3.09	3.51	2.45	3.02	2.22	2.26
Oregon				290	293	287	267				2.10	2.67	2.08	2.19
Pennsylvania	267	320	293	317	300	267	240	3.00	3.33	4.00	3.00	2.21	1.53	1.80
Average	223	254	246	271	267	270	286	2.35	2.47	2.52	2.63	2.29	2.40	2.57

Division of Crop and Livestock Estimates.

[1] Average for season, New York crate basis.

TABLE 220.—*Celery: Car-lot shipments, by State of origin, June, 1918–May, 1924*

State	Crop movement season [1]					
	1918	1919	1920	1921	1922	1923 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	1,352	1,682	2,793	3,032	3,248	3,741
New Jersey	154	177	108	217	115	219
Pennsylvania	199	33	176	225	212	223
Florida	2,051	3,007	4,175	4,954	6,398	7,196
Michigan	458	598	604	1,013	1,626	1,486
Colorado	225	212	283	211	222	125
California	1,498	1,966	3,342	2,614	4,337	4,716
All other	35	59	71	130	210	336
Total	5,972	7,734	11,552	12,396	16,368	18,042

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from June 1 of one year through May of the following year, except in Florida, where the season extends through June.

[2] Preliminary.

CORN

TABLE 221.—*Corn, sweet, for canning, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Delaware	5,540	5,210	5,840	15,000	14,600	11,100	150	146	133
Illinois	40,240	53,120	60,560	88,500	138,100	103,000	865	1,671	1,399
Indiana	13,730	18,670	21,840	34,300	37,300	37,100	343	410	547
Iowa	32,120	45,610	59,290	96,400	118,600	88,900	694	1,059	849
Maine	11,400	11,090	13,420	28,500	33,300	37,600	784	916	1,094
Maryland	20,900	26,390	26,920	52,200	58,100	40,400	522	763	593
Michigan	5,930	8,200	12,960	11,900	13,100	15,600	136	163	230
Minnesota	11,660	15,600	20,900	23,300	40,600	41,800	213	395	395
Nebraska	3,530	4,380	5,650	9,200	8,800	10,200	77	78	94
New Hampshire	880	960	1,200	1,900	2,800	3,400	43	64	83
New York	16,670	20,840	23,190	33,300	29,200	39,400	593	565	772
Ohio	20,310	23,150	25,930	44,700	55,600	36,300	389	593	386
Pennsylvania	2,260	2,580	3,120	5,400	4,900	6,200	54	56	110
Vermont	2,590	2,450	2,500	5,200	6,600	7,000	78	99	140
Wisconsin	8,510	10,800	13,720	21,300	23,800	17,800	225	249	212
Other States	1,330	1,800	2,370	3,600	5,200	4,700	50	86	68
Total	197,600	250,850	299,410	474,700	590,600	500,500	5,216	7,313	7,100

Division of Crop and Livestock Estimates.

TABLE 222.—*Corn, sweet, for canning, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per ton						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Delaware	2.0	2.0	1.8	2.0	2.7	2.8	1.9	21.00	16.80	15.60	9.00	10.00	10.00	12.00
Illinois	2.1	2.2	2.2	2.6	2.2	2.6	2.0	14.09	13.80	19.75	12.67	9.77	12.10	13.58
Indiana	1.5	2.4	2.5	2.9	2.5	2.0	1.9	17.00	14.93	18.50	12.00	10.00	11.00	14.74
Iowa	1.9	2.6	2.3	2.8	3.0	2.6	1.5	12.13	13.27	15.60	8.60	7.20	8.93	9.55
Maine	2.5	3.5	3.1	3.2	2.5	3.0	2.8	32.74	34.62	30.00	27.60	27.50	27.51	29.10
Maryland	2.0	2.0	2.6	2.5	2.5	2.2	1.5	24.48	21.88	23.00	11.70	10.00	13.14	14.69
Michigan	1.0	2.0	2.0	2.2	2.0	1.6	1.2	16.18	16.96	14.46	15.00	11.41	12.42	14.76
Minnesota	2.5	2.4	2.5	2.8	2.0	2.6	2.4	14.13	14.19	15.00	10.40	9.14	9.73	9.46
Nebraska	2.0	1.5	2.0	2.9	2.6	2.0	1.8	11.75	11.66	12.33	15.00	8.33	8.88	9.18
New Hampshire	2.2	3.0	2.8	2.9	2.2	2.9	2.8	28.00	29.12	25.00	22.85	22.70	22.73	24.40
New York	1.5	2.0	2.0	2.3	2.0	1.4	1.7	19.61	19.11	22.28	18.29	17.82	19.36	19.59
Ohio	2.0	2.5	2.0	2.5	2.2	2.4	1.4	18.86	16.37	18.67	10.29	8.70	10.66	10.64
Pennsylvania	1.8	2.2	2.2	2.7	2.4	1.9	2.0	22.40	18.50	17.00	14.00	10.00	11.33	17.72
Vermont	2.0	2.5	2.2	2.3	2.0	2.7	2.8	21.00	20.00	20.00	15.00	15.00	15.00	20.00
Wisconsin	2.0	2.4	2.0	2.8	2.5	2.2	1.3	13.50	14.41	15.50	11.22	10.54	10.46	11.93
Other States	2.0	2.1	2.6	2.9	2.7	2.9	2.0	18.08	16.17	15.91	13.59	13.98	16.47	13.50
Average	1.8	2.3	2.3	2.6	2.4	2.4	1.8	17.99	17.69	19.32	13.50	10.99	12.41	14.19

Division of Crop and Livestock Estimates.

TABLE 223.—*Corn, canned: Production in the United States, 1917–1924*

State	1917	1918	1919	1920	1921	1922	1923	1924
	Cases [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]
Maine	566,498	1,112,912	1,652,000	1,588,000	911,000	1,066,000	923,000	1,204,000
New York	257,296	488,912	1,014,000	829,000	564,000	616,000	434,000	749,000
Maryland	2,001,544	2,032,944	2,081,000	2,217,000	1,130,000	1,944,000	2,256,000	1,707,000
Ohio	1,200,131	1,584,064	1,360,000	1,544,000	850,000	1,073,000	1,390,000	787,000
Indiana	742,491	512,688	586,000	861,000	709,000	665,000	1,208,000	846,000
Illinois	2,421,953	2,199,344	2,225,000	2,271,000	1,711,000	1,939,000	2,853,000	2,310,000
Wisconsin	165,492	372,924	635,000	590,000	576,000	625,000	648,000	388,000
Minnesota	201,969	309,136	456,000	643,000	573,000	598,000	898,000	1,199,000
Iowa	2,280,366	2,300,241	2,496,000	3,246,000	1,190,000	1,959,000	2,382,000	1,764,000
All other	965,275	808,695	1,045,000	1,251,000	629,000	934,000	1,134,000	1,087,000
United States	10,803,015	11,721,860	13,550,000	15,040,000	8,843,000	11,419,000	14,106,000	12,131,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

[1] Stated in cases of 24 No. 2 cans.

CUCUMBERS

TABLE 224.—*Cucumbers for consumption fresh, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 hamp.* [1]	*1,000 hamp.* [1]	*1,000 hamp.* [1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
Alabama	3,030	1,360	2,540	545	220	432	763	530	488
Florida	10,380	10,760	12,550	3,072	1,463	1,017	5,929	4,535	3,875
Georgia	660	600	2,260	119	48	120	258	96	218
Louisiana	----	250	300	----	32	60	----	32	106
South Carolina	4,630	2,780	3,560	532	473	605	367	970	484
Texas (Southern district)	1,310	1,720	950	144	165	163	134	282	302
Virginia	830	840	1,730	124	130	260	124	195	208
Second early:									
Arkansas	----	----	350	----	----	35	----	----	45
California (southern district)	460	450	420	62	72	67	112	95	56
North Carolina	2,340	2,650	3,500	421	610	875	370	976	718
Intermediate:									
Delaware	700	640	740	105	115	118	62	208	183
Illinois (southern)	400	440	520	64	73	73	123	104	130
Maryland	1,120	1,250	1,300	234	231	202	204	434	285
New Jersey	1,480	1,660	2,560	450	382	701	486	657	1,374
Late:									
New York	2,030	2,080	3,400	374	343	544	486	539	832
Total	29,370	27,480	36,680	6,246	4,357	5,272	9,418	9,653	9,304

Division of Crop and Livestock Estimates.

[1] Bushel hamper.

TABLE 225.—*Cucumbers for consumption fresh, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per hamper [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Alabama	158	152	158	150	180	162	170	1.78	1.61	1.16	0.70	1.40	2.41	1.13
Florida	324	316	276	280	296	136	81	4.33	3.67	3.16	2.49	1.93	3.10	3.81
Georgia	.....	.....	.....	.....	180	80	53	.....	.....	.....	.....	2.17	2.00	1.82
Louisiana	.....	.....	.....	.....	.....	130	200	.....	.....	.....	.....	.....	1.00	1.76
South Carolina	259	280	234	203	115	170	170	1.12	1.39	1.65	1.83	.69	2.05	.80
Texas (southern district)	134	124	124	105	110	96	172	2.00	1.62	1.18	.85	.93	1.71	1.85
Virginia	180	205	136	160	150	155	150	1.94	2.50	2.50	2.00	1.00	1.50	.80
Second Early:														
Arkansas	.....	.....	.....	.....	.....	.....	100	.....	.....	.....	.....	.....	.....	1.28
California (southern district)	190	180	176	168	135	160	160	1.80	1.50	1.30	1.25	1.80	1.32	.83
North Carolina	249	276	255	226	180	230	250	1.03	.79	.68	.93	.88	1.60	.82
Intermediate:														
Delaware	156	164	150	165	150	180	160	.66	.84	.75	.70	.59	1.81	1.55
Illinois (southern)	168	164	184	250	160	165	140	.90	.90	1.00	.98	1.92	1.42	1.78
Maryland	180	202	182	163	209	185	155	1.34	1.01	.83	1.14	.87	1.88	1.41
New Jersey	296	319	266	285	304	230	274	1.45	1.25	1.40	1.10	1.08	1.72	1.96
Late:														
New York	154	160	152	150	184	165	160	.96	1.32	1.68	1.21	1.30	1.57	1.53
Average	243	252	218	216	213	159	144	2.49	2.32	1.08	1.72	1.51	2.22	1.76

Division of Crop and Livestock Estimates.

[1] Average for season.

TABLE 226.—*Cucumbers for pickles, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	1,480	2,033	2,740	186	208	312	185	230	312
Colorado	3,080	3,250	4,260	200	254	149	290	394	149
Illinois	960	1,410	1,680	43	73	47	50	104	50
Indiana	5,240	7,390	11,450	210	377	298	206	475	387
Iowa	990	3,530	4,760	30	191	95	30	172	102
Michigan	25,050	26,840	36,230	1,002	1,154	870	872	1,316	809
Minnesota	1,330	1,330	3,070	66	72	52	66	72	65
Missouri	400	400	920	24	19	37	14	13	53
New York	1,950	1,420	1,730	146	70	57	146	88	54
Ohio	920	700	920	69	32	29	69	34	43
Washington	380	480	420	48	66	13	34	66	13
Wisconsin	7,310	12,130	17,220	366	606	482	304	733	482
Other States	3,740	3,570	7,500	232	132	345	172	132	445
Total	52,830	64,480	92,900	2,621	3,314	2,786	2,438	3,829	2,964

Division of Crop and Livestock Estimates.

TABLE 227.—*Cucumbers for pickles, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per bushel						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California	63	64	86	100	125	132	114	0.96	1.23	1.20	1.24	1.00	0.86	1.00
Colorado	74	69	81	75	65	78	35	.69	.70	1.00	1.15	1.45	1.55	1.00
Illinois	53	57	15	80	45	52	28	1.03	1.07	1.26	1.26	1.17	1.43	1.07
Indiana	55	50	24	70	40	51	26	.93	.94	1.30	.87	.98	1.26	1.30
Iowa	46	47	22	70	30	54	20	.85	.94	1.00	1.63	1.00	.90	1.07
Michigan	51	57	34	70	40	43	24	.76	.79	.93	1.04	.87	1.14	.93
Minnesota	60	63	20	60	50	54	17	.79	.79	1.06	1.25	1.00	1.00	1.25
Missouri	44	45	45	70	60	48	40	.80	.88	.90	1.00	.60	.70	1.42
New York	60	70	98	80	75	49	33	1.00	1.00	1.00	.95	1.00	1.25	.94
Ohio	55	55	47	80	75	45	32	1.00	1.09	1.25	1.25	1.00	1.05	1.48
Washington	57	59	110	80	125	138	30	1.25	1.25	1.00	1.00	.71	1.00	1.00
Wisconsin	66	69	28	65	50	50	28	1.01	1.03	.79	.92	.83	1.21	1.00
Other States	75	46	51	73	62	37	46	.89	1.00	.96	.98	.74	1.00	1.29
Average	56	59	38	71	50	51	30	.86	.89	.98	1.04	.93	1.16	1.06

Division of Crop and Livestock Estimates.

LETTUCE

TABLE 228.—*Lettuce, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*1,000 crates* [1]	*1,000 crates* [1]	*1,000 crates* [1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
Arizona	1,480	2,900	4,800	493	879	1,262	385	1,028	1,426
California: [2]									
Imperial	11,000	14,130	20,000	1,925	3,052	3,800	3,446	3,876	5,548
Other	7,140	10,570	12,780	1,785	3,467	3,233	2,802	3,918	3,330
Florida	3,140	3,780	3,490	1,727	1,361	1,222	2,245	1,674	978
North Carolina	1,180	1,230	1,540	354	320	346	924	470	346
South Carolina	1,750	1,980	1,310	394	287	236	843	359	271
Texas	1,390	1,140	670	300	263	176	222	263	81
Virginia	130	310	300	32	54	48	56	66	40
Late:									
Colorado	6,000	6,710	5,600	1,260	1,134	554	1,802	1,508	909
Idaho	1,800	3,150	1,420	356	507	223	595	644	245
Michigan	370	380	300	62	61	30	124	130	45
Minnesota	170	240	350	31	32	33	41	46	96
New Jersey	1,380	1,310	1,730	308	279	368	290	85	592
New York	6,000	7,150	6,450	1,200	1,552	1,522	1,476	2,064	2,024
Oregon	500	500	300	88	80	56	156	90	60
Pennsylvania	60	60	70	13	12	7	16	16	11
Utah	120	200	300	36	58	93	49	70	105
Washington	1,080	2,000	1,400	409	654	368	442	726	357
Wyoming	210	250	250	56	66	76	70	82	89
Total	44,900	57,990	63,060	10,829	14,118	13,653	15,984	17,515	16,553

Division of Crop and Livestock Estimates.

[1] Crates of 3 dozen heads each.
[2] Crop year beginning October.

TABLE 229.—*Lettuce, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per crate [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Crts.	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Crts.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Early:														
Arizona	274	273	297	287	333	303	263	0.67	0.78	0.60	0.90	0.78	1.17	1.13
California [2]	305	291	301											
Imperial				190	175	216	190	1.75	1.95	1.80	1.70	1.79	1.27	1.46
Other				278	250	328	253	1.48	1.48	1.54	1.07	1.57	1.13	1.03
Florida	552	466	470	547	550	360	350	.80	1.10	1.19	1.32	1.30	1.23	.80
North Carolina	293	308	308	307	300	260	225	2.31	3.26	3.11	2.50	2.61	1.47	1.00
South Carolina	295	294	266	300	225	145	180	1.74	2.18	2.28	2.17	2.14	1.25	1.15
Texas	179	283	283	261	216	231	263	.70	1.09	.79	.62	.74	1.00	.46
Virginia	252	248	273	312	250	175	161	2.05	2.35	2.55	2.00	1.75	1.47	1.00
Late:														
Colorado	297	274	292	315	210	169	99	2.92	2.50	1.50	1.25	1.43	1.33	1.64
Idaho			268	292	198	161	157			1.50	1.46	1.67	1.27	1.10
Michigan	169	241	144	200	167	160	100	1.11	1.49	1.35	1.67	2.00	2.13	1.49
Minnesota		240	173	177	180	133	93		2.33	2.00	2.00	1.33	1.45	2.92
New Jersey	227	210	208	217	223	213	213	1.76	1.83	2.33	2.35	1.25	2.08	1.61
New York	225	200	230	257	200	217	236	1.16	1.26	1.29	2.15	1.23	1.33	1.33
Oregon					175	161	187					1.77	1.13	1.08
Pennsylvania	190	177	175	257	217	200	100	1.92	2.56	2.05	2.97	1.20	1.33	1.59
Utah					303	292	309					1.35	1.21	1.13
Washington	292	274	286	437	379	327	263	2.50	2.08	1.46	1.67	1.08	1.11	.97
Wyoming					268	263	303					1.25	1.24	1.17
Average	315	290	302	286	241	243	217	1.32	1.53	1.55	1.50	1.48	1.24	1.21

Division of Crop and Livestock Estimates.

[1] Average for season.
[2] Year beginning October.

TABLE 234.—*Onions: Average l. c. l. price to jobbers per 100 pounds, at 10 markets, 1920–1924*

Market. Season beginning August	Various common varieties								Bermudas					
									Apr.		May [2]		June [2]	
	Aug.[1]	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Yellow	Crystal White wax	Yellow	Crystal White wax	Yellow	Crystal White wax
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
New York:														
1920	2.53	2.24	1.56	1.55	1.23	1.31	0.98	0.80	4.34	3.46	3.15	3.79	2.93	3.01
1921	2.80	3.43	5.06	5.63	5.45	7.34	8.25	8.21	7.66	6.20	4.14	3.79	3.91	3.54
1922	2.08	1.52	1.72	2.00	2.99	2.83	2.45	2.98			5.31	5.19		
1923	2.68	3.21	3.26	2.75	2.76	2.73	2.33	2.20			3.27			
1924	2.17	1.89	1.84	2.08	2.84									
Chicago:														
1920	2.06	1.94	1.59	1.56	1.31	1.16	.98	.93	3.48	4.37	2.79	3.73	2.53	3.27
1921	2.58	3.61	4.47	5.11	5.62	7.09	7.64	8.53	6.21	6.47	4.05	4.20	3.43	3.89
1922	2.12	1.61	1.70	2.22	2.29	2.56	3.44	3.38	5.96		5.15	5.79		
1923	3.19	3.48	3.29	3.22	3.07	3.27	3.04	2.79	5.17		3.37	4.10		
1924	3.11	2.73	2.43	2.52	2.88									
Philadelphia:														
1920		2.03	1.49	1.51	1.23	1.27	.98	.87	4.04	3.88	3.26	3.70	2.75	2.61
1921	3.02	3.80	4.80	5.34	5.52	6.93	8.09	8.98	7.03	6.00	4.13	4.04	4.07	
1922	2.19	1.63	1.57	1.82	2.73	2.90	2.54	3.20	6.03					
1923	3.07	3.45	3.09	2.73	2.61	2.58	2.21	2.11	4.76		3.42			
1924	2.91	1.99	1.70	1.76	2.59									
Pittsburgh:														
1920	2.34	2.30	1.74	1.65	1.05	1.26	.89	.90	4.03	4.58	3.22	3.91	2.95	3.35
1921	3.05	3.82	4.86	5.44	5.57	6.73	7.89	8.89	6.81	7.17	4.52	5.29	3.54	3.88
1922	2.36	1.56	1.52	1.63	2.74	2.95	2.70	3.33	6.95		5.49	5.98		
1923	2.98	3.50	3.34	2.73	2.46	2.34	2.08	2.13	5.77		3.40	4.31		
1924	3.12	1.98	1.70	1.59	2.45									
St. Louis:														
1920	2.40	1.67	1.55	1.55		1.17	.91	.70	3.30	4.40	2.83	3.47		3.20
1921	2.95	3.70	4.86	5.45	5.68	6.97	7.90	8.52	5.95	5.67	3.17	4.19	3.37	
1922			1.89	2.20	2.30	2.92	2.52	3.14			5.05	5.20		
1923	2.55	3.45	3.45	3.23	3.05	3.45	3.39	2.90	4.11		2.94	3.73		
1924		2.23	1.70	1.86	2.79									
Cincinnati:														
1920		1.76	1.48	1.45	1.33	1.25	1.13	.85	3.43	4.49	3.17	3.95	2.72	3.73
1921	2.92	3.74	5.19	5.59	5.45	6.90	8.29	8.63	5.93	6.44	4.67		3.40	3.76
1922			1.78	1.96	2.87	3.08	2.93	3.94			5.38	5.71		
1923	2.94	3.43	3.04	2.60	2.56	2.60	2.23	1.95	4.47		3.53	4.53		
1924		1.85	1.64	1.69	2.42									
St. Paul:														
1920	2.07	1.99							3.55		3.23	4.05	2.50	3.82
1921	2.85	3.49	4.92	4.83	4.44	6.42	7.75	8.61			4.39	4.52	3.12	3.35
1922											5.65	6.15		
1923		3.35	3.66	3.11	2.71	3.32	3.36	2.76			3.88	4.67		
1924														
Minneapolis:														
1920	2.17	2.12							4.02	4.66	3.38	4.11	2.49	4.05
1921	2.70	3.34	4.76	4.81	4.60	6.62	8.11	8.83			4.62	4.86	3.17	3.55
1922											5.90	6.21		
1923	2.73	3.44	3.72	3.14	3.22	3.50	3.05	2.89	6.12		3.58	4.69		
1924	2.88	2.61												
Kansas City:														
1920	2.62	1.98	1.68	1.67	1.52	1.35	1.13	.66	3.60	4.27	2.78	3.46	2.39	3.41
1921	2.97	3.60	4.38	5.40	5.42	6.94	8.06	8.50	6.56	6.92	3.91	4.46	2.76	3.29
1922			2.12	2.02	2.56	3.25	3.45	3.22						
1923	2.62	3.48	3.65	3.30	2.96	3.32	3.30	3.00	5.48		3.29	4.17		
1924	3.09	2.89	2.13	2.36	2.82									
Washington: [3]														
1920	2.62	2.61	1.95	1.92	1.86	1.88	1.53	1.35	5.67		4.21		3.45	
1921	3.64	4.27	4.93	5.93	5.78	7.10	8.61	9.55	8.00	7.36		5.17	4.36	4.36
1922	2.64	2.07	1.75	2.72	2.77	3.38	3.30	3.58			6.07			
1923	3.44	3.90	3.62	3.32	3.11	2.89	2.76	2.56			4.22			
1924	3.38	2.49	2.11	2.06	2.88									

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Quotations began Aug. 23, 1920; Aug. 22, 1921; Aug. 7, 1922; Aug. 14, 1923; Aug. 22, 1924.
[2] Last reported quotations of season June 11, 1921; June 14, 1922; May 29, 1923; June 4, 1924.
[3] Sales direct to retailers to Sept. 7, 1924.

TABLE 235.—*Onions: Farm price per bushel, 15th of month, United States, 1910–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	104.5	99.8	99.4	93.2	94.6	98.8	101.0	104.0	105.0	119.0	129.0	134.0	106.2
1911	122.0	116.0	104.0	102.0	103.0	113.0	117.0	140.0	167.0	175.0	177.0	155.0	129.8
1912	114.0	100.0	89.0	85.0	84.0	84.0	81.6	77.5	77.0	79.0	87.2	95.6	88.2
1913	101.7	105.1	103.9	110.2	114.9	114.9	121.0	140.7	155.2	159.2	152.6	140.8	124.0
Av. 1910–1913	110.6	105.2	99.1	97.6	99.1	102.7	105.2	115.6	126.0	133.0	136.4	131.4	112.0
1914	170.4	137.9	103.3	88.3	84.4	92.3	88.9	97.6	95.3	104.4	102.9	102.9	106.1
1915	93.0	86.3	82.8	94.8	94.8	99.6	113.2	126.3	130.3	123.5	123.3	133.8	104.5
1916	147.3	133.5	122.9	131.4	153.8	175.7	208.4	357.9	476.2	495.6	398.0	308.0	241.7
1917	201.0	154.7	142.9	157.5	174.6	177.0	178.9	183.2	147.4	134.1	134.7	138.7	156.7
1918	162.6	164.7	163.3	143.2	143.1	131.7	133.5	154.7	199.8	202.1	229.9	214.1	171.3
1919	232.0	225.8	195.4	196.4	212.5	245.8	280.8	307.3	325.6	344.2	337.6	264.2	257.0
1920	204.8	176.4	172.9	158.9	143.8	132.0	135.2	131.2	114.2	98.4	106.7	138.2	145.6
Av. 1914–1920	173.0	154.2	140.5	138.6	143.9	150.6	162.7	194.0	212.6	214.6	204.7	188.6	169.0
1921	147.7	159.1	168.5	186.6	219.9	245.2	263.8	325.3	365.7	469.6	331.4	270.9	252.5
1922	204.5	156.9	126.9	118.8	123.6	131.7	159.8	173.0	173.8	196.5	200.7	220.5	160.7
1923	207.7	185.2	179.3	185.6	174.6	178.4	181.3	182.9	181.2	173.8	184.1	155.4	181.9
1924	175.9	168.6	161.8	155.8	152.6	153.6							

Division of Crop and Livestock Estimates.

PEAS

TABLE 236.—*Peas, green, for consumption fresh; commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
Early:	*Acres*	*Acres*	*Acres*	*1,000 hamp.*[1]	*1,000 hamp.*[1]	*1,000 hamp.*[1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Arizona		200	450		13	14		20	38
California (Imperial)	2,000	1,120	950	96	78	52	144	156	111
Florida	470	2,250	1,170	25	135	69	64	358	202
Mississippi	3,180	1,920	2,240	270	108	152	500	215	214
North Carolina	2,360	3,930	4,770	194	295	343	388	732	589
South Carolina	650	1,630	1,720	60	106	71	150	186	163
Virginia (Norfolk)	1,720	2,530	2,740	194	240	233	287	382	333
Late:									
Colorado	300	380	850	14	28	68	22	40	128
New Jersey	1,460	1,320	1,700	111	106	119	216	219	278
New York	1,650	1,800	4,870	129	153	487	204	301	843
Total	13,790	17,380	21,460	1,093	1,262	1,608	1,975	2,609	2,890

Division of Crop and Livestock Estimates.

[1] 1-bushel hampers.

TABLE 237.—*Peas, green, for consumption fresh; commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per hamper[1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Hamp.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Arizona						63	31						1.52	2.72
California (Imperial)	70	70	80	65	48	55	55	2.80	3.00	2.50	2.15	1.50	2.00	2.14
Florida	45	50	50	60	54	60	59	2.75	3.00	3.25	3.00	2.57	2.65	2.98
Mississippi	50	50	50	65	85	56	68	2.06	2.16	2.80	2.02	1.85	1.99	1.41
North Carolina	70	80	70	90	82	75	72	2.26	2.25	2.32	2.40	2.00	2.48	1.69
South Carolina	75	70	60	75	92	65	41	2.33	2.41	1.86	2.00	2.50	1.75	2.29
Virginia (Norfolk)	90	100	70	105	113	95	85	1.83	2.00	2.44	2.40	1.48	1.59	1.43
Late:														
Colorado					45	75	80					1.55	1.44	1.88
New Jersey	50	65	60	65	76	80	70	1.83	2.20	2.03	1.95	1.95	2.07	2.34
New York	70	60	70	60	78	85	100	1.05	1.35	1.37	1.30	1.58	1.97	1.78
Average	65	68	64	72	79	73	75	1.93	2.22	2.19	2.05	1.81	2.07	1.80

Division of Crop and Livestock Estimates.

[1] Average for season

TABLE 238.—*Peas, green, for canning; commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	3,970	4,410	7,640	6,700	3,100	5,300	389	196	371
Colorado	2,940	3,680	5,820	2,100	1,800	4,700	136	124	247
Delaware	3,960	3,880	3,650	2,400	2,300	3,600	144	138	243
Illinois	8,420	10,190	11,410	6,700	6,100	11,400	409	398	718
Indiana	4,100	4,760	6,190	3,700	3,800	6,200	182	214	287
Maine		340	1,030		400	900		28	63
Maryland	7,670	8,050	9,530	5,400	4,800	9,500	274	305	653
Michigan	8,780	10,530	12,220	7,000	4,200	9,800	350	210	588
Minnesota	1,410	2,030	2,700	1,100	2,200	3,000	46	88	143
New Jersey	700	610	830	400	400	800	24	27	51
New York	30,700	33,460	36,350	27,600	30,100	32,700	1,725	1,922	2,114
Ohio	4,530	5,300	5,830	3,200	4,800	5,800	189	283	348
Pennsylvania	360	510	540	300	500	500	19	28	30
Utah	6,660	7,260	10,360	9,300	10,900	12,400	536	639	716
Wisconsin	72,050	91,160	102,100	86,500	82,000	122,500	4,858	4,707	7,104
Other States	1,760	3,140	3,960	1,800	2,500	4,400	118	164	205
Total	158,010	189,310	220,160	164,200	159,900	233,500	9,399	9,471	13,881

Division of Crop and Livestock Estimates.

TABLE 239.—*Peas, green, for canning; commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per ton						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
California	1.1	0.8	1.5	0.6	1.7	0.7	0.7	58.43	58.17	66.67	70.00	58.03	63.33	70.00
Colorado	1.0	.6	.9	.8	.7	.5	.8	50.00	60.00	69.00	70.00	65.00	69.00	52.54
Delaware	.9	.7	1.1	1.3	.6	.6	1.0	77.33	86.19	85.00	62.92	60.00	60.00	67.50
Illinois	1.2	.9	.8	.7	.8	.6	.8	62.09	65.68	63.75	68.90	61.00	65.17	63.00
Indiana	1.0	.9	.7	1.0	.9	.8	1.0	55.23	51.25	60.00	40.00	49.26	56.25	46.32
Maine						1.1	.9						70.00	70.00
Maryland	1.0	.8	1.1	1.0	.7	.6	1.0	76.11	72.00	77.50	62.40	50.83	63.57	68.70
Michigan	.9	1.0	.9	.6	.8	.4	.8	60.00	59.82	61.88	59.00	50.00	50.00	60.00
Minnesota	1.0	1.0	.8	.8	.8	1.1	1.0	40.00	40.00	42.50	44.00	42.00	40.00	47.60
New Jersey	1.0	.9	1.1	1.1	.6	.6	1.0	62.31	70.00	70.00	65.00	60.00	67.50	64.00
New York	1.0	.7	1.2	1.1	.9	.9	1.0	67.88	63.57	71.20	61.70	62.50	63.84	64.64
Ohio	1.0	.9	.8	.8	.7	.9	1.0	58.76	58.76	56.67	52.50	59.00	59.00	60.00
Pennsylvania	1.0	1.0	.8	1.4	.8	1.0	1.0	60.00	60.00	58.00	60.00	64.00	56.67	60.00
Utah	1.9	1.1	2.1	1.5	1.4	1.5	1.2	58.74	64.15	65.68	54.12	57.68	58.60	57.75
Wisconsin	1.2	1.0	1.2	.9	1.2	.9	1.2	58.77	59.02	64.66	56.96	56.16	57.40	57.99
Other States	.9	1.0	.8	.8	1.0	.8	1.1	62.31	69.74	70.00	68.56	65.56	65.75	46.54
Average	1.1	.9	1.1	.9	1.0	.8	1.1	61.54	61.48	66.84	58.76	57.24	59.23	59.31

Division of Crop and Livestock Estimates.

TABLE 240.—*Peas, canned: Production in the United States, 1916–1924*

State	1916	1917	1918	1919	1920	1921	1922	1923	1924
	Cases [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]
New York	1,084,000	1,394,171	1,870,161	1,040,000	2,381,000	1,382,000	2,137,000	2,541,000	2,931,000
New Jersey [2]	312,000	567,432	331,869	248,000	549,000	345,000	153,000	199,000	331,000
Maryland	468,000	721,160	683,007	509,000	696,000	533,000	489,000	591,000	873,000
Ohio	131,000	321,624	441,842	306,000	282,000	241,000	225,000	384,000	430,000
Indiana	412,000	522,532	454,229	381,000	271,000	182,000	268,000	367,000	483,000
Illinois	248,000	421,213	978,434	433,000	460,000	331,000	516,000	586,000	697,000
Michigan	280,000	604,470	476,650	425,000	549,000	317,000	455,000	392,000	710,000
Wisconsin	2,763,000	3,569,185	4,519,934	4,317,000	5,804,000	4,063,000	7,042,000	6,961,000	10,390,000
Minnesota								254,000	470,000
Utah	275,000	754,673	491,963	395,000	595,000	376,000	751,000	918,000	830,000
California	228,000	349,910	252,836	205,000	(3)	84,000	496,000	239,000	282,000
All other	385,000	593,783	397,288	426,000	730,000	353,000	510,000	516,000	888,000
United States	6,586,000	9,820,153	10,898,213	8,685,000	12,317,000	8,207,000	13,042,000	13,948,000	19,315,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.

[1] Stated in cases of 24 No. 2 cans.
[2] Includes Delaware.
[3] Included in all other.

POTATOES

TABLE 241.—*Potatoes: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]	Chicago cash price per hundredweight, fair to fancy [2]				Domestic exports, fiscal year beginning July 1	Imports, fiscal year beginning July 1
							December		Following May			
							Low	High	Low	High		
	1,000 acres	*Bushels*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels*	*Bushels*
1909	*3 669*	107.5	394,553	54.2	213,679	58.24	33	97	27	57	999,476	353,208
1910	3,720	93.8	349,032	55.7	194,566	52.30	50	80	58	125	2,383,887	218,984
1911	3,619	80.9	292,737	79.9	233,778	64.60	117	167	150	333	1,237,276	13,734,695
1912	3,711	113.4	420,647	50.5	212,550	57.28	67	108	55	117	2,028,261	337,230
1913	3,668	90.4	331,525	68.7	227,903	62.13	83	117	100	150	1,794,073	3,645,998
Average 1909–1913	3,677	97.3	357,699	60.5	216,495	58.87	70	114	78	156	1,688,595	3,658,022
1914	3,711	110.5	409,921	48.7	199,460	53.75	50	110	57	250	3,135,474	270,942
1915	3,734	96.3	359,721	61.7	221,992	59.45	88	158	133	183	4,017,760	209,532
1916	3,565	80.5	286,953	146.1	419,333	117.62	208	317	333	625	2,489,001	3,079,025
1917	4,384	100.8	442,108	122.8	542,774	123.81	155	225	80	250	3,453,307	1,180,480
1918	4,295	95.9	411,860	119.3	491,527	114.44	90	225	125	250	3,688,840	3,534,076
1919	3,542	91.2	322,867	159.5	514,855	145.36	280	360	685	925	3,723,434	6,940,930
1920	3,657	110.3	403,296	114.5	461,778	126.27	120	225	40	500	4,803,159	3,423,189
Average 1914–1920	3,841	98.1	376,675	108.2	407,388	106.06	142	231	208	426	3,615,854	2,662,596
1921	3,941	91.8	361,659	110.1	398,362	101.08	100	245	190	235	2,327,147	2,109,537
1922	4,307	105.3	453,396	58.1	263,355	61.15	75	175	90	700	2,979,951	572,147
1923	3,816	109.0	416,105	75.1	324,889	85.13	80	200	105	525	3,074,946	564,046
1924 [3]	3,662	124.2	454,784	64.3	292,481	79.87	80	220	-----	-----	----------	----------

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Based on farm price Dec. 1.
[2] Burbank to 1910.
[3] Preliminary.

TABLE 242.—*Potatoes: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
Maine	135	124	135	25,245	31,992	41,175	11,360	22,394	17,705
New Hampshire	14	13	14	1,400	2,470	2,520	1,470	2,840	2,117
Vermont	25	24	26	3,000	4,800	4,290	2,790	4,800	3,646
Massachusetts	29	26	28	2,610	4,680	4,340	2,480	6,318	4,166
Rhode Island	3	2	3	270	330	420	243	429	399
Connecticut	24	22	25	3,360	3,520	3,425	3,360	5,174	3,425
New York	340	323	333	37,400	39,729	46,620	22,440	37,743	26,573
New Jersey	95	82	74	16,435	7,790	11,544	11,833	8,569	7,734
Pennsylvania	254	249	244	27,432	26,145	28,792	20,574	27,452	23,034
Delaware	10	10	9	960	800	819	672	816	655
Maryland	51	49	46	5,151	3,920	3,818	3,091	3,920	3,093
Virginia	155	152	160	16,585	14,136	19,200	10,780	12,298	15,744
West Virginia	49	49	47	4,851	5,880	4,841	4,220	6,174	4,744
North Carolina	50	50	59	4,700	4,300	6,195	4,747	5,160	6,938
South Carolina	33	32	35	2,508	3,296	3,885	3,210	5,274	5,633
Georgia	25	22	24	1,700	1,540	1,608	2,380	2,464	2,412
Florida	26	19	29	2,860	1,748	2,900	5,005	3,321	4,785
Ohio	126	126	125	11,214	12,348	11,500	10,093	12,348	10,235
Indiana	74	75	73	5,624	7,875	7,227	4,724	6,772	5,782
Illinois	107	104	104	6,741	9,568	11,960	6,067	8,420	8,970
Michigan	357	314	292	37,842	35,796	38,252	12,866	15,750	13,388
Wisconsin	328	272	242	40,672	26,112	31,460	13,422	12,273	11,326
Minnesota	486	399	336	43,740	40,698	44,352	15,309	15,872	11,975
Iowa	85	81	79	8,925	6,804	10,744	5,980	5,239	5,909
Missouri	90	93	102	5,400	9,300	10,200	4,968	8,184	8,364
North Dakota	210	158	130	18,900	13,114	11,960	5,859	4,590	4,664
South Dakota	110	88	71	8,580	7,744	5,822	3,775	3,407	2,795
Nebraska	139	111	89	11,676	8,880	7,743	5,488	6,216	4,801
Kansas	65	55	54	4,160	4,730	5,130	3,827	4,683	4,668
Kentucky	59	58	60	4,720	4,930	5,700	4,720	5,916	5,814
Tennessee	32	32	35	2,560	2,880	3,500	2,816	3,226	3,920
Alabama	48	44	33	3,840	3,520	2,970	5,760	5,280	4,604
Mississippi	16	15	16	1,360	1,110	1,296	2,176	1,709	2,125
Louisiana	27	26	28	1,755	1,638	1,904	2,632	2,457	2,856
Texas	39	35	39	2,418	1,925	2,223	3,869	3,080	3,779
Oklahoma	40	42	43	2,720	2,772	3,225	3,346	3,548	4,192
Arkansas	35	33	36	2,380	1,947	2,664	3,094	2,648	3,410
Montana	45	36	37	5,670	3,960	3,256	2,268	2,574	2,833
Wyoming	22	18	16	2,420	1,800	1,520	1,210	1,674	1,322
Colorado	142	110	97	18,460	13,530	11,640	6,830	7,171	6,984
New Mexico	4	3	3	200	150	210	290	240	218
Arizona	6	4	4	510	240	260	459	336	390
Utah	21	16	14	4,137	2,688	2,184	1,655	1,882	1,616
Nevada	5	5	4	870	870	620	522	914	657
Idaho	81	67	65	14,985	12,060	10,725	4,645	6,030	5,792
Washington	65	52	49	9,425	8,060	6,615	4,241	5,642	5,623
Oregon	49	44	45	5,145	4,180	3,780	2,675	2,926	3,591
California	76	52	50	9,880	7,800	7,750	7,114	8,736	7,075
United States	4,307	3,816	3,662	453,396	416,105	454,784	263,355	324,889	292,481

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 243.—*Potatoes: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Bu.	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Me	225	220	180	198	220	209	260	179	204	125	200	230	177	196	298	187	258	305
N. H	130	150	125	140	122	133	159	95	120	107	140	102	127	121	160	100	190	180
Vt	155	130	105	140	127	131	168	108	112	100	130	100	130	121	150	120	200	165
Mass	125	125	93	130	105	116	155	120	91	115	133	90	125	118	115	90	180	155
R. I	125	136	110	113	130	123	165	110	74	135	130	100	110	118	115	90	165	140
Conn	120	125	85	107	92	106	140	95	95	110	95	75	115	104	103	140	160	137
N. Y	120	102	74	106	74	95	145	62	70	95	98	109	125	101	103	110	123	140
N. J	90	105	73	108	95	94	108	130	122	114	92	96	156	117	95	173	95	156
Pa	78	88	56	109	88	84	105	72	70	92	80	100	115	91	86	108	105	118
Del	96	103	60	100	87	89	80	95	90	95	87	83	106	91	50	96	80	91
Md	80	95	45	112	87	84	78	97	95	100	80	94	102	92	65	101	80	83
Va	92	98	45	87	94	83	65	125	130	99	94	114	120	107	108	107	93	120
W. Va	98	92	45	112	83	86	54	117	88	115	87	90	120	96	85	99	120	103
N. C	74	89	48	85	80	75	52	90	95	90	95	80	91	85	88	94	86	105
S. C	85	90	70	90	80	83	70	80	75	96	102	85	100	87	85	76	103	111
Ga	81	82	72	78	81	79	60	65	60	84	70	70	74	69	75	68	70	67
Fla	95	90	90	93	76	89	80	80	74	91	100	76	105	87	92	110	92	100
Ohio	93	82	65	112	64	83	95	82	45	100	60	61	100	79	58	89	98	92
Ind	95	84	58	114	53	81	80	95	44	92	80	44	96	76	51	76	105	99
Ill	91	75	50	101	46	73	60	110	58	90	72	52	65	72	53	63	92	115
Mich	105	105	94	105	96	101	121	59	48	95	84	90	105	86	80	106	114	131
Wis	102	95	116	120	109	108	124	87	47	114	110	94	108	98	68	124	96	130
Minn	115	61	115	135	110	107	114	106	60	112	105	87	99	98	75	90	102	132
Iowa	89	72	74	109	48	78	86	105	42	95	72	46	110	79	43	105	84	136
Mo	85	86	27	84	38	64	45	98	60	87	61	75	82	73	58	60	100	100
N. Dak	110	41	120	128	85	97	109	90	93	43	99	63	79	82	96	90	83	92
S. Dak	80	44	72	105	78	76	90	115	66	90	91	50	106	87	61	78	88	82
Nebr	78	60	52	80	48	64	80	105	73	85	86	55	99	83	80	84	80	87
Kans	70	57	22	82	40	56	62	83	71	57	53	76	85	70	64	64	86	95
Ky	92	92	39	101	49	75	45	120	84	90	75	70	99	85	65	80	85	95
Tenn	75	80	41	88	64	70	43	88	82	94	70	67	83	75	52	80	90	109
Ala	80	80	78	81	84	81	79	80	90	72	80	80	67	78	75	80	80	90
Miss	87	85	83	89	80	85	80	90	65	78	80	85	87	81	68	85	74	81
La	75	55	69	73	70	68	70	51	65	64	79	64	65	65	67	65	63	68
Tex	50	51	57	63	52	55	61	65	50	60	55	73	52	59	56	62	55	57
Okla	70	60	18	60	60	54	70	85	53	69	34	75	74	66	58	68	66	75
Ark	70	84	55	70	72	70	60	90	65	80	50	73	78	71	55	68	59	74
Mont	180	120	150	165	140	151	140	155	125	95	135	60	110	117	115	126	110	88
Wyo	160	100	42	140	140	116	108	150	130	155	150	80	125	128	108	110	100	95
Colo	160	100	35	95	115	101	120	135	138	160	160	115	130	137	132	130	123	120
N. Mex	85	47	80	100	68	76	100	100	102	116	100	58	75	93	60	50	50	70
Ariz	90	92	95	125	75	95	110	95	115	105	85	70	90	96	115	85	60	65
Utah	180	142	140	185	180	165	140	125	180	189	180	136	189	163	161	197	168	156
Nev	180	150	160	178	160	166	130	172	190	207	171	135	135	163	148	174	174	155
Idaho	200	142	180	185	170	175	155	125	150	156	185	155	180	158	185	185	180	165
Wash	170	131	160	167	123	150	128	135	165	125	132	125	155	138	135	145	155	135
Oreg	160	105	130	155	135	137	97	115	150	108	110	94	130	115	90	105	95	84
Calif	130	130	135	130	119	129	138	130	141	145	143	130	140	138	140	130	150	155
U. S	107. 5	93. 8	80. 9	113. 4	90. 4	97. 2	110. 5	96. 3	80. 5	100. 8	95. 9	91. 2	110. 3	97. 9	91. 8	105. 3	109. 0	124. 2

Division of Crop and Livestock Estimates.

TABLE 247.—*Potatoes: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Acreage					Yield per acre				
	Average 1909–1913	1921	1922	1923	1924	Average 1909–1913	1921	1922	1923	1924
SOUTHERN HEMISPHERE—Continued										
EUROPE—continued	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
Lithuania	[1] 403	326	326	353	436	101.4	156.2	208.3	169.7	163.6
Latvia	[1] 209	146	171	194	185	120.7	169.6	145.1	109.6	159.7
Esthonia	[1] 190	.....	187	179	167	144.9	.....	141.0	140.1	156.7
Finland	[2] 181	168	167	168	169	101.9	136.3	95.9	94.0	119.6
Russia, including Ukraine and Northern Caucasia	[1] 6,764	5,866	8,762	7,293	.....	104.2	128.7	92.4	.....	.....
Total Europe comparable with 1909–1913	32,174	.....	33,677	32,117	.....	.....	.....	.....	.....	.....
Total Europe comparable with 1924	23,924	.....	23,410	23,376	23,638	.....	.....	.....	.....	.....
AFRICA										
Algeria	44	46	47	46	47	42.0	68.5	55.0	26.0	27.4
Tunis	.....	2	3	2	3	.....	73.5	55.0	73.5	47.0
Total Africa comparable with 1909–1913	44	46	47	46	47	.....	.....	.....	.....	.....
Total Africa comparable with 1924	.....	48	50	48	50	.....	.....	.....	.....	.....
ASIA										
Russia (Asiatic)	445	300	237	254	.....	79.3	87.0	110.1	.....	.....
Japanese Empire:										
Japan	169	256	247	.....	.....	146.4	154.3	136.2	.....	.....
Chosen	[2] 65	187	186	.....	.....	107.1	98.2	97.4	.....	.....
Total Asia	679	743	670	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1909–1913	37,057	.....	39,385	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere comparable with 1924	.....	.....	28,451	27,801	27,922	.....	.....	.....	.....	.....

Country	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
SOUTHERN HEMISPHERE										
Chile	69	83	80	87	.....	123.3	139.6	141.5	149.2	.....
Uruguay	.....	9	8	12	.....	.....	21.9	24.6	28.8	.....
Argentina	217	336	361	402	.....	140.6	94.5	92.6	87.7	.....
Union of South Africa	[2] 62	102	.....	.....	.....	49.5	42.5	.....	.....	.....
Southern Rhodesia	.....	3	2	.....	.....	.....	30.7	53.0	.....	.....
Australia	144	149	136	.....	.....	100.5	98.8	91.6	.....	.....
New Zealand	28	19	20	21	.....	205.8	220.3	213.8	187.7	.....
Total Southern Hemisphere comparable with 1909–1913	520	689	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable with 1909–1913	37,577	.....	.....	.....	.....	.....	.....	.....	.....	.....
World total comparable with 1924	.....	.....	28,451	27,801	27,922	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated. For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] Estimated for present territory. [2] Two year average. [3] One year only.

TABLE 248.—*Potatoes: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousands of bushels—i. e., 000 omitted]

Country	Average 1909–1913	1921	1922	1923	1924
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada	77,843	107,347	92,908	92,495	96,782
United States	357,699	361,659	453,396	416,105	454,784
Mexico	[1] 540	1,552	927	962	1,029
Total North America	436,082	470,558	547,231	509,562	552,595
EUROPE					
United Kingdom:					
England and Wales	99,893	110,432	149,781	102,965	100,688
Scotland	34,674	38,827	44,464	30,651	31,547
Ireland	119,874	95,424	128,091	87,099	
Norway	24,780	25,995	32,699	33,702	22,509
Sweden	57,581	64,543	74,788	60,234	59,187
Denmark	[2] 32,642	50,173	49,249	45,488	
Netherlands	104,051	107,346	162,328	89,921	98,970
Belgium	[2] 110,830	71,534	144,453	103,697	87,343
Luxemburg	6,439	2,644	7,007	6,952	6,614
France	[2] 526,793	305,324	464,661	364,446	588,940
Spain	[3] 112,997	102,224	105,351	95,496	89,269
Portugal		6,058	6,512		
Italy	[3] 67,514	58,359	53,689	65,984	
Switzerland	[4] 24,664	25,371	24,820	23,292	19,842
Germany	[2]1,373,609	960,889	1,494,181	1,197,095	1,335,615
Austria	[2] 53,373	30,607	51,378	52,403	
Czechoslovakia	[2] 245,210	159,068	333,231	228,701	228,169
Hungary	[2] 71,118	45,898	48,490	49,024	70,284
Yugoslavia	[2] 46,288	26,184	31,100	42,638	
Bulgaria	[2] 532	1,040	1,360	1,220	1,819
Rumania	[2 4] 41,868	49,606	37,691	67,921	
Poland	[2] 889,531	617,272	1,220,576	973,487	1,004,330
Lithuania	[2] 40,864	50,926	67,902	59,899	71,308
Latvia	[2] 25,217	24,758	24,806	21,253	29,541
Esthonia	[2] 27,526		26,372	25,073	26,171
Finland	18,443	22,891	16,009	15,800	20,209
Russia, including Ukraine and northern Caucasia	[2] 704,994	754,708	809,456		
Total Europe comparable with 1909–1913	4,861,305		5,603,933		
Total Europe comparable with 1924	3,795,740		4,443,279	3,482,908	3,892,355
AFRICA					
Algeria	1,847	3,150	2,587	1,194	1,286
Tunis		147	165	147	141
Total Africa comparable with 1909–1913	1,847	3,150	2,587	1,194	1,286
Total Africa comparable with 1924		3,297	2,752	1,341	1,427
ASIA					
Russia (Asiatic)	35,296	26,088	26,088		
Japanese Empire:					
Japan	24,738	39,506	33,635		
Chosen	[3] 6,960	18,371	18,110		
Total Asia comparable with 1909–1913	66,994	83,965	77,833		
Total Northern Hemisphere comparable 1909–1913	5,366,228		6,231,584		
Total Northern Hemisphere comparable 1924			4,993,262	3,993,811	4,446,377

[1] One year only.
[2] Estimated for present territory.
[3] Two-year average.
[4] Four-year average.

TABLE 248.—*Potatoes: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	
SOUTHERN HEMISPHERE					
Chile	8,510	11,587	11,320	12,978	
Uruguay		197	197	345	
Argentina	30,515	31,746	33,446	35,273	
Union of South Africa	[1] 3,071	4,331			
Southern Rhodesia		92	106		
Australia	14,469	14,721	12,455		
New Zealand	5,763	4,185	4,276	3,941	
Total Southern Hemisphere comparable with 1909–1913	62,328	66,570			
World total comparable with 1909–1913	5,427,556				
World total comparable with 1924			4,993,262	3,993,811	4,446,377

Division of Statistical and Historical Research. Official sources and International Institute unless otherwise specified. Estimates given are for crops harvested during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[1] One year only.

TABLE 249.—*Potatoes: Car-lot shipments, by State of origin, April, 1917–December, 1924*

State	Crop-movement season [1]							Quarters, 1924 [2]		
	1917	1918	1919	1920	1921	1922	1923	Apr.–June	July–Sept.	Oct.–Dec.
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Maine	14,794	19,026	23,444	17,817	38,037	24,401	34,721		2,873	13,852
New York	10,110	10,089	12,817	16,502	18,988	19,291	18,625		1,814	7,054
New Jersey	11,709	5,899	10,409	17,147	19,476	18,335	6,352		7,856	597
Pennsylvania	3,727	2,119	3,742	6,489	3,564	5,751	4,092		380	1,757
Maryland	2,933	946	2,159	3,105	2,679	3,783	2,694	7	2,431	82
Virginia	20,440	11,929	12,194	16,630	19,564	18,747	15,931	3,807	18,722	375
North Carolina	4,713	5,605	3,306	3,513	3,597	4,144	3,480	5,048	1,503	11
South Carolina	2,440	2,812	1,217	3,070	2,509	4,345	4,210	5,193	75	
Florida	4,294	4,839	2,275	3,351	2,344	5,046	3,498	4,396	4	3
Michigan	9,431	11,062	12,237	17,119	15,222	[3] 19,836	20,405		1,679	4,860
Wisconsin	13,852	20,655	21,975	18,661	11,045	21,766	17,008		771	4,839
Minnesota	16,477	23,515	22,058	23,214	29,568	28,931	33,584		3,270	13,600
Iowa	462	943	251	922	91	843	271		179	284
North Dakota	353	2,530	2,229	1,846	10,522	8,351	10,383		284	2,750
South Dakota	963	1,291	689	1,926	3,345	2,702	3,858		330	1,497
Nebraska	2,026	3,823	1,661	3,071	5,331	5,564	4,821		494	831
Kansas	844	824	1,132	1,982	2,380	2,433	3,565	35	4,702	60
Kentucky	805	758	866	1,132	641	486	1,241		1,535	15
Alabama	641	579	90	308	696	1,925	1,384	2,902	18	
Louisiana	1,076	4,032	559	887	1,162	1,083	825	1,365	58	1
Texas	1,693	2,312	808	738	[4] 1,107	1,432	801	1,383	18	21
Oklahoma	665	350	677	592	281	1,000	1,035	1,022	183	14
Arkansas	371	280	186	236	138	341	231	375	49	
Montana	355	771	352	949	1,834	1,412	751		11	151
Wyoming	230	407	265	545	958	1,037	684		185	265
Colorado	12,462	13,647	8,810	11,345	17,844	15,468	13,867		2,908	4,371
Utah	816	496	426	563	1,074	2,037	1,015		531	149
Nevada	1,417	726	689	415	465	744	700		9	155
Idaho	7,120	7,727	6,853	8,143	14,670	16,213	15,616		2,168	4,176
Washington	2,630	2,924	3,098	3,765	6,194	5,061	6,173		1,015	2,646
Oregon	1,903	1,628	786	1,756	1,386	1,842	1,615		354	186
California	7,864	10,351	8,487	10,090	9,241	7,765	5,727	647	2,458	1,837
All other	1,980	1,667	1,123	1,336	1,593	2,062	2,584	702	1,778	230
Total	161,596	176,552	167,870	199,165	[5] 238,546	[5] 254,177	241,747	26,882	60,645	66,669

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop-movement season extends from Apr. 1 of one year through July of the following year, except in Florida, where the season begins in March.

[2] Preliminary. [3] Includes 8 cars in August, 1923. [4] Includes 20 cars in March, 1921.

TABLE 250.—*Potatoes: Car-lot shipments, by State of origin, April, 1917–December, 1924*

State and year	Crop movement season [1]																
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Maine:																	
1917					71	1,699	1,986	1,331	1,390	1,808	1,673	2,020	1,530	825	445	18	14,794
1918					91	2,076	2,466	1,596	1,700	1,979	1,417	2,471	2,281	1,618	1,271	60	19,026
1919					947	2,211	3,338	2,543	2,465	2,837	1,474	2,796	3,493	1,208	132		23,444
1920					91	1,126	2,170	2,046	1,478	2,478	2,036	2,495	1,778	1,643	458	18	17,817
1921					579	4,452	4,681	2,882	2,768	3,569	3,386	4,473	4,814	4,459	1,918	56	38,037
1922					198	1,778	3,077	2,675	2,360	2,717	2,782	3,513	2,589	1,533	1,137	43	24,401
1923					293	3,959	5,780	3,645	3,025	4,321	3,876	4,100	3,128	2,065	528	1	34,721
1924 [2]					107	2,766	5,955	4,027	3,870								
New York:																	
1917				36	733	1,052	2,228	1,043	478	913	1,145	1,104	891	413	74		10,110
1918				80	608	1,169	2,067	1,265	875	902	687	1,012	927	374	116	7	10,089
1919				117	782	516	2,920	2,071	982	1,298	1,153	1,929	817	214	15	3	12,817
1920				53	336	999	2,363	2,636	1,008	1,316	1,787	2,317	2,063	1,429	192	3	16,502
1921				203	1,360	2,121	4,914	1,946	1,356	2,138	1,517	1,818	1,129	428	57	1	18,988
1922				93	815	1,770	3,396	2,656	1,838	2,207	2,058	2,851	1,159	354	91	3	19,291
1923			6	65	1,866	1,716	2,346	1,903	1,070	1,771	1,839	2,321	2,143	1,396	183		18,625
1924 [2]				25	426	1,363	2,788	2,600	1,666								
New Jersey:																	
1917				112	4,669	3,919	1,979	563	76	57	84	105	111	27	7		11,709
1918			2	303	3,075	1,641	368	223	110	27	32	48	41	13	6		5,889
1919				618	4,971	3,292	970	410	56	32	2	50	3	5			10,409
1920				1,567	5,242	6,282	2,747	969	118	37	24	109	37	15			17,147
1921				2,107	5,854	1,634	377	284	49	23	55	75	16	2			10,476
1922			7	2,234	8,387	4,756	1,971	609	73	34	9	174	72	9			18,335
1923				86	3,869	1,706	343	184	15	13	18	90	21	7			6,352
1924 [2]				42	4,179	3,635	517	63	17								
Pennsylvania:																	
1917					16	371	1,051	578	257	347	299	286	377	125	20		3,727
1918					14	264	489	309	161	175	158	192	240	116	1		2,119
1919					80	549	743	984	320	351	236	274	151	71	3		3,742
1920				1	7	331	1,316	1,879	418	550	397	717	564	291	15	3	6,489
1921					69	426	1,182	578	241	412	286	211	121	36	1	1	3,564
1922					124	893	1,432	1,176	444	492	290	496	318	74	10	2	5,751
1923					31	178	554	884	288	534	393	428	470	257	45		4,092
1924 [2]				3	5	372	738	690	329								

[1] Crop movement season extends from Apr. 1 of one year through July of the following year, except in Florida, where the season begins in March.
[2] Preliminary.

TABLE 250.—*Potatoes: Car-lot shipments, by State of origin, April, 1917–December, 1924*—Continued

State and year	Crop movement season [1]																
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
Virginia:	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1917		4	4,962	11,487	3,026	288	110	207	76	22	63	65	101	16	13		20,440
1918		1	2,470	7,570	936	124	16	410	135	83	43	74	54	13			11,929
1919			3,955	7,311	330	22	13	419	32	19	12	11	20				12,194
1920			4,813	8,220	1,801	236	123	784	171	125	55	73	200	29			16,630
1921		400	9,728	7,993	468	59	61	397	86	43	56	131	98	44			19,564
1922		16	8,287	9,142	651	74	49	246	40	60	43	58	75	6			18,747
1923			5,213	9,445	562	75	29	297	20	60	36	122	59	13			15,931
1924 [2]			3,807	14,722	3,451	549	148	129	98								
North Carolina:																	
1917		221	3,925	554		1	6	2				3		1			4,713
1918		32	4,077	1,421	12	3	4		15	3	3	16	11	8			5,605
1919		3	2,415	812	59	6	1	2	7	1							3,306
1920		30	3,288	152	2	2	13	18		1		3	4				3,513
1921		404	2,515	515	115	21	1	6	2	2	7	1	7	1			3,597
1922		201	3,479	392	41	1	14	6		2	2	3	3				4,144
1923		14	3,141	215	71	19	4		1	12	1		2				3,480
1924 [2]	3	33	5,012	1,248	151	104	6	5									
South Carolina:																	
1917		1,770	670														2,440
1918		800	1,927	85													2,812
1919		341	838	38													1,217
1920	2	852	2,209	6													3,070
1921		2,035	451	14						1							2,509
1922		3,293	1,044	4	1					3		6					4,345
1923		1,848	2,347	11	1				1	2							4,210
1924 [2]		1,527	3,666	70	5			2		1							
Florida:																	
1917	[3] 1,472	2,618	190	4						3	5	2					[3] 4,294
1918	[4] 1,264	2,950	584	36		2				3							[4] 4,839
1919	[5] 734	1,499	42														[5] 2,275
1920	[6] 48	2,335	924	42				2									[6] 3,351
1921	[7] 1,775	539	28							2							[7] 2,344
1922	[8] 2,712	2,214	113		3		1			3							[8] 5,046
1923	[9] 1,089	2,291	108	3				1	2	1	3						[9] 3,498
1924 [2]	[10] 1,464	2,795	137	4					3								
Michigan:																	
1917					16	388	1,572	1,296	598	458	751	938	1,326	1,553	531	4	9,431
1918					20	328	1,547	2,072	743	790	592	1,154	1,725	1,291	770	30	11,062
1919					50	601	2,687	2,329	1,043	1,099	1,011	1,714	1,134	543	26		12,237
1920				2	39	577	2,210	3,116	1,253	1,630	990	1,657	2,174	2,632	813	26	17,119
1921					3	789	3,210	1,886	880	1,516	1,240	2,041	1,522	1,414	718	3	15,222

1922						76	1,216	2,600	2,477	1,380	1,474	1,419	2,170	2,924	2,321	1,630	[11] 149	[11] 19,836
1923						46	878	2,490	2,587	1,292	1,823	2,201	2,567	2,880	2,599	1,032	10	20,405
1924 [1]						37	1,642	2,218	1,641	1,001								
Wisconsin:																		
1917						118	1,158	3,707	1,383	575	887	1,461	1,643	1,452	1,011	447	10	13,852
1918					1	134	2,768	4,630	2,464	1,545	2,460	1,598	2,122	1,608	963	362		20,655
1919						127	3,250	7,019	2,810	1,567	2,137	1,754	1,923	893	344	148	3	21,975
1920						18	450	3,189	2,876	1,214	2,337	1,933	2,385	2,234	1,592	431	2	18,661
1921						76	754	2,125	719	626	1,367	1,201	1,993	1,166	755	260	3	11,045
1922						205	1,377	3,685	2,018	1,635	2,495	1,906	2,992	2,716	1,735	944	58	21,766
1923						189	1,294	2,629	1,476	1,102	1,964	2,200	2,009	1,860	1,678	609	8	17,008
1924 [1]						2	769	2,250	1,491	1,098								
Minnesota:																		
1917					15	1,312	1,918	4,074	1,445	675	1,261	1,510	2,119	1,328	625	179	16	16,477
1918					96	3,099	4,573	4,623	1,733	758	1,839	1,359	2,365	1,612	1,018	434	6	23,515
1919					83	2,438	5,359	5,817	1,324	693	1,875	1,162	1,900	1,027	262	117	1	22,058
1920					64	1,344	2,770	6,870	3,279	934	1,469	1,723	2,542	1,133	863	214	9	23,214
1921						960	4,869	9,029	2,197	892	1,894	1,442	4,443	2,514	1,080	248		29,568
1922					508	1,432	4,167	7,062	2,466	659	1,724	1,532	4,215	3,274	1,390	481	21	28,931
1923					15	1,755	6,157	7,904	2,712	1,095	2,560	3,845	3,815	2,426	1,008	289	3	33,584
1924 [1]					26	617	2,627	8,673	3,720	1,208								
Nebraska:																		
1917						38	27	652	668	74	98	224	190	37	17	1		2,026
1918						110	450	1,063	709	264	370	204	320	235	87	11		3,823
1919					1	96	182	712	257	59	173	84	71	22	4			1,661
1920					1	152	338	924	600	141	306	284	261	52	11	1		3,071
1921				1	267	446	938	1,265	390	294	495	342	456	238	184	15		5,331
1922					51	570	744	903	461	376	743	432	504	530	210	40		5,564
1923					12	281	389	648	699	286	777	817	464	304	114	30		4,821
1924 [1]					6	175	313	345	274	212								
Colorado:																		
1917						230	1,764	2,165	1,254	824	1,065	980	1,674	1,537	790	177	2	12,462
1918					10	850	2,673	2,676	1,259	452	1,380	1,083	1,257	909	828	270		13,647
1919						631	2,348	2,720	884	455	887	512	431	92	47	3		8,810
1920					15	643	1,939	2,882	1,481	702	1,278	893	760	527	211	14		11,345
1921					91	1,010	3,108	2,699	1,394	917	1,981	1,510	2,125	1,821	997	188	3	17,844
1922					74	788	2,365	1,865	1,294	1,123	1,875	1,627	2,104	1,326	790	236	1	15,468
1923					204	1,099	1,772	1,965	1,140	1,002	2,071	1,638	1,470	739	663	104		13,867
1924 [1]					208	593	2,107	1,932	1,523	916								
Idaho:																		
1917					3	100	284	909	1,291	899	856	603	911	513	615	136		7,120
1918					9	458	1,049	1,076	944	446	846	599	892	755	525	123	5	7,727
1919					24	635	1,168	1,785	1,052	450	867	384	383	89	16			6,853
1920					23	784	689	1,174	1,738	707	1,094	553	866	387	107	21		8,143
1921					166	1,945	1,401	2,304	1,064	848	1,069	939	1,713	1,936	1,087	198		14,670
1922					35	1,415	1,310	1,669	1,482	981	1,320	878	2,178	2,874	1,430	631	10	16,213
1923					66	1,763	1,540	1,707	1,844	1,354	1,641	1,430	2,204	1,244	740	83		15,616
1924 [1]					128	667	1,373	1,750	1,377	1,049								

[1] Preliminary.
[2] Includes 1 car in March, 1917.
[3] Includes 5 cars in March, 1918.
[4] Includes 5 cars in March, 1919.
[5] Includes 1 car in March, 1920.
[6] Includes 95 cars in March, 1921.
[7] Includes 1 car in February and 221 cars in March, 1922.
[8] Includes 36 cars in March, 1923.
[9] Includes 109 cars in March, 1924.
[10] Includes 8 cars in August, 1923.

TABLE 253.—*Potatoes: Farm price per bushel, by States, December 1, 1909–1924, and value per acre 1924*

State	1909	1910	1911	1912	1913	Average 1909–1913	1914	1915	1916	1917
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Maine	47	42	77	55	53	55	33	70	142	130
New Hampshire	64	52	87	61	83	69	66	95	166	167
Vermont	44	45	79	55	72	59	47	81	139	140
Massachusetts	79	70	96	75	85	81	71	94	175	175
Rhode Island	80	69	106	77	90	84	70	92	185	175
Connecticut	83	70	105	78	87	85	65	96	175	164
New York	50	48	90	58	80	65	44	82	158	130
New Jersey	82	65	105	66	82	80	61	75	155	141
Pennsylvania	65	52	93	57	80	69	58	75	148	135
Delaware	72	60	96	70	75	75	70	75	125	130
Maryland	66	54	91	58	67	67	60	62	133	119
Virginia	70	58	96	65	80	74	77	61	137	125
West Virginia	68	67	104	62	90	78	81	65	158	132
North Carolina	81	73	108	76	82	84	92	73	140	143
South Carolina	115	105	122	112	130	117	125	115	175	210
Georgia	100	105	110	87	105	101	105	99	175	195
Florida	120	100	145	110	117	118	113	115	200	205
Ohio	56	51	84	53	85	66	53	70	182	143
Indiana	52	50	87	50	84	65	56	56	177	139
Illinois	61	59	90	60	89	72	61	59	179	152
Michigan	35	31	71	41	53	46	30	56	160	105
Wisconsin	38	38	62	34	54	45	30	45	147	90
Minnesota	35	64	58	28	52	47	32	39	130	91
Iowa	55	60	73	46	82	63	59	54	175	131
Missouri	67	68	102	69	93	80	73	60	180	137
North Dakota	45	91	55	28	56	55	42	41	115	130
South Dakota	63	85	70	36	63	63	47	35	137	111
Nebraska	60	84	92	51	78	73	54	42	150	107
Kansas	79	90	106	73	91	88	77	74	165	152
Kentucky	64	62	107	67	102	80	84	55	142	140
Tennessee	71	65	108	70	97	82	91	63	149	126
Alabama	98	94	118	90	105	101	101	90	169	182
Mississippi	95	94	115	90	100	99	95	84	160	168
Louisiana	91	90	100	83	96	92	97	95	167	184
Texas	106	110	126	105	112	112	104	105	190	210
Oklahoma	95	100	124	93	105	103	90	84	195	180
Arkansas	92	85	115	92	100	97	97	76	190	157
Montana	51	85	74	40	67	63	64	50	120	102
Wyoming	63	82	140	60	65	82	70	60	128	104
Colorado	57	55	99	41	65	63	50	55	135	91
New Mexico	101	104	100	65	140	102	95	95	175	165
Arizona	130	126	140	125	135	131	120	100	180	150
Utah	45	59	85	49	58	59	60	63	130	78
Nevada	85	80	93	60	68	77	70	70	130	120
Idaho	48	65	65	29	50	51	48	56	127	79
Washington	47	73	68	36	60	57	55	53	98	92
Oregon	60	70	67	31	58	57	60	60	90	80
California	77	85	90	65	70	77	70	75	140	150
United States	54.2	55.7	79.9	50.5	68.7	61.8	48.7	61.7	146.1	122.8

TABLE 253.—*Potatoes: Farm price per bushel, by States, December 1, 1909–1924, and value per acre 1924*—Continued

State	1918	1919	1920	Average 1914–1920	1921	1922	1923	1924	Value per acre 1924[1]
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Dollars*
Maine	120	140	125	109	85	45	70	43	131. 15
New Hampshire	145	175	155	138	135	105	115	84	151. 20
Vermont	138	157	125	118	104	93	100	85	140. 25
Massachusetts	170	190	150	146	152	95	135	96	148. 80
Rhode Island	173	180	160	148	160	90	130	95	133. 00
Connecticut	165	195	150	144	150	100	147	100	137. 00
New York	122	145	118	114	108	60	95	57	79. 80
New Jersey	170	169	125	128	142	72	110	67	104. 52
Pennsylvania	151	154	124	121	133	75	105	80	94. 40
Delaware	140	125	100	109	110	70	102	80	72. 80
Maryland	120	130	95	103	110	60	100	81	67. 23
Virginia	120	157	95	110	110	65	87	82	98. 40
West Virginia	160	175	135	129	163	87	105	98	100. 94
North Carolina	135	163	142	127	143	101	120	112	117. 60
South Carolina	193	200	180	171	150	128	160	145	160. 95
Georgia	185	217	208	169	165	140	160	150	100. 50
Florida	200	210	200	178	190	175	190	165	165. 00
Ohio	150	192	135	132	155	90	100	89	81. 88
Indiana	135	195	133	127	145	84	86	80	79. 20
Illinois	148	196	145	134	140	90	88	75	86. 25
Michigan	89	135	92	95	95	34	44	35	45. 85
Wisconsin	80	140	86	88	95	33	47	36	46. 80
Minnesota	75	153	80	86	90	35	39	27	35. 64
Iowa	133	192	122	124	140	67	77	55	74. 80
Missouri	153	184	151	134	135	92	88	82	82. 00
North Dakota	73	160	98	94	70	31	35	39	35. 88
South Dakota	93	190	97	101	107	44	44	48	39. 36
Nebraska	118	190	120	112	120	47	70	62	53. 94
Kansas	144	190	150	136	135	92	99	91	86. 45
Kentucky	165	210	150	135	165	100	120	102	96. 90
Tennessee	165	172	160	132	165	110	112	112	112. 00
Alabama	181	215	200	163	170	150	150	155	139. 50
Mississippi	165	185	200	151	200	160	154	164	132. 84
Louisiana	150	220	203	159	180	150	150	150	102. 00
Texas	200	210	220	177	190	160	160	170	96. 90
Oklahoma	195	205	180	161	185	123	128	130	97. 50
Arkansas	184	205	175	155	180	130	136	128	94. 72
Montana	80	160	105	97	80	40	65	87	76. 56
Wyoming	85	190	120	108	118	50	93	87	82. 65
Colorado	99	170	80	97	73	37	53	60	72. 00
New Mexico	160	190	210	156	180	145	160	104	72. 80
Arizona	205	195	190	163	140	90	140	150	97. 50
Utah	97	137	80	92	85	40	70	74	115. 44
Nevada	123	150	156	117	120	60	105	106	164. 30
Idaho	81	151	68	87	77	31	50	54	89. 10
Washington	101	145	95	91	99	45	70	85	114. 75
Oregon	100	150	80	89	109	52	70	95	79. 80
California	120	171	150	125	130	72	112	90	139. 50
United States	119. 3	159. 5	114. 5	110. 4	110. 1	58. 1	78. 1	64. 3	79. 87

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 253.—*Potatoes: Farm price per bushel, by States, Dec. and value per acre 1924*

Farm price per bushel, by States, December 1, 1909, and value per acre 1924—Continued

State	1909	1910	1911	1912	1913	Average 1909–1913	1919	1920	Average 1914–1918	1921	1922	1923	1924	Value per acre 1924
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Dollars*
Maine	47	42	77	55	53		140	125		109	85.5	70	43	131.15
New Hampshire	64	52	87	61	83			155		118	135	115	84	151.20
Vermont	44	45	79	55	72			125		138	104	100	86	146.80
Massachusetts	79	70	96	75				150		148	135	135	96	138.00
Rhode Island	80	69	106	77				160						
Connecticut	83	70	105	78										
New York	50	48	90	58										
New Jersey	82	65	105	66										
Pennsylvania	65	52	93	57										
Delaware	72	60	96											
Maryland	66	54	91											
Virginia	70	58	96											
t-Virginia	68	67	104											
1921	81													
1922	3.76	3.13	2.89	1.77	1.1									
1923	7.21	4.03	3.02	3.24	2.84									
1924	5.16	4.20	2.29	1.43	1.27									
Pittsburgh:														
1919	6.59	4.99	4.56	4.07	4.10									
1920		9.54	7.48	5.98	3.01									
1921	4.50	4.37	2.28	2.73	3.43									
1922	4.36	3.47	3.19	2.20	1.43									
1923	7.30	4.44	3.35	3.44	3.13									
1924	6.23	4.23	2.64	1.86	1.58									
St. Louis:														
1919	5.98	5.62	3.33	3.62	3.12	2.90								
1920		10.75	8.35	6.60	3.69	2.71								
1921	5.76	3.49	2.77	2.84	3.16	2.83								
1922	5.87	3.81	2.96	2.49	1.73	1.53								
1923	7.32	5.56	3.05			1.94								
1924	5.60	3.91	2.48	1.86	1.31	1.54								
Cincinnati:														
1919	5.54	4.71	4.33	3.87	3.83	3.12	2.94							
1920		8.65	7.59	6.49	3.41	2.57	2.19							
1921	4.12	4.10	2.49	2.65	3.52	2.96	2.46							
1922	3.96	3.28	3.01	2.44	1.74	1.48	1.30							
1923	6.62	4.43	3.33			1.85	1.36							
1924	5.35	3.93	2.48	1.97	1.58	1.59	1.24							
St. Paul:														
1919			4.12	4.15										
1920			8.80	8.44										
1921			3.06	3.05	3.49									
1922			3.46											
1923			5.55	3.18										
1924														
Minneapolis:														
1919			4.73	4.13										
1920			9.02	8.29										
1921			3.05	2.90	3.43									
1922			3.36	2.86										
1923			3.37	3.04										
1924				2.52										
Kansas City:														
1919	8.11	7.01	3.32											
1920			8.77		2.81	2.69	2.06	2.27					[2] 1.37	[2] 1.29
1921	6.36	3.93	3.06		3.09	2.63	[3] 1.97	[3] 1.51	[2] 1.65	[2] 2.04	[2] 1.99	[2] 1.88	[2] 1.77	1.84
1922	5.62	3.93	2.87			[3] 1.23	[3] 1.12	[3] 1.07	[2] 1.03	[3] 1.05	[2] 1.07	[3] 1.24	[2] 1.21	[3] 1.05
1923		6.14	2.99		[3] 1.79	[5] 1.52	[3] 1.16	[3] 1.30	[3] 1.30	[3] 1.62	[2] 1.57	[3] 1.65	[2] 1.89	[3] 1.70
1924	5.99	4.50	2.55			[3] 1.40	[3] 1.05	[3] 1.10	[2] 1.43					
Washington: [6]														
1919	6.45	5.33	4.56	3.88	3.98	3.03	2.86	2.96	3.44	4.59	4.81	5.54	7.48	7.95
1920		9.05	6.81	5.82	3.26	2.23	2.22	2.52	2.32	2.12	1.69	1.71	1.53	1.26
1921	4.73	4.32	2.11	2.39	3.27	2.83	2.61	2.43	2.28	2.62	2.58	2.44	2.27	2.18
1922	4.48	3.60	2.91	2.21	1.49	1.37	1.39	1.49	1.48	1.48	1.41	1.73	1.99	1.69
1923	7.73	4.67	3.25	3.64	3.44	2.43	1.83	1.54	1.70	2.04	1.95	1.84	1.89	1.84
1924	6.29	4.76	2.43	1.69	1.57	1.63	1.56	1.35	1.42					

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

[1] Crop movement season for each crop extends from April of one year through May of the following year, with irregular quotations continuing through June and July.

[2] Car-lot sales.

[3] Eight day average.

[4] Bulk only.

[5] Sales direct to retailers.

[6] Sales direct to retailers to September, 1923.

TABLE 255.—*Potatoes, "Maine" and "State and Western": Average l. c. l. price to jobbers per bushel at New York, September, 1900–December, 1924*

Season beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1900	0.50	0.45	0.46	0.56	0.56	0.52	0.48	0.48	0.61
1901	.76	.72	.76	.78	.76	.75	.84	.85	.75
1902		.62	.58	.60	.66	.66	.68	.64	.67
1903	.48	.60	.59	.74	.81	.94	.96	1.16	1.02
1904	.48	.51	.51	.50	.49	.46	.42	.36	.30
1905	.62	.67	.74	.68	.66	.60	.68	.80	.76
1906	.55	.58	.51	.48	.48	.57	.60	.56	.74
1907	.56	.63	.58	.64	.70	.81	.88	.84	.80
1908	.74	.69	.79	.79	.79	.81	.88	.92	.91
1909	.65	.56	.56	.56	.58	.54	.49	.40	.39
1910	.55	.55	.51	.49	.52	.49	.47	.62	.57
1911	.81	.79	.90	.95	1.12	1.14	1.28	1.38	1.25
1912	.60	.59	.64	.68	.63	.67	.62	.66	.77
1913	.74	.69	.71	.70	.80	.83	.81	.85	.85
Average 1909–1913	.67	.64	.66	.68	.73	.73	.73	.78	.77
1914	.62	.56	.54	.51	.51	.48	.47	.50	.46
1915		.78	.76	.90	1.22	1.21	1.23	1.14	1.12
916	1.18	1.25	1.69	1.61	1.98	2.67	2.67	3.00	3.18
17	1.20	1.62	1.37	1.39	1.66	1.47	1.14	1.11	.82
8	1.58	1.44	1.37	1.50	1.42	1.26	1.11	1.43	1.49
	1.51	1.37	1.57	1.79	2.31	2.64	3.33	4.28	4.17
		1.26	1.38	1.27	1.16	.88	.88	.78	.66
ge 1914–1920		1.18	1.24	1.28	1.47	1.52	1.55	1.75	1.70
	1.37	1.16	1.25	1.23	1.43	1.35	1.25	1.12	.90
	.86	.78	.82	.86	.93	.96	1.21	1.25	1.10
23	1.46	1.13	1.06	1.05	1.20	1.20	1.17	1.19	1.17
1924	.91	.72	.70	.73					

Division of Statistical and Historical Research. Compiled from Friday or Saturday issues, New York Producers' Price Current, average of weekly range.

[1] First two weeks of October, 1920, are quotations on Jerseys.

SPINACH

TABLE 256.—*Spinach for consumption fresh, commercial crop: Acreage, production, and total value, by States, year beginning October, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1921–22	1922–23	1923–24	1921–22	1922–23	1923–24	1921–22	1922–23	1923–24
	Acres	*Acres*	*Acres*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	1,330	1,420	2,070	1,064	1,065	1,784	543	362	375
Illinois		400	550		150	192		142	236
Maryland	880	1,980	2,190	358	842	1,183	150	379	592
Missouri		640	820		234	287		105	103
New York		50	110		11	28		10	26
North Carolina		150	200		58	80		44	58
South Carolina	360	1,200	1,500	162	480	384	249	475	173
Texas	8,210	9,440	8,410	2,299	2,549	2,649	1,517	1,274	2,119
Virginia	5,500	6,250	8,000	1,760	2,188	3,296	1,514	1,553	2,340
Total	16,280	21,530	23,850	5,643	7,577	9,883	3,973	4,344	6,022

Division of Crop and Livestock Estimates.

TABLE 257.—*Spinach for consumption fresh, commercial crop: Yield per acre and price, year beginning October, 1918–1924*

State	Yield per acre						Price per bushel [1]					
	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24
	Bus.	*Bus.*	*Bus.*	*Bus.*	*Bus.*	*Bus.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California	883	817	893	800	750	862	0.46	0.49	0.66	0.51	0.34	0.21
Illinois					375	350					.95	1.23
Maryland	380	344	481	407	425	540	.20	.50	.70	.42	.45	.50
Missouri					365	350					.45	.36
New York					225	250					.87	.93
North Carolina					390	400					.75	.73
South Carolina			550	450	400	256			1.00	1.54	.99	.45
Texas	325	300	253	280	270	315	.96	.81	.55	.66	.50	.80
Virginia	288	482	378	320	350	412	.60	.60	.68	.86	.71	.71
Average	357	392	341	347	352	414	.70	.66	.63	.70	.57	.61

Division of Crop and Livestock Estimates.

[1] Average for season.

TABLE 258.—*Spinach for canning, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California	5,660	8,290	8,290	29,400	48,100	41,400	575	979	729
Maryland	1,820	730	1,460	4,600	2,200	4,700	173	84	226
Total	7,480	9,020	9,750	34,000	50,300	46,100	748	1,063	955

Division of Crop and Livestock Estimates.

TABLE 259.—*Spinach for canning, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per ton						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California		4.9	5.4	4.5	5.2	5.8	5.0		23.45	24.92	19.71	19.56	20.35	17.61
Maryland		3.6	3.6	2.8	2.5	3.0	3.2		31.25	49.44	35.00	37.60	38.38	48.12
Average		4.3	4.5	3.9	4.5	5.6	4.7		26.45	34.59	23.40	22.00	21.13	20.72

Division of Crop and Livestock Estimates.

SWEET POTATOES

TABLE 260.—*Sweet potatoes: Acreage, production, and value, United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per bushel Dec. 1	Farm value Dec. 1	Value per acre [1]
	1,000 acres	*Bushels*	*1,000 bushels*	*Cents*	*1,000 dollars*	*Dollars*
1909	641	90.1	57,764	68.5	39,585	61.76
1910	641	93.5	59,938	67.1	40,216	62.74
1911	605	90.1	54,538	75.5	41,202	68.10
1912	583	95.2	55,479	72.6	40,264	69.06
1913	625	94.5	59,057	72.6	42,384	68.61
Average, 1909–1913	619	92.7	57,355	71.2	40,830	65.96
1914	603	93.8	56,574	73.0	41,294	68.48
1915	731	103.5	75,639	62.1	46,980	64.27
1916	774	91.7	70,955	84.8	60,141	77.70
1917	919	91.2	83,822	110.8	92,916	101.11
1918	940	93.5	87,924	135.2	118,863	126.45
1919	941	103.2	97,126	134.4	130,514	138.70
1920	992	104.8	103,925	113.4	117,834	118.78
Average, 1914–1920	843	97.6	82,281	105.7	86,935	103.14
1921	1,066	92.5	98,654	88.1	86,894	81.51
1922	1,117	97.9	109,394	77.1	84,295	75.47
1923	993	97.9	97,177	97.9	95,091	95.76
1924 [2]	938	76.6	71,861	128.4	92,290	98.39

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1. [2] Preliminary.

TABLE 261.—*Sweet potatoes: Acreage, production, and total farm value, by States, 1922–1924*

State	Thousands of acres			Production, thousands of bushels			Total value, basis Dec. 1 price, thousands of dollars		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
New Jersey	20	18	17	3,500	2,196	2,431	2,520	3,184	3,768
Pennsylvania	2	2	2	280	260	234	311	364	351
Delaware	11	9	10	1,716	1,008	1,300	858	1,159	1,638
Maryland	10	9	9	1,530	1,170	1,170	765	1,346	1,480
Virginia	46	44	45	6,210	5,280	5,175	5,403	5,544	5,692
West Virginia	3	3	3	402	390	360	563	577	508
North Carolina	110	100	101	12,430	10,500	9,292	9,944	10,290	9,664
South Carolina	104	94	89	9,568	9,118	6,230	6,793	7,841	6,479
Georgia	152	137	128	12,616	11,508	8,704	7,696	8,746	8,704
Florida	32	30	35	2,720	2,940	3,150	2,557	3,410	4,095
Ohio	3	3	3	360	336	336	486	504	548
Indiana	3	3	3	375	354	345	450	442	490
Illinois	9	8	8	855	880	864	898	968	1,201
Iowa	4	4	3	312	280	240	437	420	456
Missouri	14	14	14	1,330	1,512	1,400	1,396	1,633	1,750
Kansas	4	3	3	416	321	339	437	401	458
Kentucky	20	20	19	2,020	2,060	1,748	2,222	2,472	2,237
Tennessee	44	35	34	4,180	3,850	3,230	3,260	3,850	4,522
Alabama	142	113	85	13,490	11,752	6,205	10,118	9,754	7,756
Mississippi	109	101	88	11,445	9,898	4,400	7,897	9,007	7,612
Louisiana	85	78	78	7,820	7,020	3,900	4,770	6,669	6,162
Texas	105	86	89	8,715	6,880	4,450	7,408	7,843	7,031
Oklahoma	27	30	27	2,052	2,700	2,430	2,421	3,051	3,645
Arkansas	47	40	36	3,760	3,800	2,880	3,346	3,496	3,658
New Mexico	1	1	1	112	134	120	224	268	306
Arizona	2	2	2	300	340	250	525	714	595
California	8	6	6	880	690	678	590	1,138	1,478
United States	1,117	993	938	109,394	97,177	71,861	84,295	95,091	92,290

Division of Crop and Livestock Estimates. [1] Preliminary.

TABLE 265.—*Sweet potatoes: Farm price per bushel, by States, December 1, 1909–1924, and value per acre 1924*—Continued

State	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre 1924 [1]
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Dolls.*
New Jersey	190	220	155	144	170	72	145	155	221.65
Pennsylvania	185	180	155	137	180	111	140	150	175.50
Delaware	125	110	100	95	110	50	115	126	163.80
Maryland	150	133	115	104	140	50	115	127	165.10
Virginia	145	155	95	105	125	87	105	110	126.50
West Virginia	204	210	150	146	180	140	148	141	169.20
North Carolina	132	138	114	98	97	80	98	104	95.68
South Carolina	142	148	117	104	90	71	86	104	72.80
Georgia	125	110	97	93	63	61	76	100	68.00
Florida	125	140	120	105	96	94	116	130	117.00
Ohio	175	215	175	155	178	135	150	163	182.56
Indiana	195	215	160	152	150	120	125	142	163.30
Illinois	175	175	135	134	90	105	110	139	150.12
Iowa	210	250	247	192	175	140	150	190	152.00
Missouri	186	187	155	142	100	105	108	125	125.00
Kansas	222	185	160	155	115	105	125	135	152.55
Kentucky	175	160	150	122	115	110	120	128	117.76
Tennessee	136	117	123	99	95	78	100	140	133.00
Alabama	115	113	100	88	73	75	83	125	91.25
Mississippi	104	112	105	86	74	69	91	173	86.50
Louisiana	128	115	93	89	65	61	95	158	79.00
Texas	175	150	130	120	85	85	114	158	79.00
Oklahoma	220	180	132	141	106	118	113	150	135.00
Arkansas	138	115	105	97	82	89	92	127	101.60
New Mexico	250	225	220	188	260	200	200	255	306.00
Arizona	238	250	230	204	182	175	210	238	297.50
California	150	179	160	129	125	67	165	218	246.34
United States	135.2	134.4	113.4	102.0	88.1	77.1	97.9	128.4	98.39

Division of Crop and Livestock Estimates.

[1] Based upon farm price Dec. 1.

TABLE 266.—*Sweet potatoes: Average l. c. l. price to jobbers per bushel at 19 markets, 1920–1924*

Market. Season beginning August	August [1]		September [1]		October average	November average	December average	January average	February average	March average	April [2]		May [2]	
	Range	Average	Range	Average							Range	Average	Range	Average
New York:	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
1920	2.31–3.05	2.70	1.04–2.77	1.76	1.36	1.23	1.56	1.76	1.82	2.40	1.50–2.75	2.32	2.00–3.00	2.73
1921	1.23–2.00	1.51	.88–2.25	1.48	1.26	1.36	1.67	2.02	1.93	1.92	1.50–2.50	2.27	1.25–2.50	2.23
1922			.50–1.75	1.00	.70	.73	.96	1.03	1.01	.94	.75–2.00	1.39		
1923			.46–1.75	1.16	1.20	1.95	2.51	2.94	3.38	3.62	3.40–4.50	3.98		
1924			1.08–3.25	1.98	1.47	1.88	2.47							
Chicago:														
1920	2.00–3.00	2.61	1.35–2.85	2.05	1.85	1.96	2.21	2.20	2.29	2.35	1.75–3.25	2.40	1.75–2.50	2.13
1921	1.14–2.75	2.01	.80–2.50	1.70	1.57	1.48	1.65	1.81	1.89	1.93	1.00–2.50	1.69	.75–2.40	1.29
1922			.69–2.75	1.44	1.00	1.22	1.26	1.43	1.44	1.47	1.00–2.50	1.62		
1923			1.08–2.35	1.67	1.52	2.03	2.73	3.09	3.31	3.76	3.50–4.50	4.04		
1924			1.38–4.00	2.29	1.88	2.33	2.80							
Philadelphia:														
1920	1.23–2.77	2.27	.85–2.31	1.40	.99	.84	1.35	1.53	1.55	1.74	1.25–2.00	1.66	.80–1.90	1.63
1921	1.15–1.50	1.33	.92–1.36	1.14	1.02	1.03	1.43	1.51	1.65	1.72	1.00–1.80	1.42		
1922			.46–1.00	.68	.57	.41	.68	.65	.58	.61	.60–1.00	.76		
1923			.54–1.08	.80	.84	1.18	1.98	2.48	2.49	3.65				
1924			1.08–1.62	1.29	.89	1.24	1.88							
Pittsburgh:														
1920	2.31	2.31	1.31–3.00	1.95	1.49	1.38	1.95	1.91	1.73	2.03	1.40–2.15	1.89	1.50–2.15	1.92
1921	.75–2.50	1.55	1.14–2.25	1.62	1.49	1.50	1.69	1.88	1.94	1.82	1.25–2.00	1.71	.75–2.00	1.32
1922			.62–2.25	1.14	.90	.87	.98	1.15	1.10	.81	.75–1.50	1.03		
1923			.92–2.15	1.45	1.43	1.94	2.47	2.55	2.75	3.15	2.75–3.75	3.31		
1924			1.08–3.35	1.97	1.60	1.99	2.49							
St. Louis:														
1920	1.75–2.75	2.25	.86–2.30	1.66	1.16	1.61	1.40	1.68	1.85	1.78	1.50–2.10	1.81	1.80–1.90	1.84
1921	1.00–1.40	1.23	.50–1.38	1.09	.94		1.11	1.20	1.10	1.13	.70–1.90	1.04		
1922			.65–1.00	.87	.84	.92	.98	1.03	.97	.96	.90–1.50	1.12		
1923						1.49	1.97	2.23	2.29	3.00	2.25–4.00	3.25		
1924			2.00–2.35	2.17		2.03	2.16							
Cincinnati:														
1920	1.77–2.35	1.98	1.00–2.19	1.63	1.31	1.15	1.54	1.71	1.95	1.78	1.31–3.00	1.80	1.35–2.10	1.89
1921	.90–1.54	1.19	.90–1.40	1.21	1.11	.98	1.27	1.21	1.16	1.15	.75–1.15	1.03	.40–1.15	.80
1922			.89–1.15	.84	.66	.65	.88	1.05	1.02	.96	.90–1.35	1.12		
1923			1.08–1.15	1.12	1.09	1.48	2.06	2.19	2.40	3.11	2.25–3.25	2.85		
1924			1.54–2.15	1.85	1.46	1.60	2.15							

[1] Quotations began Aug. 23, 1920 and 1921; Sept. 1, 1922; Sept. 18, 1923; Sept. 2, 1924.
[2] Last reported quotations of season May 26, 1921 and 1922; May 4, 1923; April 15, 1924.

TABLE 266.—*Sweet potatoes: Average l. c. l. price to jobbers per bushel at 10 markets, 1920–1924*—Continued

Market. Season beginning August	August		September		October average	November average	December average	January average	February average	March average	April		May	
	Range	Average	Range	Average							Range	Average	Range	Average
St. Paul:	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
1920			1.92–4.00	2.86	2.13	2.03	2.05	2.18	2.26	2.37	2.25	2.25		
1921			1.50–3.00	2.05	1.77	1.79	1.89	2.19	1.88	1.88	1.15–2.25	1.66	1.00–2.00	1.35
1922			1.00–2.50	1.52	1.24	1.36	1.69	1.71	1.65	1.34				
1923			1.38–2.50	1.91	1.67	1.97	2.82	2.61	2.88	3.12				
1924														
Minneapolis:														
1920	3.08–3.25	3.19	1.88–3.75	2.80	2.03	1.99	2.09	2.25	2.28	2.[illegible]	2.25	2.25		
1921	2.15–3.25	2.47	1.62–2.75	2.24	1.89	1.85	2.07	2.19	1.85	2.08	1.25–2.75	1.76	.25–2.00	.95
1922			1.00–2.65	1.76	1.21	1.40	1.81	1.87	1.60	1.50	1.25–2.15	1.63		
1923			1.38–2.50	1.92	1.65	2.09	2.96	2.91	2.98	3.42	3.50–	3.50		
1924			1.85–3.25	2.60	1.85	2.36	2.95							
Kansas City:														
1920	2.00–2.25	2.15				1.62	1.48	1.59	1.64	1.66	1.75–2.25	1.92	1.85–2.25	2.01
1921	1.50–1.65	1.56	1.00–1.50	1.25	1.01	1.10	1.21	1.30	1.22	1.19	.85–1.25	1.09	.85–1.00	.92
1922			.75–1.00	.89	.78	.62	1.04	1.12	1.12	1.13	.90–1.75	1.19		
1923							1.54	1.89	1.98	2.44	2.75–3.50	3.14		
1924						1.99	2.12							
Washington:[1]														
1920	2.15–2.62	2.36	1.08–2.46	1.63	1.17	1.06	1.09	1.66	1.73	1.72	1.38–2.00	1.59	1.62–2.50	1.89
1921	1.27–1.62	1.40	.85–1.35	1.10	.97	.96	1.26	1.58	1.68	1.68	1.08–1.50	1.32	1.00–1.40	1.14
1922			.46–.69	.62	.58	.73	.68	1.06	1.06	.96	.62–1.25	.96		
1923			.77–1.38	1.06	.95	1.19	1.87	2.14	2.28	2.24	1.85–2.77	2.31		
1924			1.23–2.00	1.71	1.24	1.33	1.69							

[1] Sales direct to retailers to November, 1923.

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

TOMATOES

TABLE 267.—*Tomatoes for consumption fresh, commercial crop: Acreage, production, and total value, by States, 1922–24*

State	Acreage			Production			Total value, basis, average for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
Early:	*Acres*	*Acres*	*Acres*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
California (Imperial County)	1,130	1,200	950	116	226	142	371	981	616
Florida	33,910	36,480	50,070	3,934	4,159	3,455	9,914	13,558	9,294
Georgia	400	460	2,000	30	37	66	71	57	107
Mississippi	11,180	11,190	13,780	1,476	940	1,516	1,653	1,861	2,426
South Carolina	1,100	1,600	1,900	58	163	173	68	235	277
Texas	12,250	6,600	9,540	956	574	868	1,893	1,401	1,979
Intermediate:									
Illinois (Union County)	520	480	560	68	60	73	108	173	185
New Jersey	11,070	10,730	11,340	2,092	1,953	1,939	3,954	3,476	3,723
Ohio (Washington County)	620	560	800	112	57	96	293	142	219
Tennessee	2,360	1,880	2,690	309	233	336	803	582	753
Late:									
California (except Imperial County)	6,040	11,900	11,470	1,619	3,403	1,480	5,165	8,882	3,212
Colorado	490	970	330	148	208	75	191	366	130
Delaware	1,260	3,090	1,910	135	550	252	240	962	454
Illinois (except Union County)	7,190	3,390	3,750	1,280	485	802	2,406	1,339	2,133
Indiana	2,800	3,470	8,290	549	618	1,094	763	742	1,433
Iowa	320	400	700	57	86	85	74	96	85
Kentucky	3,530	3,740	4,470	505	535	796	990	802	1,146
Maryland	4,130	4,910	7,340	516	702	918	1,352	1,523	1,900
Michigan	2,550	1,170	980	454	167	210	549	219	315
Missouri	2,630	2,250	6,580	329	241	632	494	402	1,428
New York	2,940	3,640	3,070	841	648	866	1,463	752	935
Ohio (except Washington County)	4,870	3,460	10,170	1,042	644	2,105	1,667	1,307	2,736
Pennsylvania	2,140	1,680	2,630	458	240	489	806	480	699
Virginia	1,070	3,130	1,460	103	448	272	174	748	386
Total	116,500	118,380	156,780	17,187	17,377	18,740	35,482	41,086	36,571

Division of Crop and Livestock Estimates.

TABLE 268.—*Tomatoes for consumption fresh, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per bushel [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*Bus.*	*Bus.*	*Bus.*	*Bus.*	*Bus.*	*Bus.*	*Bus.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
California (Imperial County)	165	145	160	150	103	188	150	2.95	3.15	3.05	3.00	3.20	4.34	4.34
Florida	106	115	103	144	116	114	69	1.70	1.88	1.92	2.26	2.52	3.26	2.69
Georgia	67	100	83	117	75	80	33	2.00	1.89	1.48	1.86	2.37	1.53	1.62
Mississippi	99	103	87	112	132	84	110	1.45	1.27	1.52	1.27	1.12	1.98	1.60
South Carolina	67	100	83	104	53	102	91	1.83	2.02	1.70	2.04	1.51	1.44	1.60
Texas	134	137	83	85	78	87	91	1.55	1.37	1.36	1.58	1.98	2.44	2.28
Intermediate:														
Illinois (Union County)	106	120	131	117	130	125	130	1.75	1.65	1.80	1.86	1.59	2.88	2.54
New Jersey	178	107	178	178	189	182	171	1.09	1.34	1.39	1.27	1.89	1.78	1.92
Ohio (Washington County)	120	169	182	158	180	102	120	1.76	1.52	2.00	1.98	2.62	2.50	2.28
Tennessee (Gibson County)	117	110	106	89	131	124	125	2.17	2.21	2.14	1.98	2.60	2.50	2.24
Late:														
Calif. (except Imperial County)	214	250	214	196	268	286	129	1.84	1.55	2.01	2.60	3.19	2.61	2.17
Colorado	286	321	250	250	303	214	228	1.60	1.20	1.60	1.65	1.29	1.76	1.74
Delaware	143	71	161	161	107	178	132	1.65	1.12	1.60	1.35	1.78	1.75	1.80
Illinois (except Union County)	125	129	178	125	178	143	214	1.71	1.50	1.69	1.34	1.88	2.76	2.66
Indiana	161	150	161	178	196	178	132	1.43	1.30	1.41	1.19	1.39	1.20	1.31
Iowa	143	161	178	125	178	214	121	1.30	1.50	1.58	1.38	1.29	1.12	1.00
Kentucky	107	161	150	125	143	143	178	1.56	1.51	1.42	1.69	1.96	1.50	1.44
Maryland	161	71	125	125	125	143	125	1.08	.96	1.10	1.32	2.62	2.17	2.07
Michigan	161	143	196	200	178	143	214	1.10	1.20	1.31	1.02	1.21	1.31	1.50
Missouri	89	89	125	107	125	107	96	1.27	1.37	1.60	1.74	1.50	1.67	2.26
New York	250	268	303	286	286	178	282	.96	1.39	1.96	1.44	1.74	1.16	1.06
Ohio (except Washington County)	143	196	214	196	214	186	207	1.29	1.25	1.45	1.55	1.60	2.03	1.30
Pennsylvania	125	129	178	178	214	143	186	1.81	1.41	1.69	1.09	1.76	2.00	1.43
Virginia	125	107	125	107	96	143	186	2.00	1.83	1.94	1.65	1.69	1.67	1.42
Average	143	136	153	146	148	147	120	1.51	1.51	1.67	1.76	2.06	2.36	1.95

Division of Crop and Livestock Estimates.

[1] Average for season.

TABLE 269.—*Tomatoes for manufacture, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Tons*	*Tons*	*Tons*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*
Arkansas	5,780	7,920	10,610	23,100	19,000	30,800	248	207	385
California	24,140	30,760	26,760	164,200	190,700	152,500	2,483	2,775	2,568
Colorado	2,200	2,860	1,880	18,000	14,300	13,500	156	129	138
Delaware	12,000	18,690	17,190	48,000	102,800	51,600	683	1,514	944
Illinois	4,790	5,400	5,620	20,100	16,200	23,600	244	190	324
Indiana	53,240	66,020	74,600	308,800	191,500	253,600	3,236	1,974	3,147
Iowa	2,860	3,580	3,940	19,700	19,300	11,000	264	236	141
Kentucky	5,290	5,610	6,700	20,100	9,000	30,200	221	104	407
Maryland	37,170	44,230	41,580	183,800	243,300	137,200	1,962	3,708	2,675
Michigan	2,550	2,730	3,900	11,700	9,600	22,200	123	91	228
Missouri	14,880	20,240	26,310	46,100	48,600	65,800	507	551	859
New Jersey	16,610	25,000	29,000	86,400	115,000	101,500	1,270	1,786	2,067
New York	11,740	12,920	12,280	92,700	51,700	78,600	1,272	778	1,264
Ohio	11,360	13,860	15,250	59,100	63,800	82,400	650	748	953
Pennsylvania	2,140	3,520	4,890	11,600	16,900	22,500	130	215	337
Tennessee	6,860	7,270	9,890	24,000	16,000	30,700	340	207	429
Utah	3,820	4,890	5,480	38,200	43,000	29,600	330	430	296
Virginia	9,640	12,520	13,150	43,400	52,600	44,700	593	755	725
Other States	1,850	3,490	4,050	7,800	13,300	12,200	99	178	183
Total	228,920	291,510	313,080	1,176,800	1,236,600	1,194,200	14,811	16,576	18,070

Division of Crop and Livestock Estimates.

TABLE 270.—*Tomatoes for manufacture, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per ton						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Arkansas	3.0	2.8	3.3	3.3	4.0	2.4	2.9	14.29	14.57	16.80	16.96	10.75	10.92	12.50
California	5.0	7.0	5.5	5.4	6.8	6.2	5.7	18.03	16.35	20.00	12.58	15.12	14.55	16.84
Colorado	8.0	9.1	6.3	6.0	8.2	5.0	7.2	15.12	12.90	15.00	9.00	8.67	9.00	10.25
Delaware	4.0	1.6	4.5	5.0	4.0	5.5	3.0	26.70	24.08	21.98	18.63	14.23	14.73	18.30
Illinois	3.5	3.6	3.3	3.5	4.2	3.0	4.2	20.86	17.03	16.25	12.55	12.15	11.75	13.72
Indiana	4.5	4.5	4.5	5.0	5.8	2.9	3.4	15.35	15.38	16.01	9.68	10.48	10.31	12.41
Iowa	4.0	4.8	5.6	3.3	6.9	5.4	2.8	13.58	14.50	17.00	12.00	13.38	12.23	12.80
Kentucky	3.0	5.5	4.1	3.3	3.8	1.6	4.5	14.20	15.59	13.26	10.00	11.00	11.52	13.48
Maryland	4.5	1.5	3.5	4.2	3.6	5.5	3.3	29.13	25.90	21.98	12.15	14.66	15.24	19.50
Michigan	4.5	4.1	4.5	5.6	4.6	3.5	5.7	17.69	16.00	15.00	13.57	10.50	9.50	10.29
Missouri	2.5	2.0	3.5	2.9	3.1	2.4	2.5	14.71	15.30	16.59	11.92	11.00	11.33	13.05
New Jersey	5.0	3.0	4.9	5.0	5.2	4.6	3.5	26.66	24.78	25.37	11.26	14.70	15.53	20.36
New York	7.0	6.5	8.0	8.2	7.9	4.0	6.4	19.22	18.64	21.32	13.55	13.72	15.06	16.08
Ohio	4.0	6.0	6.0	5.5	5.2	4.6	5.4	19.50	16.51	15.83	11.00	11.00	11.75	11.57
Pennsylvania	3.5	3.6	6.9	4.8	5.4	4.8	4.6	22.87	20.86	23.20	11.83	11.20	12.74	14.98
Tennessee	3.5	3.3	3.2	3.0	3.5	2.2	3.1	21.09	19.12	20.05	11.33	14.18	12.92	13.99
Utah	10.0	9.5	9.6	12.3	10.0	8.8	5.4	15.00	13.71	15.00	8.00	8.63	10.00	10.00
Virginia	3.5	2.7	3.5	3.0	4.5	4.2	3.4	24.06	22.38	25.12	14.92	13.66	14.35	16.22
Other States	3.2	4.1	4.0	4.1	4.2	3.8	3.0	16.70	18.68	16.87	15.80	12.66	13.40	15.00
Average	4.4	3.8	4.7	4.9	5.1	4.2	3.8	21.72	18.14	19.71	11.46	12.59	13.40	15.13

Division of Crop and Livestock Estimates.

TABLE 271.—*Tomatoes: Car-lot shipments by State of origin, January, 1917–December, 1924*

State	Crop movement season [1]							
	1917	1918	1919	1920	1921	1922	1923	1924 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	143	381	457	845	1,098	1,902	1,261	953
New Jersey	2,239	2,006	1,012	2,356	2,130	1,930	1,648	2,010
Delaware	877	1,130	502	153	189	413	327	26
Maryland	237	200	206	138	128	278	271	65
Florida	4,695	3,700	4,501	3,749	5,774	10,288	9,791	9,153
Ohio	628	799	489	330	351	557	956	1,020
Indiana	524	1,150	948	1,148	528	1,303	1,185	1,470
Illinois	487	393	234	340	155	229	250	257
Tennessee	947	654	368	805	357	920	501	994
Mississippi	1,063	1,379	1,388	1,363	1,961	3,441	2,144	3,775
Texas	1,278	1,123	1,205	1,286	1,954	1,844	1,091	1,687
California	519	1,514	2,186	1,958	1,714	2,305	3,296	2,363
All other	478	1,042	1,007	1,085	860	1,258	1,284	2,353
Total	14,115	15,471	14,503	15,556	17,199	26,668	24,005	26,126

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from Jan. 1 through December of a given year.
[2] Preliminary.

TABLE 272.—*Tomatoes: Farm price, per bushel, 15th of month, United States, 1913–1924*

Month	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
July	161.4	167.4	141.4	161.5	194.3	219.1	240.3	324.4	319.6	270.0	310.7	196.7
August	95.8	92.5	66.4	88.4	124.3	133.1	177.0	168.4	142.4	102.0	165.2	134.7
September	68.0	63.0	56.9	75.6	109.5	103.0	137.2	104.4	103.6	------	106.6	111.6
October	73.0	60.3	67.9	82.1	117.6	108.6	117.7	98.9	113.5	79.6	122.8	122.5

Division of Crop and Livestock Estimates.

TABLE 273.—*Tomatoes: Average l. c. l. price to jobbers at 10 markets, 1921–1924*

Market, Season beginning June	4-basket carrier		6-basket carrier, June [1]	Market, Season beginning June	4-basket carrier		6-basket carrier, June [1]
	June [1]	July [2]			June [1]	July [2]	
New York:	*Dollars*	*Dollars*	*Dollars*	Cincinnati:	*Dollars*	*Dollars*	*Dollars*
1921	1.70	1.20	2.96	1921	1.52	1.05	2.63
1922	1.14	------	2.03	1922	.88	------	2.01
1923	2.32	------	4.23	1923	------	------	3.83
1924	.98	1.45	1.85	1924	.93	1.47	1.70
Chicago:				St. Paul:			
1921	1.59	1.05	3.29	1921	1.60	------	------
1922	1.18	------	2.98	1922	1.23	------	------
1923	2.13	------	------	1923	2.11	------	------
1924	------	------	3.76	1924	------	------	------
Philadelphia:				Minneapolis:			
1921	1.41	------	2.58	1921	1.83	------	------
1922	1.06	------	1.77	1922	1.30	------	------
1923	2.11	------	3.46	1923	2.20	------	------
1924	.88	1.60	1.43	1924	1.05	1.15	------
Pittsburgh:				Kansas City:			
1921	1.58	1.22	3.19	1921	1.68	.67	------
1922	1.16	------	3.63	1922	1.87	------	------
1923	2.15	------	3.82	1923	2.34	------	------
1924	1.01	1.60	1.65	1924	1.49	1.35	------
St. Louis:				Washington [3]:			
1921	1.61	.71	------	1921	1.53	1.32	3.03
1922	------	------	------	1922	1.21	------	3.21
1923	2.15	------	------	1923	2.19	------	4.31
1924	1.20	1.40	------	1924	1.01	1.63	2.24

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of daily range of selling prices.

[1] Quotations began June 3, 1921; June 1, 1922; June 7, 1923; May 28, 1924.
[2] Last reported quotations of season July 16, 1921; June 30, 1922; July 5, 1923; July 9, 1924.
[3] Sales direct to retailers to May, 1924.

TABLE 274.—*Tomatoes, canned: Production in the United States, 1915–1924*

State	1915	1916	1917	1918	1919
	Cases [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]
New York	256,000	174,000	552,830	395,904	436,509
New Jersey	325,000	712,000	380,116	667,063	59,678
Delaware	711,000	1,199,000	1,380,805	879,070	188,920
Maryland	3,084,000	6,042,000	5,933,239	6,649,475	2,528,927
Virginia [2]	969,000	928,000	1,170,504	1,547,291	852,991
Ohio	157,000	186,000	107,491	357,283	172,367
Indiana	419,000	760,000	398,327	968,219	875,598
Missouri	252,000	211,000	704,347	352,821	438,720
Utah	329,000	373,000	512,546	952,539	594,066
California	1,281,000	1,635,000	2,603,019	1,789,904	3,051,688
All other	686,000	922,000	1,332,850	1,322,803	1,510,106
United States	8,469,000	13,142,000	15,076,074	15,882,372	10,709,660

State	1920	1921	1922	1923	1924
	Cases [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]	*Cases* [1]
New York	515,000	214,000	340,000	266,000	325,000
New Jersey	517,000	116,000	337,000	412,000	186,000
Delaware	553,000	176,000	590,000	1,216,000	803,000
Maryland	3,347,000	1,656,000	3,205,000	5,722,000	3,825,000
Virginia [2]	1,162,000	217,000	891,000	963,000	1,116,000
Ohio	142,000	71,000	179,000	174,000	133,000
Indiana	778,000	530,000	1,312,000	717,000	1,050,000
Missouri	715,000	136,000	775,000	839,000	871,000
Utah	444,000	132,000	664,000	584,000	417,000
California	1,773,000	339,000	1,701,000	2,397,000	1,767,000
All other	1,422,000	430,000	1,544,000	1,382,000	2,026,000
United States	11,368,000	4,017,000	11,538,000	14,672,000	12,519,000

Division of Statistical and Historical Research. Compiled from National Canners' Association data.
[1] Stated in cases of 24 No. 3 cans. [2] Includes West Virginia.

WATERMELONS

TABLE 275.—*Watermelons, commercial crop: Acreage, production, and total value, by States, 1922–1924*

State	Acreage			Production			Total value, basis, average price for season		
	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Acres	*Acres*	*Acres*	*Cars* [1]	*Cars* [1]	*Cars* [1]	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Early:									
Alabama	12,760	7,130	8,500	3,956	1,697	1,998	427	180	244
Arizona	1,200	900	1,000	408	288	150	61	50	33
California (Imperial)	4,300	3,400	3,800	2,322	2,040	1,995	418	979	491
Florida	38,080	30,880	28,330	14,470	5,404	6,941	2,113	1,762	2,263
Georgia	66,550	42,410	44,950	20,630	7,973	16,407	3,425	1,818	2,051
Mississippi	740	750	750	248	202	184	41	40	34
North Carolina	5,100	4,730	4,600	1,632	1,745	690	261	379	99
South Carolina	15,710	11,200	11,550	4,713	4,200	4,909	815	886	407
Texas	25,500	24,920	30,800	8,542	9,195	6,930	1,076	2,161	1,040
Late:									
Arkansas	1,340	780	950	415	226	276	75	51	51
California (central)	6,220	5,080	5,070	2,612	2,032	2,028	481	534	383
Colorado	660	400	300	231	140	90	42	23	12
Delaware	1,380	920	1,180	345	350	330	61	64	54
Idaho	220	170	170	66	61	42	10	14	6
Illinois	2,710	1,870	2,400	881	720	600	106	168	85
Indiana	2,850	3,050	2,600	998	854	780	141	235	225
Iowa	2,240	2,200	2,700	784	660	742	114	116	176
Maryland	2,100	1,850	2,160	735	703	540	96	163	78
Missouri	11,670	6,420	6,800	3,618	1,926	1,700	619	466	343
New Jersey	1,060	1,160	1,960	450	454	588	79	170	94
Oklahoma	4,520	3,850	3,800	1,582	962	950	277	192	180
Virginia	3,400	2,480	3,040	1,190	662	608	202	149	111
Washington	750	800	820	300	240	287	51	45	43
Total	211,060	157,350	168,230	71,128	42,734	49,765	10,991	10,645	8,503

Division of Crop and Livestock Estimates. [1] Cars of 1,600 melons.

TABLE 276.—*Watermelons, commercial crop: Yield per acre and price, 1918–1924*

State	Yield per acre							Price per car [1]						
	1918	1919	1920	1921	1922	1923	1924	1918	1919	1920	1921	1922	1923	1924
Early:	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Alabama	338	292	283	328	310	238	235	76	114	123	156	108	106	122
Arizona	250	405	405	360	340	320	150	160	150	150	155	150	175	223
California (Imperial)	540	850	960	640	540	600	525	215	275	300	215	180	480	246
Florida	323	315	374	360	380	175	245	182	215	239	241	146	326	326
Georgia	350	328	373	499	310	188	365	127	129	141	221	166	228	125
Mississippi	369	310	330	375	335	270	245	150	175	170	150	165	200	187
North Carolina	400	324	400	364	320	369	150	119	131	145	177	160	217	143
South Carolina	487	468	565	500	300	375	425	83	108	119	107	173	211	83
Texas	350	270	364	273	335	369	225	146	211	240	168	126	235	150
Late:														
Arkansas	243	279	350	330	310	290	290	188	201	187	125	181	225	185
California (Central)	575	480	500	410	420	400	400	300	250	250	233	184	263	189
Colorado	360	375	315	375	350	350	300	150	175	150	200	180	167	138
Delaware	425	480	431	416	250	380	280	145	200	200	157	176	184	164
Idaho	350	370	325	370	300	360	250	212	238	250	115	150	225	138
Illinois	351	274	349	375	325	385	250	175	155	139	138	120	233	142
Indiana	346	320	340	365	350	280	300	164	196	184	148	141	275	288
Iowa	342	382	360	392	350	300	275	118	125	112	190	146	176	237
Maryland	380	350	378	400	350	380	250	165	174	111	150	130	232	144
Missouri	360	382	407	385	310	300	250	109	146	160	190	171	242	202
New Jersey	400	450	430	400	425	391	300	200	250	150	200	175	375	160
Oklahoma	292	338	382	330	350	250	250	175	160	275	190	175	200	190
Virginia	375	364	366	375	350	267	200	162	233	218	150	170	225	182
Washington	400	425	400	350	400	300	350	63	75	138	125	171	188	151
Average	365	344	391	397	337	272	296	142	169	185	191	155	249	171

Division of Crop and Livestock Estimates.

[1] Average for season.

TABLE 277.—*Watermelons: Car-lot shipments, by State of origin, April, 1917–December, 1924*

State	Crop movement season [1]							
	1917	1918	1919	1920	1921	1922	1923	1924 [2]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Delaware	511	303	327	177	499	289	245	259
Maryland	1,019	388	515	458	763	379	566	427
Virginia	728	244	263	312	364	156	166	103
North Carolina	1,201	727	891	799	1,530	987	1,542	664
South Carolina	4,107	2,787	2,673	4,735	4,427	4,677	4,009	4,900
Georgia	9,530	6,782	8,984	11,103	16,140	12,973	7,222	16,320
Florida	3,622	2,179	3,878	6,807	5,772	11,337	4,317	[3] 6,366
Indiana	630	191	581	661	742	542	484	372
Illinois	386	68	190	251	459	289	433	164
Iowa	238	132	321	348	867	665	586	49
Missouri	2,533	1,196	3,516	3,012	3,188	2,752	1,783	1,453
Alabama	1,634	806	708	1,160	1,486	1,041	1,256	2,278
Texas	2,871	2,290	3,007	4,845	4,298	4,131	5,317	6,354
Oklahoma	505	189	870	465	566	308	66	205
Arkansas	449	93	268	314	577	325	190	360
California	1,137	1,689	3,300	3,276	3,796	4,289	4,054	4,317
All other	402	328	568	532	989	1,026	793	876
Total	31,503	20,392	30,860	39,255	46,463	47,066	33,029	[4] 45,467

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Crop movement season extends from April through December of a given year.
[2] Preliminary.
[3] Includes 2 cars in January and 4 cars in March.

TRUCK CROPS

TABLE 278.—*Truck crops, commercial crop: Acreage and production, United States, 1919–1924*

ACREAGE

Crop	Number of States producing	1919	1920	1921	1922	1923	1924
		Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Asparagus	12	28,290	31,440	32,140	32,860	42,050	49,420
Beans (snap)	30	38,560	34,550	34,830	49,550	61,280	75,390
Cabbage	28	92,020	119,210	104,580	133,830	104,880	109,960
Cantaloupes	23	72,950	74,530	77,450	103,300	84,160	89,700
Carrots	8	----------	----------	----------	----------	9,770	10,720
Cauliflower	5	8,640	8,200	8,510	9,250	11,580	13,190
Celery	10	13,760	15,790	16,250	17,230	19,760	21,380
Corn (sweet)	20	250,030	261,580	136,280	197,600	250,850	299,410
Cucumbers	29	64,810	66,450	80,610	82,200	91,960	129,580
Eggplant	3	----------	----------	2,420	2,210	2,470	2,390
Lettuce	14	18,360	31,930	31,240	44,900	57,990	63,060
Onions	22	52,520	64,940	57,070	63,290	61,940	59,900
Peas (green)	23	135,430	149,340	133,850	171,800	206,690	241,620
Peppers	4	----------	----------	7,530	7,860	8,030	10,320
Potatoes (early Irish)	19	225,450	262,750	265,920	311,930	281,740	307,540
Spinach	9	----------	----------	22,810	23,760	30,550	33,600
Strawberries	27	86,910	93,410	109,590	132,800	148,360	146,750
Tomatoes	33	376,260	333,560	160,010	345,420	409,890	469,860
Watermelons	22	122,310	149,640	155,660	211,960	157,350	168,230

PRODUCTION

	1919	1920	1921	1922	1923	1924
Asparagus, crates	3,669,000	3,842,000	3,287,000	4,041,000	5,854,000	6,761,000
Beans (snap), tons	76,500	64,200	66,800	79,600	100,300	104,500
Cabbage, do	613,800	1,062,300	687,000	1,089,000	805,700	973,000
Cantaloupes, crates	10,188,000	10,508,000	11,549,000	12,805,000	11,745,000	13,789,000
Carrots, bushels	----------	----------	----------	----------	3,184,000	3,804,000
Cauliflower, crates	2,245,000	2,190,000	2,293,000	2,589,000	3,322,000	3,514,000
Celery, do	2,732,000	3,345,000	4,401,000	4,601,000	5,333,000	6,114,000
Corn (sweet), tons	587,400	594,900	360,600	474,700	590,600	500,500
Cucumbers, bushels	6,629,000	5,385,000	8,267,000	8,867,000	7,671,000	8,058,000
Eggplant, do	----------	----------	882,000	856,000	850,000	640,000
Lettuce, crates	5,517,000	9,425,000	8,931,000	10,829,000	14,118,000	13,653,000
Onions, bushels	14,548,000	21,343,000	14,165,000	18,763,000	17,306,000	17,627,000
Peas (green), tons	124,700	169,300	125,800	181,700	180,100	259,200
Peppers, bushels	----------	----------	2,874,000	2,654,000	2,953,000	3,500,000
Potatoes (early Irish), bushels	24,667,000	30,056,000	30,193,000	36,198,000	26,245,000	41,178,000
Spinach, tons	----------	----------	61,700	67,900	95,800	105,400
Strawberries, quarts	155,800,000	155,588,000	189,670,000	260,403,000	256,409,000	266,951,000
Tomatoes, tons	1,436,000	1,532,800	724,200	1,658,000	1,723,200	1,718,900
Watermelons, number	41,354,000	57,521,000	61,774,000	71,128,000	42,734,000	49,765,000

Division of Crop and Livestock Estimates.

VEGETABLE SEED

TABLE 279.—*Vegetable seed: Commercial acreage, average yield per acre, and production, United States, 1917–1923*

COMMERCIAL ACREAGE PLANTED FOR SEED

Kind of seed	1917	1918	1919	1920	1921	1922	1923 [1]
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Beans, dwarf, snap	63,524	70,867	48,658	30,059	12,625	33,488	42,123
Beans, garden, pole [2]	4,029	6,297	7,957	11,573	3,911	4,430	5,284
Beet, garden	826	2,748	2,666	400	380	633	699
Beet, mangel	20	424	619	123	(3)	112	----------
Beet, sugar	4,638	6,014	11,139	7,919	3,699	1,129	----------
Cabbage	737	974	1,978	1,135	636	730	1,167
Carrot	1,965	4,622	3,465	538	196	493	750
Celery	84	178	135	60	100	70	115
Corn, sweet	12,975	14,759	14,565	12,024	4,064	7,405	8,690
Cucumber	4,694	3,053	3,582	3,598	3,577	4,180	5,037
Kale	18	71	106	61	39	132	108
Lettuce	1,979	2,291	2,283	2,010	1,185	1,929	2,200
Muskmelon	1,827	1,671	1,467	1,898	2,223	1,935	2,720
Watermelon	8,929	10,597	5,508	5,914	6,558	9,480	8,450
Onion, seed	3,782	7,260	6,730	2,392	1,108	1,295	2,138
Onion, sets	2,637	3,818	3,708	3,998	3,225	3,183	2,753
Parsley	109	155	146	186	90	84	80
Parsnips	137	267	303	111	48	121	147
Peas, garden	110,129	102,095	104,172	113,844	35,680	54,462	86,659
Pepper	686	720	160	431	1,308	671	503
Pumpkin	1,512	1,380	1,156	2,164	905	992	349
Radish	3,521	8,760	10,870	3,396	1,717	2,485	3,400
Salsify	131	124	205	52	9	33	----------
Spinach	1,415	4,259	1,139	141	32	655	234
Squash, summer	836	1,004	1,153	1,000	1,128	612	664
Squash, winter	1,326	2,539	2,912	2,109	1,310	836	1,525
Tomato	3,204	3,832	3,604	2,711	1,296	3,824	2,592
Turnip, English	24	936	1,207	239	336	200	----------
Turnip, Swede	21	279	205	136	(3)	90	75

AVERAGE YIELD PER ACRE

	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Beans, dwarf, snap	233	412	516	501	712	585	673
Beans, garden, pole [2]	315	820	552	474	660	920	816
Beet, garden	562	913	697	295	474	678	934
Beet, mangel	1,500	677	1,003	561	(3)	911	----------
Beet, sugar	1,094	981	601	855	966	935	----------
Cabbage	396	166	699	138	352	504	384
Carrot	575	460	451	541	388	371	287
Celery	333	227	400	467	460	471	365
Corn, sweet	640	807	902	1,070	1,029	1,181	1,016
Cucumber	219	179	214	161	136	169	260
Kale	278	239	406	180	769	341	398
Lettuce	456	326	298	292	262	444	173
Muskmelon	160	117	102	89	178	186	184
Watermelon	71	91	91	104	112	127	84
Onion, seed	259	232	389	335	301	347	437
Onion, sets	11,850	12,066	5,906	11,106	8,304	9,802	8,427
Parsley	771	471	767	629	311	524	312
Parsnips	496	625	733	622	542	702	497
Peas, garden	444	569	460	767	762	855	765
Pepper	31	78	75	63	76	70	54
Pumpkin	71	96	95	114	117	120	135
Radish	176	221	283	181	150	299	176
Salsify	427	250	454	308	333	455	----------
Spinach	212	387	317	716	781	479	842
Squash, summer	145	99	193	131	166	185	175
Squash, winter	70	50	152	121	110	79	119
Tomato	71	80	67	80	62	62	58
Turnip, English	125	215	378	142	176	75	----------
Turnip, Swede	429	97	600	287	(3)	511	307

[1] Preliminary. [2] Not including Lima beans. [3] Not reported for 1921.

TABLE 279.—*Vegetable seed: Commercial acreage, average yield per acre, and production, United States, 1917–1923*—Continued.

PRODUCTION

[Thousand pounds—i. e., 000 omitted]

Kind of seed	1917	1918	1919	1920	1921	1922	1923 [1]
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Beans, dwarf, snap	14,809	29,216	25,093	15,069	8,985	19,600	28,333
Beans, garden, pole [2]	1,268	5,166	4,395	5,480	2,582	4,074	4,310
Beet, garden	464	2,509	1,858	118	180	429	653
Beet, mangel	30	287	621	69	(3)	102	----------
Beet, sugar	5,076	5,900	6,700	6,770	3,575	1,056	----------
Cabbage	292	162	1,383	157	224	368	448
Carrot	1,129	2,125	1,562	291	76	183	215
Celery	28	40	54	28	46	33	42
Corn, sweet	8,303	11,917	13,143	12,870	4,183	8,749	8,825
Cucumber	1,026	548	766	580	487	707	1,312
Kale	5	17	43	11	30	45	43
Lettuce	903	747	680	587	310	856	380
Muskmelon	293	196	150	169	395	359	501
Watermelon	633	960	500	614	732	1,200	711
Onion, seed	980	1,685	2,618	801	334	450	935
Onion, sets	31,249	46,069	21,900	44,402	26,780	31,200	23,200
Parsley	84	73	112	117	28	44	25
Parsnips	68	167	222	69	26	85	73
Peas, garden	48,868	58,127	47,968	87,310	27,197	46,588	66,300
Pepper	21	56	12	27	99	47	27
Pumpkin	108	133	110	247	106	119	47
Radish	621	1,935	2,537	614	258	743	600
Salsify	56	31	93	16	3	15	----------
Spinach	300	1,650	361	101	25	314	197
Squash, summer	121	99	223	131	187	114	116
Squash, winter	93	128	443	255	144	66	182
Tomato	227	308	243	218	81	238	150
Turnip, English	3	201	456	34	59	15	----------
Turnip, Swede	9	27	123	39	(3)	46	23

Division of Statistical and Historical Research. Compiled from data of Hay, Feed, and Seed Division.

[1] Preliminary. [2] Not including Lima beans. [3] Not reported for 1921.

TABLE 280.—*Vegetable seed: Imports into United States, 1910 to 1923*

[Thousand pounds—i. e., 000 omitted]

Kind of seed	Year ended June 30									Calendar year				
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Beet, sugar	10,309	11,109	11,390	14,783	10,490	15,893	9,048	14,466	15,637	9,830	23,446	7,726	------	15,671
Beet, all other	624	639	872	887	1,077	991	786	483	448	161	238	257	272	335
Cabbage	162	261	311	273	255	425	278	108	83	169	391	253	181	181
Carrot	176	155	97	149	172	87	38	15	33	16	69	48	37	42
Cauliflower	6	10	7	9	11	13	9	8	8	12	17	12	13	14
Collard	1	1	(1)	2	(1)	9	(1)	(1)	(1)	1	(1)	(1)	------	------
Corn salad	7	10	8	6	6	5	5	4	2	8	14	3	------	------
Eggplant	3	1	2	2	1	1	2	1	2	1	1	1	------	------
Kale	17	25	39	32	38	49	40	16	8	19	77	40	25	35
Kohl-rabi	50	17	11	14	16	16	10	9	17	17	23	14	10	16
Mushroom spawn	368	423	169	240	195	124	66	48	17	23	19	23	------	------
Onions [2]	------	------	------	------	------	------	------	------	------	------	------	------	------	118
Parsley	75	75	56	129	255	139	70	38	66	53	180	151	144	68
Parsnip	89	57	55	117	130	100	100	65	7	44	17	57	40	19
Pepper	16	16	18	10	12	15	15	5	22	6	2	9	4	3
Radish	470	581	373	504	527	550	309	119	103	112	320	213	272	350
Spinach	935	972	1,218	1,698	1,886	1,136	838	634	805	367	1,139	1,223	1,927	2,017
Turnip	1,234	1,759	2,868	1,233	1,581	2,112	1,816	1,066	2,151	1,810	1,847	2,242	1,360	776
Rutabaga [3]	------	------	------	------	------	------	------	------	------	------	------	------	------	152
Mangel-wurzel [2]	------	------	------	------	------	------	------	------	------	------	------	------	------	126

Hay, Feed and Seed Division.

[1] Less than 500 pounds. [2] Not shown separately prior to 1923. [3] Included with turnip prior to 1923.

TABLE 281.—*Average wholesale price per pound of standard varieties of vegetable seeds in United States, 1917–1924*

Kind of seed	1917	1918	1919	1920	1921	1922	1923	1924
Beans, dwarf snap	$0.18	$0.26	$0.21	$0.16	$0.15	$0.13	$0.15	$0.15
Beans, garden, pole [1]	.14	.24	.23	.21	.19	.15	.15	.16
Beet, garden	.90	1.45	1.07	.64	.48	.38	.52	.48
Beet, mangel	.35	.90	.68	.36	.31	.27	.29	.29
Cabbage	1.90	3.80	8.00	2.75	2.40	2.00	1.90	1.65
Carrot	1.00	1.75	.90	.50	.50	.40	.56	.65
Celery, domestic	1.50	2.25	1.85	1.60	2.00	1.60	1.60	----------
Celery, imported	10.00	10.00	5.00	4.00	4.00	3.00	3.00	----------
Cucumber	.54	.83	.85	.86	.80	.81	.60	.67
Lettuce	.65	.85	.90	.72	.76	.76	.74	.78
Muskmelon	.54	.78	.81	.73	.79	.76	.77	.74
Watermelon	.42	.70	.54	.46	.45	.46	.44	.45
Onion seed	1.90	4.50	2.65	1.80	1.60	1.20	1.50	1.55
Parsley	.35	.60	1.00	.60	.60	.50	.50	.47
Parsnip	.30	----------	1.00	.40	.35	.35	1.00	.40
Peas, garden	.12	.19	.19	.24	.19	.14	.13	.14
Radish	.40	1.60	1.30	.60	.50	.50	.45	.46
Spinach	.60	2.00	.75	.35	.20	.20	.21	.19
Squash, summer	.65	.80	1.05	1.00	.90	.75	.67	.65
Squash, winter	.55	1.00	1.10	1.10	1.00	.80	.67	.60
Sweet corn	.20	.25	.17	.15	.15	.10	.11	.14
Tomato	2.75	3.60	4.00	3.25	3.10	2.80	2.70	2.90
Turnip, English	.35	1.75	1.35	.65	.50	.35	.46	.40
Turnip, Swede	.32	1.80	1.25	.45	.37	.27	.40	.35

Division of Statistical and Historical Research. Compiled from reports of Hay, Feed, and Seed Division.

[1] Not including Lima beans.

TABLE 282.—*Vegetable seed: Average yearly import price, per pound, 1910–1923* [1]

Kind of seed	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Beet, garden	9.4	10.3	16.4	15.7	15.0	11.0	12.0	17.2	49.2	67.2	21.1	14.2	18.0	17.7
Beet, sugar	6.5	6.6	9.7	7.2	7.6	8.8	11.2	11.6	----------	----------	22.2	19.6	----------	9.8
Cabbage	22.9	34.1	37.6	47.6	49.0	35.0	42.2	44.4	170.8	211.8	76.6	57.0	61.0	46.7
Carrot	15.2	17.0	36.3	25.1	30.6	25.0	34.0	45.4	86.1	120.4	22.6	27.0	31.3	29.5
Cauliflower	534.0	400.0	562.0	537.0	381.0	343.0	524.0	601.0	458.7	382.3	820.9	813.4	688.2	645.0
Collard	19.6	12.4	14.3	13.1	17.0	13.4	24.0	77.0	----------	----------	26.0	23.1	----------	----------
Corn salad	15.6	12.7	20.7	14.6	12.6	13.5	15.0	16.8	38.1	49.1	44.9	47.3	----------	----------
Eggplant	78.6	71.9	61.1	80.8	80.6	80.5	86.2	68.7	157.1	219.7	187.6	143.5	----------	----------
Kale	22.9	15.5	14.8	19.3	25.8	20.9	17.3	27.1	75.3	63.9	26.7	29.2	29.2	27.2
Kohl-rabi	11.0	18.9	28.0	28.0	35.2	28.0	28.4	40.6	78.1	98.5	52.8	46.7	54.0	46.3
Parsley	8.5	9.0	19.2	28.1	18.6	11.0	12.2	14.4	19.7	39.3	11.9	12.5	12.7	13.3
Parsnip	7.2	7.6	10.4	8.6	8.2	7.0	8.1	8.4	49.2	60.4	21.9	13.2	27.0	18.7
Pepper	42.3	41.4	40.9	44.0	38.2	41.0	41.0	57.0	88.4	151.9	109.5	68.3	105.3	88.1
Radish	11.6	12.3	13.0	13.4	14.5	12.4	13.2	17.8	67.0	57.5	24.0	21.8	20.0	19.4
Spinach	46.0	5.0	5.7	5.2	4.6	4.8	8.0	12.6	33.2	21.9	11.6	9.7	9.2	8.1
Turnip	[2] 8.5	8.6	7.9	9.3	9.1	8.7	8.9	11.8	31.5	36.9	22.8	14.6	16.8	13.9
Rutabaga	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	12.8
Mangel-wurzel	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	11.8
Onion	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	103.0

[1] Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. All prices are f. o. b. port of origin and not including duty.

[2] Included with turnip prior to 1923.

[3] Not segregated prior to 1923.

FRUITS AND VEGETABLES

TABLE 283.—*Fruits and vegetables: Unloads of 10 commodities at 12 markets in car lots, 1917–1924* [1]

Commodity and year	New York	Chicago	Philadelphia	Pittsburgh	St. Louis	Cincinnati	St. Paul	Minneapolis	Kansas City	Washington	Cleveland	Detroit	Total
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
Apples:													
1917 [2]	7,996	4,335	2,343	2,498	2,117	636	284	586	988	333	564	848	23,528
1918	8,944	4,458	2,701	2,951	1,540	1,130	410	568	709	633	1,192	673	25,909
1919	10,037	5,985	2,842	2,216	1,379	1,450	227	348	674	387	1,402	1,515	28,462
1920	10,528	7,080	3,198	2,702	1,975	1,617	401	464	1,006	561	1,698	963	32,283
1921	11,984	6,634	3,416	2,808	1,856	1,810	351	422	1,002	369	1,184	1,080	32,916
1922	12,764	6,575	2,539	3,020	2,111	1,257	496	712	775	454	1,901	1,402	34,006
1923	15,538	10,364	3,211	3,005	2,736	1,659	428	681	1,507	674	1,861	1,782	43,446
1924	14,468	6,605	2,996	2,799	1,960	1,531	525	748	701	556	1,614	1,234	35,737
Cabbage:													
1917 [2]	2,027	1,141	1,325	896	1,001	425	46	81	375	186	222	234	7,950
1918	2,472	1,322	1,936	1,670	858	577	54	57	580	371	636	223	10,756
1919	2,215	1,837	1,662	1,172	746	557	53	49	421	287	503	205	9,707
1920	2,226	1,355	1,906	1,207	864	596	74	121	399	393	617	290	10,138
1921	3,030	1,780	1,962	1,105	1,049	669	68	75	400	386	505	262	11,291
1922	3,333	1,697	2,166	1,219	1,121	781	102	104	515	468	576	392	12,474
1923	3,981	1,685	2,233	1,274	1,018	729	78	81	503	390	536	401	12,909
1924	4,185	1,877	2,217	1,191	1,230	762	90	123	471	471	732	496	13,845
Cantaloupes:													
1917 [2]	3,365	793	815	1,140	285	418	85	142	360	99	4	71	7,577
1918	2,237	1,045	493	1,068	286	389	38	118	128	126	381	275	6,584
1919	3,701	1,924	958	1,702	305	507	92	171	448	230	748	501	11,377
1920	3,788	2,035	1,057	1,275	452	554	60	94	396	266	657	552	11,186
1921	4,781	2,308	1,258	1,322	539	640	115	166	452	242	733	557	13,113
1922	5,535	2,800	1,542	1,244	618	676	122	214	422	306	912	584	14,975
1923	4,521	2,237	1,226	1,203	512	461	76	199	309	253	749	536	12,282
1924	5,732	2,508	1,416	1,203	728	813	97	260	409	306	906	686	15,064
Celery:													
1917 [2]	972	1,561	560	466	240	151	30	65	207	98	4	105	4,459
1918	1,175	766	707	579	166	145	49	73	202	152	120	75	4,209
1919	1,002	583	428	337	177	166	40	102	154	126	112	72	3,299
1920	1,276	979	753	529	217	207	47	89	220	194	144	151	4,809
1921	1,691	1,479	951	665	354	316	52	126	304	197	243	264	6,642
1922	1,981	1,689	814	677	350	331	53	152	321	214	217	321	7,120
1923	2,507	1,818	850	830	386	370	115	214	382	241	340	466	8,519
1924	2,998	1,631	1,186	822	441	382	121	244	314	257	361	574	9,331
Onions:													
1917 [2]	4,666	1,146	1,606	1,178	753	286	50	149	407	108	133	451	10,933
1918	4,073	677	1,542	1,208	549	276	25	75	389	220	417	382	9,833
1919	4,364	1,393	1,398	976	438	226	61	83	284	174	422	516	10,335
1920	3,723	1,237	1,554	1,115	687	283	40	107	426	226	593	654	10,645
1921	4,429	1,545	1,482	922	559	314	71	91	345	196	498	558	11,010
1922	4,933	1,673	1,698	951	672	400	65	115	453	235	548	675	12,418
1923	8,338	1,951	1,790	941	664	394	64	95	454	247	662	732	16,332
1924	8,118	1,955	2,067	1,023	788	480	77	142	538	292	745	795	17,020
Peaches:													
1917 [2]	3,620	1,067	827	1,167	348	495	69	190	292	120	11	55	8,261
1918	2,687	1,060	892	1,010	188	415	97	83	205	138	452	443	7,670
1919	2,989	1,347	888	1,221	334	631	128	112	285	158	584	663	9,340
1920	2,406	1,267	837	849	347	481	36	64	158	190	477	619	7,731
1921	4,143	1,320	1,056	759	481	600	77	101	268	148	532	555	10,046
1922	4,617	2,107	1,016	1,071	438	609	161	192	331	294	850	996	12,682
1923	3,496	1,404	778	744	542	649	136	158	320	220	692	774	9,913
1924	4,686	1,845	1,093	841	777	762	180	233	338	226	1,146	1,123	13,200
Potatoes:													
1917 [2]	20,601	9,609	6,441	5,185	2,904	1,573	410	1,196	2,540	439	786	1,899	53,589
1918	18,773	12,477	6,823	6,516	2,739	1,538	125	397	2,602	1,213	3,101	2,811	59,115
1919	16,703	12,145	7,668	7,326	2,756	2,047	150	498	2,521	1,000	3,135	2,928	58,877
1920	15,002	11,302	7,130	5,614	2,512	2,189	437	756	2,145	873	3,109	2,695	53,764
1921	17,986	13,077	7,460	5,396	3,592	2,857	594	845	2,257	1,153	3,175	2,203	60,595
1922	20,100	13,912	8,023	5,009	4,290	3,447	351	717	2,433	1,623	3,506	2,948	66,359
1923	21,330	14,436	8,519	4,906	3,012	2,942	263	735	2,417	1,646	3,105	2,818	66,129
1924	22,726	15,664	8,272	4,033	2,905	2,698	279	520	2,508	1,784	3,499	2,465	67,353
Strawberries:													
1917 [2]	2,771	910	679	435	89	287	82	199	173	10	----	55	5,690
1918	706	840	304	271	77	255	52	119	100	18	161	125	3,028
1919	476	702	159	166	45	232	58	101	50	50	99	103	2,241
1920	728	767	268	185	85	80	49	84	68	34	138	171	2,657
1921	1,101	1,499	300	321	132	356	72	147	180	50	239	225	4,622
1922	2,193	1,719	568	497	265	474	160	351	262	48	342	552	7,431
1923	2,507	1,696	750	516	277	559	130	246	129	62	393	548	7,813
1924	2,537	1,809	691	458	229	355	152	228	146	57	349	550	7,561

[1] See Table 284 for l. c. l. unloads converted to car-lot equivalents.
[2] Reports incomplete.

TABLE 283.—*Fruits and vegetables: Unloads of 10 commodities at 12 markets in car lots, 1917–1924*—Continued

Commodity and year	New York	Chicago	Philadelphia	Pittsburgh	St. Louis	Cincinnati	St. Paul	Minneapolis	Kansas City	Washington	Cleveland	Detroit	Total
Sweet potatoes:	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1921	1,592	1,231	440	913	194	368	38	91	180	197	563	286	6,093
1922	1,625	1,315	378	962	127	461	65	141	147	183	543	293	6,240
1923	1,255	1,497	409	944	136	413	58	133	102	180	606	389	6,122
1924	1,286	1,096	350	757	106	359	68	116	53	146	456	317	5,110
Tomatoes:													
1917 [2]	3,310	1,333	696	945	237	347	27	75	266	105	------	101	7,442
1918	1,589	996	698	1,016	64	191	39	64	185	115	155	159	5,271
1919	2,022	982	931	993	178	202	24	50	235	158	170	189	6,134
1920	1,783	1,183	810	765	220	218	15	49	214	149	152	174	5,732
1921	2,872	1,588	1,105	919	327	287	34	58	262	193	146	203	7,994
1922	3,974	1,918	1,382	1,219	444	438	75	121	330	254	271	470	10,896
1923	3,981	1,652	1,436	1,321	309	339	34	106	302	226	231	425	10,362
1924	4,623	2,042	1,507	1,134	443	345	41	158	239	248	305	455	11,540
Total (10 commodities):													
1917 [2]	49,328	21,895	15,292	13,910	7,974	4,618	1,083	2,683	5,614	1,498	1,724	3,819	129,438
1918	42,656	23,641	16,096	16,289	6,467	4,916	889	1,554	5,100	2,986	6,615	5,166	132,375
1919	43,509	26,898	16,934	16,109	6,358	6,108	833	1,514	5,072	2,570	7,175	6,692	139,772
1920	41,460	27,205	17,513	14,421	7,359	6,225	1,159	1,828	5,032	2,886	7,585	6,272	138,945
1921	53,609	32,467	19,430	15,130	9,083	8,217	1,472	2,122	5,650	3,131	7,818	6,193	164,322
1922	61,055	35,405	20,126	15,869	10,436	8,874	1,650	2,819	5,989	4,079	9,666	8,633	184,601
1923	67,454	38,740	21,202	15,684	9,592	8,515	1,382	2,648	6,425	4,139	9,175	8,871	193,827
1924	71,359	37,032	21,795	14,261	9,607	8,487	1,580	2,772	5,717	4,343	10,113	8,695	195,761

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division. Unloads as shown in car lots include those by boat reduced to car-lot basis.

[2] Report incomplete.

TABLE 284.—*Fruits and vegetables: l. c. l. unloads, converted to car lots, of 10 commodities at four markets, 1918–1924*

State and year	Apples	Cabbage	Cantaloupes	Celery	Onions	Peaches	Potatoes	Strawberries	Sweet potatoes	Tomatoes	Total
New York:	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
1918	2,392	408	792	196	392	996	557	500	------	1,640	7,873
1919	564	86	166	119	437	946	1,675	422	------	964	5,379
1920	530	80	425	85	349	1,100	2,422	474	------	1,370	6,835
1921	152	53	152	31	306	74	1,754	822	1,624	512	5,480
1922	558	65	292	45	465	1,385	751	650	1,368	814	6,393
1923	316	101	280	53	239	1,182	689	522	1,301	1,156	5,839
1924	259	96	236	59	335	933	308	749	949	851	4,775
Chicago:											
1918	78	------	14	68	18	------	------	36	------	12	226
1919	84	------	12	356	10	10	13	544	------	38	1,067
1920	22	------	26	494	------	------	------	142	------	16	700
Philadelphia:											
1919	22	------	91	50	------	56	------	84	------	12	315
1920	19	------	34	24	------	10	60	23	------	16	186
Washington: [3]											
1920	29	------	------	------	------	73	12	41	------	31	186

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

CROPS OTHER THAN GRAINS, FRUITS, AND VEGETABLES

BEANS

TABLE 285.—*Beans, dry: Acreage, production, and total farm value, United States, 1914–1924*

Year	Thousands of acres	Average yield in bushels per acre	Production, thousands of bushels	Average farm price per bushel Nov. 15	Farm value, thousands of dollars
1914	875	13.2	11,585	$2.26	26,213
1915	928	11.1	10,321	2.59	26,771
1916	1,107	9.7	10,715	5.10	54,686
1917	1,821	8.8	16,045	6.50	104,350
1918	1,744	10.0	17,397	5.28	91,803
1919	1,060	12.6	13,349	4.26	56,811
1920	847	10.8	9,185	2.95	27,134
1921	777	11.8	9,150	2.67	24,399
1922	1,079	11.9	12,793	3.74	47,843
1923	1,323	12.1	16,037	3.65	58,566
1924 [1]	1,383	9.7	13,411	3.71	49,792

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 286.—*Beans, dry: Acreage, production, and total farm value, by States, 1923 and 1924*

State	Thousands of acres		Average yield in bushels per acre		Production, thousands of bushels		Average farm price per bushel Nov. 15		Farm value, thousands of dollars	
	1923	1924 [1]	1923	1924	1923	1924 [1]	1923	1924	1923	1924 [1]
New York	130	140	13.0	13.0	1,690	1,820	$3.90	$3.80	6,591	6,916
Michigan	568	557	11.5	10.5	6,532	5,848	3.30	3.15	21,556	18,421
Wisconsin	10	10	9.0	8.5	90	85	4.00	3.40	360	289
Montana	23	34	11.5	12.0	264	408	3.70	3.30	977	1,346
Wyoming	3	7	11.0	12.0	33	84	3.30	3.55	109	298
Colorado	170	290	8.0	3.4	1,360	986	3.70	3.10	5,032	3,057
New Mexico	69	110	5.0	5.0	345	550	4.20	3.80	1,449	2,090
Arizona	6	5	6.5	6.0	39	30	3.90	4.50	152	135
Idaho	45	69	22.0	19.5	990	1,346	3.60	4.10	3,564	5,519
California	299	161	15.7	14.0	4,694	2,254	4.00	5.20	18,776	11,721
Total	1,323	1,383	12.1	9.7	16,037	13,411	3.65	3.71	58,566	49,792

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 287.—*Beans, dry: Car-lot shipments by State of origin, 1918–1924*

State	1918	1919	1920	1921	1922	1923	1924 [1]
	Cars	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*	*Cars*
New York	69	144	351	1,305	1,599	1,775	1,863
Michigan	833	1,765	2,123	5,855	4,955	5,998	8,489
Colorado	763	478	186	524	483	1,091	1,421
New Mexico	133	422	621	974	288	85	275
Idaho	177	232	147	145	236	51	924
California	2,080	4,681	3,481	3,759	3,821	3,284	2,195
All other	89	69	86	152	84	153	230
Total	4,144	7,791	6,995	12,714	11,466	12,437	15,397

Division of Statistical and Historical Research. Compiled from data of the Fruit and Vegetable Division.

Shipments as shown in car lots include those by boat reduced to car-lot basis.

[1] Preliminary.

TABLE 288.—*Beans, dry: Farm price per bushel, 15th of month, United States, 1910–1924*

Year beginning September	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Weighted av.
1910	$2.28	$2.25	$2.14	$2.20	$2.20	$2.23	$2.17	$2.20	$2.17	$2.19	$2.23	$2.20	$2.21
1911	2.26	2.27	2.34	2.42	2.38	2.38	2.42	2.37	2.52	2.62	2.47	2.40	2.37
1912	2.38	2.34	2.25	2.31	2.26	2.19	2.10	2.11	2.18	2.23	2.22	2.11	2.25
1913	2.08	2.25	2.20	2.12	2.17	2.09	2.05	2.11	2.31	2.23	2.22	2.54	2.17
Av. 1910-1913	2.25	2.28	2.23	2.26	2.25	2.22	2.18	2.20	2.30	2.32	2.28	2.31	2.25
1914	2.46	2.17	2.28	2.40	2.63	3.02	2.89	2.81	2.93	2.87	2.75	2.67	2.56
1915	2.70	2.93	3.03	3.30	3.47	3.43	3.34	3.42	3.56	3.72	5.09	4.59	3.27
1916	4.60	4.47	5.58	5.77	5.71	6.07	6.49	7.37	8.94	8.99	8.07	7.29	5.92
1917	6.69	7.48	7.33	7.00	7.00	7.08	6.95	6.95	6.67	6.28	5.88	6.11	7.04
1918	5.67	5.52	5.46	4.86	4.98	4.52	4.40	4.44	4.19	4.39	4.25	4.30	4.98
1919	4.36	4.27	4.42	4.41	4.70	4.47	4.32	4.41	4.36	4.49	4.47	4.17	4.41
1920	3.83	3.46	3.27	2.99	2.95	2.85	2.89	2.69	2.73	2.82	2.75	2.83	3.12
Av. 1914-1920	4.33	4.33	4.47	4.39	4.49	4.49	4.47	4.58	4.77	4.79	4.75	4.57	4.47
1921	2.99	2.87	2.85	2.83	2.86	3.04	3.64	3.77	4.02	4.48	4.29	4.09	3.18
1922	3.22	3.36	3.71	3.91	4.24	4.42	4.30	4.32	4.26	4.05	3.94	3.62	3.88
1923	3.78	3.87	3.83	3.44	3.49	3.56	3.47	3.50	3.48	3.38	3.28	3.52	3.63
1924	3.72	3.72	3.81	3.91									

Division of Crop and Livestock Estimates.

TABLE 289.—*Beans: Wholesale price per 100 pounds, 1914–1924*

Year	Boston, pea			Chicago, pea			San Francisco, small white		
	Low	High	Average	Low	High	Average	Low	High	Average
1914	$2.10	$3.10	$2.10	$1.60	$3.10	$2.22	$4.00	$6.00	$4.98
1915	2.85	4.10	3.36	2.40	4.10	3.19	4.50	6.40	5.39
1916	3.80	7.25	4.96	3.00	8.00	4.24	6.25	11.50	8.05
1917	6.50	15.00	9.24	6.40	14.50	9.09	10.50	16.00	13.20
1918	9.00	14.00	12.08	8.25	15.00	11.49	8.90	12.75	11.64
1919	6.00	10.00	7.74	6.50	9.50	7.92	5.75	8.90	7.05
1920	4.75	8.25	6.98	4.25	9.25	6.76	3.75	6.75	5.72
Low, high, and average, 1914–1920	2.10	15.00	6.64	1.60	15.00	6.42	3.75	16.00	7.99
1921	4.25	5.50	4.88	3.60	5.50	4.61	3.20	4.90	4.03
1922	5.00	10.50	7.60	4.60	11.15	7.46	4.75	7.75	6.18
1923	6.75	8.00	7.44	5.30	9.00	7.04	5.75	7.75	6.67
1924	6.75	8.25	7.54	4.90	6.50	5.46	5.75	8.25	6.81
1924									
January	6.75	7.35	7.06	5.30	5.30	5.30	5.75	6.35	5.92
February	7.25	7.50	7.40	5.30	5.40	5.36	6.00	6.35	6.18
March	7.25	7.35	7.30	5.10	5.40	5.23	5.90	6.15	6.03
April	7.25	7.35	7.28	5.10	5.25	5.17	5.90	6.15	6.02
May	7.00	7.25	7.12	4.90	5.10	4.93	5.90	6.25	6.04
June	7.00	7.25	7.12	4.90	5.00	4.96	6.00	7.10	6.29
July	7.00	7.35	7.16	5.00	5.00	5.00	6.90	7.15	7.04
August	7.35	8.00	7.68	5.00	6.00	5.48	7.00	7.75	7.29
September	8.00	8.25	8.04	6.00	6.50	6.31	7.50	8.00	7.86
October	8.10	8.25	8.18	5.90	6.25	6.07	7.75	8.25	8.00
November	8.00	8.25	8.10	5.65	6.00	5.88	7.15	8.25	7.89
December	7.85	8.10	8.00	5.65	6.15	5.84	7.00	7.25	7.18

Division of Statistical and Historical Research. Compiled from reports of the Boston Chamber of Commerce, average of weekly range; Chicago Daily Trade Bulletin and San Francisco Daily Commercial News, average of daily range.

SOYBEANS

TABLE 290.—*Soybeans: Farm price per bushel, 15th of month, United States, 1913–1924*

Year beginning October	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Weighted average
1913–14	$1.96	$1.57	$1.72	$1.96	$1.80	$1.76
1914–15	2.08	2.15	2.24	2.35	2.26	2.18
1915–16	1.88	2.08	2.23	2.31	2.39	2.11
1916–17	2.13	2.13	2.18	2.20	2.45	2.16
1917–18	2.73	2.86	3.33	3.47	3.82	3.05
1918–19	3.36	3.20	3.29	3.00	3.00	3.23
1919–20	3.34	3.35	3.44	3.76	4.05	3.45
1920–21	3.41	3.00	2.28	2.18	2.17	2.80
1921–22	2.20	2.22	2.08	2.11	2.16	2.17
1922–23	1.89	2.06	1.97	2.07	2.13	2.00
1923–24	2.09	2.11	2.11	2.23	2.26	2.12
1924–25	2.23	2.16	2.36			

Division of Crop and Livestock Estimates.

TABLE 291.—*Soybeans: Acreage, yield per acre, and production, by States, 1923 and 1924*

State	Equivalent solid acreage utilized[1]								Beans gathered [2]								Hay			
	Primarily for beans		Primarily for hay		Primarily for grazing, hogging, etc.		Total		Yield per acre from acreage grown primarily for beans		Production						Yield per acre from acreage primarily for hay		Production from acreage primarily for hay	
											From acreage grown primarily for beans		From acreage utilized primarily for other purposes		Total					
	1923	1924 [3]	1923	1924 [3]	1923	1924 [3]	1923	1924 [3]	1923	1924	1923	1924 [3]	1923	1924 [3]	1923	1924 [3]	1923	1924	1923	1924 [3]
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bush.*	*Bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*Short tons*	*Short tons*	*1,000 short tons*	*1,000 short tons*
Delaware	10	9	3	10	1	1	14	20	15.4	10.5	154	94			154	94	1.40	1.70	4	17
Maryland	7	6	12	20	5	5	24	31	17.5	14.0	122	84			122	84	1.50	1.83	18	37
Virginia	15	13	48	41	10	9	73	63	19.0	14.0	285	182	95	60	380	242	1.80	1.00	86	41
West Virginia	1	3					1	3	15.0	14.0	15	42	1	5	16	47				
North Carolina	125	120	70	80	65	55	260	255	17.0	16.0	2,125	1,920	550	640	2,675	2,560	1.40	1.15	98	92
South Carolina	5	18	9	11	7	11	21	40	12.0	11.0	60	198	30	105	90	303	.90	.58	8	6
Georgia	7	20	20	30	5	9	32	59	11.0	9.5	77	190	61	96	138	286	.80	.70	16	21
Ohio	50	56	50	62	28	33	128	151	16.0	13.0	800	728			800	728	1.50	1.55	75	96
Indiana	46	52	40	46	86	112	172	210	14.0	10.0	644	520	150	130	794	650	1.40	1.66	56	76
Illinois	92	90	137	224	426	433	655	747	14.0	12.0	1,288	1,080	434	468	1,722	1,548	1.90	1.50	247	336
Michigan	6	8	4	6	4	4	14	18	11.0	9.7	66	78			66	78	1.50	1.70	6	10
Wisconsin	4	8	14	14	30	32	48	54	8.0	9.0	32	72			32	72	1.30	1.64	18	23
Iowa	7	10	7	10	150		164	20	17.0	14.5	119	145			119	145	1.90	2.00	13	20
Missouri	70	131	68	129	112	140	250	400	12.0	9.0	840	1,179	95	200	935	1,379	1.40	1.50	95	194
Kentucky	6	7	38	40	21	24	65	71	14.0	12.5	84	88	94	99	178	187	1.45	1.60	55	64
Tennessee	7	7	130	140	20	20	157	167	9.0	8.0	63	56	54	42	117	98	1.35	1.35	176	189
Alabama	25	26	52	75	29	27	106	128	9.0	11.0	225	286	120	220	345	506	1.03	.78	54	59
Mississippi	8	28	23	66	14	16	45	110	14.5	12.5	116	350	116	188	232	538	1.35	1.05	31	69
Louisiana	1	1	6	17	1	1	8	19	16.0	12.0	16	12	13	10	29	22	1.40	.60	8	10
Total	492	613	731	1,021	1,014	932	2,237	2,566	14.5	11.9	7,131	7,304	1,813	2,263	8,944	9,567	1.46	1.33	1,064	1,360

Division of Crop and Livestock Estimates.

[1] Interplanted acreage is included as its equivalent solid acreage.

[2] Shelled, or equivalent bushels in the pod.

[3] Preliminary.

COWPEAS

TABLE 292.—*Cowpeas: Acreage, yield per acre, and production, by States, 1923 and 1924*

State	Equivalent solid acreage utilized [1]								Peas gathered [2]								Hay			
	Primarily for peas		Primarily for hay		Primarily for grazing, hogging, etc.		Total		Yield per acre from acreage grown primarily for peas		Production						Yield per acre from acreage primarily for hay		Production from acreage primarily for hay	
											From acreage grown primarily for peas		From acreage utilized primarily for other purposes		Total					
	1923	1924 [3]	1923	1924 [3]	1923	1924 [3]	1923	1924 [3]	1923	1924	1923	1924 [3]	1923	1924 [3]	1923	1924 [3]	1923	1924	1923	1924 [3]
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Bush.*	*Bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*Short tons*	*Short tons*	*1,000 short tons*	*1,000 short tons*
Delaware	2	2	17	13	1	1	20	16	14.0	10.0	28	20	------	------	28	20	1.40	1.70	24	22
Maryland	4	3	20	20	4	2	28	25	13.0	11.0	52	33	------	------	52	33	1.50	1.82	30	36
Virginia	20	16	90	72	14	11	124	99	14.0	11.0	280	176	120	75	400	251	1.70	.95	153	68
North Carolina	150	130	160	128	98	80	408	338	12.0	11.5	1,800	1,495	800	1,050	2,600	2,545	1.00	.85	160	109
South Carolina	304	225	293	280	253	245	850	750	10.0	6.0	3,040	1,350	960	728	4,000	2,078	.80	.38	234	106
Georgia	181	155	380	365	160	150	721	670	8.5	6.5	1,538	1,008	1,180	670	2,718	1,678	.70	.60	266	219
Florida	23	22	36	33	35	35	94	90	11.0	12.0	253	264	120	130	373	394	.95	1.05	34	35
Indiana	17	17	34	34	11	11	62	62	10.0	6.0	170	102	30	30	200	132	1.50	1.66	51	56
Illinois	45	37	97	100	19	40	161	177	9.5	6.5	428	240	114	160	542	400	1.57	1.00	152	100
Missouri	23	24	97	92	30	22	150	138	9.0	8.0	207	192	107	98	314	290	1.10	1.20	107	110
Kentucky	10	10	58	60	28	28	96	98	12.0	11.6	120	116	150	114	270	230	1.45	1.60	84	96
Tennessee	12	11	168	160	35	18	215	189	7.0	6.0	84	66	91	70	175	136	1.10	1.25	185	200
Alabama	179	190	182	200	154	135	515	525	8.5	8.0	1,522	1,520	974	900	2,496	2,420	.78	.70	142	140
Mississippi	154	121	163	150	104	95	421	366	7.5	7.5	1,155	908	1,025	657	2,180	1,565	1.10	.80	179	120
Louisiana	46	27	75	61	95	105	216	193	13.5	10.0	621	270	508	330	1,129	600	1.20	.75	90	46
Texas	55	44	26	43	81	69	162	156	12.0	8.5	660	374	121	06	781	680	.90	.80	23	34
Arkansas	48	60	110	90	80	62	238	212	9.0	10.0	432	600	400	300	832	900	1.10	.80	121	72
Total	1,273	1,094	2,006	1,901	1,102	1,109	4,381	4,104	9.7	8.0	12,390	8,734	6,700	5,618	19,090	14,352	1.01	.83	2,085	1,569

Division of Crop and Livestock Estimates.

[1] Interplanted acreage is included as its equivalent solid acreage.

[2] Shelled, or equivalent bushels in the pod.

[3] Preliminary.

TABLE 293.—*Cowpeas: Farm price per bushel, 15th of month, United States, 1915–1924*

Year beginning Aug.	Aug. 15	Sept. 15	Oct. 15	Nov 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Weighted average
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1915	174.4	155.4	156.0	151.4	151.8	156.3	157.2	153.7	150.2	148.8	140.0	135.1	151.9
1916	141.3	142.4	148.1	161.6	177.0	192.2	210.0	231.8	253.4	293.1	309.1	303.2	189.7
1917	265.4	217.0	219.5	227.1	237.5	262.2	292.5	301.5	292.8	283.3	257.4	248.4	236.2
1918	241.3	226.2	233.9	231.4	237.6	238.9	252.1	248.8	267.6	292.3	343.9	342.8	264.3
1919	310.3	269.4	260.9	270.7	280.6	312.9	372.4	394.0	421.4	484.4	483.7	470.8	319.4
1920	422.7	368.8	273.7	243.4	229.0	197.2	204.2	204.7	215.5	242.7	265.1	287.2	273.8
1921	240.9	199.7	201.2	184.8	176.1	171.9	179.7	185.8	184.8	189.5	184.0	170.0	190.7
1922	166.5	157.4	153.6	160.7	167.4	187.0	197.6	198.2	208.0	208.5	217.2	221.3	172.8
1923	208.1	187.2	195.4	194.7	200.9	211.5	221.1	231.9	246.3	253.4	282.4	285.6	213.6
1924	255.6	240.7	231.5	234.4	256.2								

Division of Crop and Livestock Estimates.

VELVET BEANS

TABLE 294.—*Velvet beans: Acreage, yield per acre, and production, 1923 and 1924*

State	Equivalent solid acreage utilized [1]						Beans gathered [2]							
	Primarily for beans		Primarily for grazing, hogging, etc. [3]		Total		Yield per acre from acreage grown primarily for beans		Production					
									From acreage grown primarily for beans		From acreage utilized primarily for other purposes		Total	
	1923	1924 [4]	1923	1924 [4]	1923	1924 [4]	1923	1924	1923	1924 [4]	1923	1924 [4]	1923	1924 [4]
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Short tons*	*Short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
North Carolina	5	4	31	27	36	31	0.50	0.50	2	2	3	2	5	4
South Carolina	50	50	195	178	245	228	.59	.55	30	27	22	32	52	59
Georgia	218	208	510	467	728	675	.54	.45	118	95	45	40	163	135
Florida	45	60	206	185	250	245	.59	.55	27	33	12	13	39	46
Alabama	225	280	336	288	561	568	.50	.45	113	127	45	41	158	168
Mississippi	38	40	205	180	243	220	.55	.43	21	17	8	16	29	33
Louisiana	30	23	119	112	149	135	.39	.49	12	11	9	14	21	25
Texas	9	8	42	38	51	46	.41	.27	4	2	3	2	7	4
Total	620	673	1,643	1,475	2,263	2,148	.52	.47	327	314	147	160	474	474

Division of Crop and Livestock Estimates.

[1] Interplanted acreage is included as its equivalent solid acreage.
[2] Shelled, or equivalent tons in the pod.
[3] Includes hay acreage.
[4] Preliminary.

BROOMCORN

TABLE 295.—*Broomcorn: Acreage, production, and total farm value, United States, 1915–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per ton Nov. 15	Farm value
	Acres	*Pounds*	*Short tons*	*Dollars*	*1,000 dollars*
1915	230,100	454.1	52,242	91.67	4,789
1916	235,200	329.3	38,726	172.75	6,690
1917	345,000	332.8	57,400	292.75	16,804
1918	366,000	340.4	62,300	223.87	14,570
1919	352,000	303.4	53,400	154.57	8,254
1920	275,500	265.0	36,500	126.16	4,605
1921	222,000	344.2	38,200	72.20	2,758
1922	275,000	271.3	37,300	219.46	8,186
1923	536,000	302.5	81,153	160.06	12,989
1924 [1]	442,000	343.1	75,832	94.21	7,144

[1] Preliminary.

TABLE 296.—*Broomcorn: Acreage, production, and total farm value, by States, 1923 and 1924*

State	Acreage		Average yield per acre		Production		Average farm price per ton Nov. 15		Farm value	
	1923	1924 [1]	1923	1924	1923	1924 [1]	1923	1924	1923	1924 [1]
	Acres	*Acres*	*Pounds*	*Pounds*	*Tons*	*Tons*	*Dols.*	*Dols.*	*1,000 dollars*	*1,000 dollars*
Illinois	40,000	42,000	500	430	10,000	9,030	235	150	2,350	1,354
Missouri	4,000	4,000	500	300	1,000	600	188	160	188	96
Kansas	70,000	45,000	370	295	12,950	6,638	118	95	1,528	631
Texas	51,000	23,000	365	418	9,308	4,807	150	100	1,396	481
Oklahoma	273,000	246,000	240	369	32,760	45,387	170	85	5,569	3,858
Colorado	48,000	34,000	365	170	8,760	2,890	145	60	1,270	173
New Mexico	50,000	48,000	255	270	6,375	6,480	108	85	688	551
Total	536,000	442,000	302.8	343.1	81,153	75,832	160.06	94.21	12,989	7,144

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 297.—*Broomcorn: Farm price per ton, 15th of month, United States, 1910–1924*

Year.	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
1910	$190	$197	$200	$204	$199	$151	$180	$142	$139	$108	$96	$93
1911	81	80	78	74	81	69	68	72	92	121	124	108
1912	100	86	99	101	83	79	85	83	77	70	69	57
1913	49	56	57	58	53	61	57	91	106	102	100	92
Av. 1910-1913	105	105	108	109	104	90	98	97	104	100	97	88
1914	94	95	91	89	85	88	88	91	77	67	66	58
1915	66	78	68	71	75	77	79	83	75	86	92	101
1916	104	104	104	96	101	102	103	120	129	168	173	172
1917	184	201	212	227	252	223	194	308	240	270	296	280
1918	249	254	242	222	206	222	235	232	300	265	205	172
1919	169	141	174	149	152	106	119	124	154	162	161	163
1920	163	123	130	145	146	145	113	142	125	126	123	88
Av. 1914-1920	147	142	146	143	145	138	133	157	157	163	159	148
1921	70	71	72	69	66	76	75	67	68	72	68	86
1922	71	88	80	76	82	87	84	122	175	193	217	238
1923	229	256	242	254	223	233	214	195	169	197	161	172
1924	131	114	110	106	107	107	------	171	156	139	94	94

Division of Crop and Livestock Estimates.

COTTON

TABLE 298.—*Cotton: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage picked	Average yield per acre	Production	Average farm price per pound, Dec. 1	Farm value, Dec. 1	Value per acre.[1]	New York closing prices per pound on middling upland.				Domestic exports, fiscal year beginning July 1	Imports, fiscal year beginning July 1
							December		Following May			
							Low	High	Low	High		
	1,000 acres.	*Lbs.*	*1,000 bales.*	*Cents.*	*1,000 dollars.*	*Dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bales.*[2]	*Bales.*[2]
1909	30,938	154.3	*10,005*	13.9	697,681	22.55	14.65	16.15	14.50	16.05	6,413,416	172,075
1910	32,403	170.7	*11,609*	14.1	820,407	25.32	14.80	15.25	15.35	16.15	8,067,882	227,537
1911	36,045	207.7	*15,693*	8.8	687,888	19.08	9.20	9.65	11.80	11.90	11,070,251	219,560
1912	34,283	190.9	*15,705*	11.9	817,055	23.83	12.75	13.20	11.80	12.10	9,124,591	243,704
1913	37,089	182.0	*14,156*	12.2	862,708	23.26	12.50	13.50	12.90	14.50	9,521,881	246,694
Av. 1909–1913	34,152	182.5	*13,033*	12.5	777,148	22.76	12.78	13.55	13.17	14.14	8,839,604	221,914
1914	36,832	209.2	*16,155*	6.8	549,036	14.91	7.25	7.80	9.50	10.40	8,807,157	370,409
1915	31,412	170.3	*11,198*	11.3	631,460	20.10	11.95	12.75	12.30	13.35	6,168,140	465,602
1916	34,985	156.6	*11,450*	19.6	1,122,295	32.08	16.20	20.30	19.60	22.10	6,176,162	294,123
1917	33,841	159.7	*11,302*	27.7	1,566,198	46.28	29.85	31.85	25.70	30.10	4,641,023	206,651
1918	36,008	159.6	*12,041*	27.6	1,663,633	46.20	27.50	33.00	25.90	34.00	5,525,894	207,184
1919	33,566	161.5	*11,421*	35.6	2,034,658	60.62	38.00	40.25	40.00	43.00	7,087,487	690,628
1920	35,878	178.4	*13,440*	13.9	933,658	26.02	14.50	16.70	12.45	13.15	5,622,777	251,878
Av. 1914–1920	34,646	171.6	*12,426*	20.4	1,214,420	35.05	20.75	23.24	20.78	23.73	6,289,806	355,211
1921	30,509	124.5	*7,954*	16.2	643,933	21.11	17.50	19.45	18.95	21.80	6,717,757	358,330
1922	33,036	141.3	*9,762*	23.8	1,161,946	35.17	24.55	26.80	25.30	28.90	5,253,464	472,185
1923	37,123	130.6	*10,140*	31.0	1,571,815	42.34	34.35	37.65	30.05	32.85	5,898,713	292,047
1924[3]	40,115	156.8	13,153	22.6	1,487,225	37.07	23.15	24.90	-----	-----	----------	--------

Division of Crop and Livestock Estimates; figures in italics are census returns; acreage revised on census basis.

[1] Based on farm price Dec. 1. [2] Bales of 500 pounds gross weight. [3] Preliminary.

TABLE 299.—*Cotton: Acreage harvested, by States, 1915–1924*

[Thousand acres—i. e., 000 omitted]

State	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924[1]
Virginia	34	42	50	44	42	42	34	55	74	89
North Carolina	1,282	1,451	1,515	1,600	1,490	1,587	1,403	1,625	1,679	1,901
South Carolina	2,516	2,780	2,837	3,001	2,835	2,964	2,571	1,912	1,965	2,236
Georgia	4,825	5,277	5,195	5,341	5,220	4,900	4,172	3,418	3,421	3,183
Florida	193	191	183	167	103	100	65	118	147	81
Alabama	3,340	3,225	1,977	2,570	2,791	2,858	2,235	2,771	3,079	3,073
Mississippi	2,735	3,110	2,788	3,138	2,848	2,950	2,628	3,014	3,170	2,997
Louisiana	990	1,250	1,454	1,683	1,527	1,470	1,168	1,140	1,405	1,560
Texas	10,510	11,400	11,092	11,233	10,476	11,898	10,745	11,874	14,150	16,198
Arkansas	2,170	2,600	2,740	2,991	2,725	2,980	2,382	2,799	3,026	3,150
Tennessee	772	887	882	902	758	840	634	985	1,172	986
Missouri	96	133	153	148	125	136	103	198	355	410
Oklahoma	1,895	2,562	2,783	2,998	2,424	2,749	2,206	2,915	3,197	3,791
California[2]	39	52	136	173	185	275	140	202	233	270
Arizona	-----	-----	41	95	107	230	90	101	127	184
All other	15	25	15	12	10	24	18	44	73	146
United States	31,412	34,985	33,841	36,008	33,566	35,878	30,509	33,036	37,123	40,115

Division of Crop and Livestock Estimates.

[1] Preliminary.

[2] Lower California (140,000 acres in 1924, 150,000 acres in 1923, 135,000 in 1922, 85,000 in 1921, 125,000 in 1920, and 100,000 in 1919) included in California figures but excluded from United States totals.

TABLE 300.—*Cotton: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Virginia	190	212	330	250	240	244	265	225	310	180	270	255	230	248	230	230	325	161
North Carolina	210	227	315	267	239	252	290	260	215	194	268	266	275	253	264	250	290	192
South Carolina	210	216	280	209	235	230	255	215	160	208	250	240	260	227	140	123	187	160
Georgia	184	173	240	159	208	193	239	189	165	173	190	152	138	178	90	100	82	150
Florida	110	110	130	113	150	123	175	120	105	100	85	74	86	106	80	102	40	130
Alabama	142	160	204	172	190	174	209	146	79	125	149	122	111	134	124	142	91	154
Mississippi	157	182	172	173	204	178	195	167	125	155	187	160	145	162	148	157	91	172
Louisiana	130	120	170	193	170	157	165	165	170	210	167	93	126	157	114	144	125	147
Texas	125	145	186	206	150	162	184	147	157	135	115	140	174	150	98	130	147	141
Arkansas	153	175	190	190	205	183	196	180	209	170	158	155	195	180	160	173	98	167
Tennessee	158	207	257	169	210	200	200	188	206	130	175	195	185	183	228	190	92	160
Missouri	271	285	360	260	286	292	270	240	225	190	200	257	275	237	325	360	171	170
Oklahoma	147	200	160	183	132	164	212	162	154	165	92	195	230	173	104	103	98	183
California	.....	335	390	450	500	.....	500	380	400	242	270	268	266	332	258	188	285	261
Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	285	280	270	224	.....	242	222	292	260
New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	230	245
United States	154.3	170.7	207.7	190.9	182.0	181.1	209.2	170.3	156.6	159.7	159.6	161.5	178.4	170.8	124.5	141.3	130.6	156.8

Division of Crop and Livestock Estimates.

TABLE 301.—*Cotton: Production of lint (excluding linters) in 500-pound gross-weight bales, by States, year beginning August 1, 1915–1924*

[Thousand bales—i. e., 000 omitted]

State	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924[1]
Virginia	16	27	19	25	23	21	16	27	51	30
North Carolina	699	655	618	898	830	925	776	852	1,020	765
South Carolina	1,134	932	1,237	1,570	1,426	1,623	755	492	770	750
Georgia	1,909	1,821	1,884	2,122	1,660	1,415	787	715	588	1,000
Florida	48	41	38	29	16	18	11	25	12	22
Alabama	1,021	533	518	801	713	663	580	823	587	990
Mississippi	954	842	906	1,226	961	895	813	989	604	1,080
Louisiana	341	443	639	588	298	388	279	343	368	480
Texas	3,227	5,726	3,125	2,697	3,099	4,345	2,198	3,222	4,342	4,770
Arkansas	816	1,134	974	987	884	1,214	797	[2]1,018	628	1,100
Tennessee	303	382	241	330	310	325	302	391	228	330
Missouri	48	63	61	62	64	79	70	[2]143	121	146
Oklahoma	640	824	950	577	1,016	1,336	481	627	656	1,450
California	29	44	58	67	56	75	34	28	54	74
Arizona	.....	.....	22	56	60	103	45	47	78	100
All other	7	14	6	6	5	13	9	19	34	69
United States	11,192	11,450	11,302	12,041	11,421	13,440	7,954	9,762	10,140	13,153

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

[1] Preliminary estimate of the Department of Agriculture.
[2] Arkansas figure includes 6,000 net bales Missouri cotton estimated to have been ginned in Arkansas.

TABLE 302.—*Cotton (linters): Production, United States, 1899–1923*

Year beginning August	Production, in 500-lb. gross-weight bales	Year beginning August	Production, in 500-lb. gross-weight bales	Year beginning August	Production, in 500-lb. gross-weight bales
1899	114,544	1910	397,072	1918	929,516
1900	143,500	1911	557,575	1919	607,969
1901	166,026	1912	609,594	1920	440,313
1902	196,223	1913	638,881		
1903	194,486			Av. 1914–1920	888,896
1904	241,942	Av. 1909–1913	502,711		
1905	229,539			1921	397,752
1906	321,089	1914	856,900	1922	607,779
1907	268,282	1915	931,141	1923	668,609
1908	345,507	1916	1,330,714		
1909	310,433	1917	1,125,719		

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

TABLE 303.—*Cotton ginned to specified dates and throughout the season, United States, 1902–1924*

Season beginning September	Cotton ginned to—									Total[1] ginned
	Sept. 1	Sept. 25	Oct. 18	Nov. 1	Nov. 14	Dec. 1	Dec. 13	Jan. 1	Jan. 16	
	Bales	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*
1902			5,683,006				8,905,505			10,588,250
1903	17,802		3,706,248		6,815,162		8,526,244		9,485,537	9,819,969
1904	374,821		6,417,894		9,786,646		11,971,477		12,767,000	13,451,387
1905	476,655	2,355,716	4,990,566	6,457,595	7,501,180	8,689,663	9,297,819	9,725,426	9,989,634	10,495,105
1906	407,551	2,057,283	4,931,621	6,906,395	8,562,242	10,027,868	11,112,789	11,741,039	12,176,199	12,983,201
1907	200,278	1,532,602	4,420,258	6,128,562	7,300,685	8,343,396	9,284,070	9,951,505	10,339,551	11,057,822
1908	402,229	2,590,639	6,296,166	8,191,557	9,595,809	11,008,661	11,904,269	12,465,298	12,666,208	13,086,005
1909	388,242	2,568,150	5,530,967	7,017,849	8,112,199	8,876,886	9,358,085	9,647,327	9,787,592	10,072,731
1910	353,011	2,312,074	5,423,628	7,345,953	8,780,433	10,139,712	10,695,443	11,084,515	11,253,147	11,568,334
1911	771,297	3,676,594	7,758,621	9,970,905	11,313,236	12,816,807	13,770,727	14,317,002	14,515,799	15,553,073
1912	730,884	3,007,271	6,874,206	8,869,222	10,299,646	11,854,541	12,439,036	12,907,405	13,088,930	13,488,539
1913	799,099	3,246,655	6,973,518	8,830,396	10,444,529	12,088,412	12,927,428	13,347,721	13,582,036	13,982,811
Average 1909–1913	608,507	2,962,149	6,512,188	8,406,865	9,790,529	11,155,272	11,838,144	12,260,794	12,445,501	12,933,098
1914	480,317	3,393,752	7,619,747	9,826,912	11,668,240	13,073,386	13,972,229	14,443,146	14,915,850	15,905,840
1915	463,883	2,903,829	5,708,730	7,378,886	8,771,275	9,703,612	10,306,309	10,636,778	10,751,990	11,068,173
1916	850,668	4,081,989	7,303,183	8,623,993	9,615,003	10,352,031	10,838,799	11,039,491	11,137,712	11,363,915
1917	614,787	2,511,658	5,573,606	7,185,178	8,571,115	9,713,529	10,131,594	10,434,852	10,570,733	11,248,242
1918	1,038,078	3,770,611	6,811,351	7,777,159	8,706,420	9,571,414	10,281,139	10,773,863	11,048,652	11,906,480
1919	142,625	1,835,214	4,929,104	6,305,054	7,604,320	8,844,368	9,396,646	10,008,920	10,307,120	11,325,532
1920	351,589	2,249,606	5,754,582	7,508,633	8,914,642	10,141,293	10,876,263	11,554,648	12,014,742	13,270,970
Average 1914–1920	563,135	2,963,808	6,242,000	7,800,816	9,121,574	10,199,948	10,828,997	11,270,243	11,535,257	12,298,450
1921	485,787	2,920,392	5,497,364	6,646,354	7,274,201	7,639,961	7,790,656	7,882,336	7,912,452	7,977,778
1922	806,189	3,866,396	6,978,321	8,139,215	8,869,978	9,319,601	9,488,852	9,597,330	9,648,261	9,729,306
1923	1,142,660	3,231,555	6,409,391	7,556,042	8,369,498	9,243,380	9,549,015	9,804,992	9,944,032	10,170,604
1924[2]	[3] 946,890	(3)	7,615,761	9,719,332	11,163,401	12,237,970	12,796,216		13,308,037	13,630,608

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census; quantities are given in running bales, except that round bales are counted as half bales. Linters not included.

[1] Includes cotton ginned after Jan. 16 and estimated quantities not ginned on Mar. 1. Quantities in Table 298 converted from running bales, average weight, by deducting average weight of bagging and ties, by States.

[2] Preliminary.

[3] To Aug. 1, 21,924 bales; to Aug. 16, 148,645 bales; to Sept. 16, 2,666,501 bales; to Oct. 1, 4,527,671 bales.

TABLE 304.—*Cotton: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant disease	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic[1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	14.9	6.0	1.1	1.0	0.6	3.0	1.4	28.6	4.2	7.9	[2]	0.1	1.2	42.0
1910	12.2	5.1	.9	2.1	.3	1.6	.1	22.6	4.3	7.5	[2]	.3	.9	35.6
1911	9.8	2.6	[2]	.3	.1	1.6	.3	15.4	.5	7.9	[2]	.2	2.1	26.1
1912	8.1	7.6	1.2	1.0	.6	1.2	.2	20.7	4.3	6.5	.1	.3	.8	32.7
1913	15.2	2.0	.8	1.1	.4	2.4	.5	23.1	.5	8.9	[2]	.4	.8	33.7
1914	7.9	2.9	.5	.9	.4	.6	.1	13.8	.2	9.8	[2]	.2	1.4	25.4
1915	6.8	5.7	1.9	.6	.7	1.1	2.0	19.4	1.9	12.2	[2]	.1	3.2	36.8
1916	9.2	9.1	3.1	.5	.7	.6	2.0	25.2	.9	15.8	[2]	.1	.4	42.4
1917	15.1	1.7	.5	6.0	1.0	.7	.2	25.5	1.3	12.3	[2]	.1	.7	39.9
1918	23.8	.9	.3	.6	.1	2.8	.3	29.2	2.0	8.0	[2]	.1	1.0	40.3
1919	2.7	15.3	1.6	.3	.2	.4	.5	21.2	1.3	18.8	[2]	.2	.4	41.9
1920	2.2	8.8	.8	.8	.2	.1	.2	13.1	1.1	24.0	.2	.2	.4	39.0
1921	8.6	4.3	.7	.4	.2	.6	1.2	16.0	1.0	35.4	------	.1	------	52.9
1922	10.2	4.9	.8	.1	.3	1.0	.1	17.5	.8	26.7	[2]	.1	.1	45.2
1923	7.2	8.0	.9	.3	.6	.9	.1	18.0	.7	26.6	------	.1	.1	45.5

Division of Crop and Livestock Estimates.

[1] Includes all other climatic.

[2] Less than 0.05 per cent.

TABLE 305.—*Cotton: Percentage reduction from full yield per acre, due to boll weevil, as reported by crop reporters, 1910–1923*

State	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
North Carolina	------	------	------	------	------	------	------	------	------	------	------	3.58	12.27	12.97
South Carolina	------	------	------	------	------	0.02	0.02	0.01	0.07	3.00	13.26	31.48	40.48	26.95
Georgia	------	------	------	0.10	------	.28	3.44	9.06	10.73	19.36	30.56	45.12	44.28	36.62
Florida	------	------	0.30	11.80	------	13.14	20.98	27.07	23.85	40.46	32.10	27.62	32.50	32.53
Tennessee	------	------	------	.10	0.08	.04	1.23	1.74	.37	.17	.57	7.21	8.84	20.75
Alabama	0.05	0.20	1.50	4.80	6.02	16.16	27.91	28.88	12.14	28.77	36.03	32.39	25.51	32.52
Mississippi	14.66	5.10	18.00	33.90	24.14	24.68	31.73	22.22	10.41	19.56	32.25	30.38	27.65	30.82
Louisiana	40.30	11.40	13.70	25.10	17.66	19.85	24.31	11.89	9.79	24.84	25.99	34.80	24.61	23.25
Texas	6.52	.90	2.80	6.80	7.86	16.28	18.53	7.26	4.43	13.94	19.90	33.66	16.25	9.96
Oklahoma	1.27	.20	.50	.40	.79	2.70	3.70	4.35	1.30	1.48	8.81	41.36	25.69	19.33
Arkansas	7.23	2.00	2.40	2.80	2.93	4.60	7.49	8.96	3.14	4.79	9.41	21.84	18.15	15.87
U. S. average[1]	5.30	1.28	3.26	6.69	5.91	9.93	13.36	9.34	5.83	13.20	19.95	30.98	24.17	19.50

Division of Crop and Livestock Estimates.

[1] Average is weighted and includes cotton States in which there was no damage by boll weevil.

TABLE 306.—*Cotton: Acreage and yield per acre in specified countries, average 1909–10, to 1913–14, annual 1921–22 to 1924–25*

Country	Year beginning about Aug. 1									
	Acreage					Average yield per acre				
	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	1924–25
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
United States	34,152	30,509	33,036	37,123	[1] 40,115	182	125	141	131	157
India	22,503	18,451	21,792	23,088	[2] 24,707	76	97	93	88	.....
Egypt	1,743	1,341	1,868	1,649	1,856	398	315	299	352	317
China [3]	.....	4,284	3,947	.....	.....	.....	.....	.....	.....	.....
Brazil	[4] 504	1,420	1,512	1,966	.....	.....	170	175	175	.....
Russia (Asiatic)	1,490	296	174	557	[5] 1,196	306	74	70	.....	.....
Mexico	[6] 245	230	242	[5] 279	[5] 511	.....	.....	.....	.....	.....
Chosen (Korea)	[6] 146	362	370	378	408	57	122	133	140	.....
Uganda	58	170	334	419	[5] 578	169	88	111	107	.....
Peru	[7] 163	283	291	[5] 320	[5] 352	.....	.....	.....	.....	.....
Anglo-Egyptian Sudan	44	84	62	101	.....	136	112	181	192	.....
Argentina	6	39	56	155	[5] 225	243	200	230	227	.....
Total countries reporting 1909–1923	61,054	53,185	59,737	66,035	.....	.....	.....	.....	.....	.....
Estimated world total	67,300	58,400	64,600	71,000	76,000	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture except as otherwise stated. Data for crop year as given at the head of the table are for crops harvested between about Aug. 1 and July 31 of the following year. This applies to both Northern and Southern Hemispheres. For the United States prior to 1914 the figures apply to the year beginning Sept. 1.

[1] Estimate of area planted; for other years area harvested.
[2] Third estimate. In the past 12 years the third estimate has averaged 95 per cent of the final estimate.
[3] Chinese Economic Bulletin quoting the Chinese Cotton Mill Owners' Association which represents the most important cotton growing area where the commercial crop is grown.
[4] For the year 1915–16.
[5] From an unofficial source.
[6] Average for four years.
[7] Average for 1914–15 to 1918–19.

TABLE 307.—*Cotton production in specified countries, average 1909–10 to 1913–14, annual 1918–19 to 1924–25*

[Bales of 478 pounds net]

Country	Year beginning about Aug. 1							
	Average 1909–10 to 1913–14	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24	1924–25 preliminary

TABLE 307.—*Cotton production in specified countries, average 1909–10, to 1918–14, annual 1918–19 to 1924–25*—Continued

Country	Year beginning about Aug. 1							
	Average 1909–10 to 1913–14	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24	1924–25 preliminary
NORTHERN HEMISPHERE—Contd.								
CENTRAL AND SOUTH AMERICA AND WEST INDIES	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*
Venezuela	10,000							
Guatemala	[4] 144				215	194	125	
Haiti	[5] 8,910	7,303	[6] 15,229	[6] 9,132	[6] 21,553	[6] 16,000		
Dominican Republic [6]	[5] 1,066	239	411	150	405	374	448	
Porto Rico	[4] 1,319	368	2,201	1,400	920	1,046		
San Salvador								[2] 20,000
British West Indies								
Montserrat	657	917	1,147	826	768	837	1,004	
St. Kitts-Nevis	1,347	1,186	1,158	1,615	732	879	523	
Grenada	703	644	785	688	534	691		
St. Vincent	1,026	988	1,161	1,363	523	1,213	[2] 1,200	[2] 1,300
Barbadoes	1,061	238	211	185	419	832	[2] 837	
Total Central and South American countries and West Indies reporting 1909–1923	5,157	3,568	4,088	4,130	2,847	4,135	4,012	
EUROPE								
Italy	5,212					4,603	5,000	
Yugoslavia	922			1,037	798	858	669	
Greece	[4] 12,614	8,603	10,224	6,840	5,986	[2] 9,868	[2] 13,250	[2] 10,800
Bulgaria	1,073	1,163	993	1,212	1,840	3,600	1,799	2,448
Malta	433	263	287	238	485	167	98	
Spain						694	1,088	
Total European countries reporting 1909–1923	14,120	10,029	11,504	8,290	8,311	13,635	15,147	
NORTH AFRICA								
Algeria	[6] 1,370		371	1,107	293	397	795	1,736
Dahomey	664	[6] 1,621	616	[6] 668	[6] 1,946	[6] 1,273		
French Guinea [6]	[4] 230	3	46	177	114	172		
Ivory Coast [6]	[4] 28	2,002	1,551	951	94	109		
French Sudan [6]	[7] 235				143	647		
French Togo	[6] [7] 2,312	719	5,050	4,552	4,603	4,612		
Italian Somaliland	[6] 510	[6] 415			95	1,192	1,757	
Eritrea	[6] 1,022	[6] 319	[6] 395		179	690	1,381	
Egypt	1,453,000	999,000	1,155,000	1,251,000	902,000	[8] 1,170,000	1,213,000	1,322,000
Anglo-Egyptian Sudan	12,552	10,469	18,525	23,506	19,707	23,452	40,607	45,307
Gold Coast	104	84	[6] 53	[6] 40	[6] 12	77	[2] 837	
Kenya	519	167	83	83	418	[4] 60	[2] 1,004	
Nigeria	9,050	5,104	15,264	26,360	13,578	16,388		
Uganda	20,338	30,569	30,568	68,071	31,381	77,678	94,142	
Total African countries reporting 1909–1923	1,486,513	1,040,289	1,204,229	1,342,700	953,518	1,271,667	1,349,590	
ASIA								
Cyprus	1,938	1,135	1,097	2,024	1,444	1,276	1,674	
Turkey, Asiatic	133,000				[2] 30,000	[2] 50,000	[2] 60,000	
India [9]	3,585,000	3,328,000	4,853,000	3,013,000	3,753,000	4,247,000	4,247,000	5,069,000

[1] From an unofficial source.
[2] For one year.
[3] Average for three years.
[4] Exports.
[5] Average for four years.
[6] The official estimate is 1,015,000 bales, but receipts into Alexandria and exports indicate a larger crop.
[7] The commercial crop of India, according to figures compiled by the United States Department of Commerce, was 3,448,000 bales in 1921–22, 4,048,000 bales in 1922–23, and 3,811,000 bales in 1923–24.

TABLE 307.—*Cotton production in specified countries, average 1909–10, to 1913–14, annual 1918–19 to 1924–25*—Continued

Country	Year beginning about Aug. 1.							
	Average 1909–10 to 1913–14	1918–19	1919–20	1920–21	1921–22	1822–23	1923–24	1924–25 preliminary
NORTHERN HEMISPHERE—Contd.								
ASIA—continued	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*
Ceylon	[4] 17	2	2	8	157	189	189	
Iraq				96	241	830	3,138	
Russia, Asiatic	953,000	161,000	81,000	58,000	43,000	55,000	[2] 321,000	438,000
Persia	136,000	[6] 89,000	94,000	105,000				
China [10]	3,473,000	3,053,000	2,599,000	1,883,000	1,517,000	2,318,000	1,785,000	1,952,000
Japanese Empire:								
Japan	4,704	3,926	3,976	4,784	3,447	2,928		
Chosen (Korea)	[7] 17,387	68,534	88,469	100,672	92,448	103,347	111,088	119,602
French Indo-China [6]	14,337	8,379	12,598	14,921	11,665	11,088		
Siam	[6] 3,653	[6] 1,121	[6] 1,778	[6] 372	3,648	4,965		
North Borneo [6]	125	59	121	232	112	222	195	
Total Asiatic countries reporting 1909–1923	8,030,467	6,611,730	7,622,689	5,056,936	5,407,161	6,725,034	6,466,146	
Total Northern Hemisphere countries reporting 1909–1923	22,762,492	19,909,148	20,462,273	20,039,668	14,472,780	17,954,783	18,112,566	
SOUTHERN HEMISPHERE								
Peru	110,000	141,533	154,774	163,732	182,410	187,032	197,000	
Ecuador					[3] 3,606	[3] 4,311	[3] 11,080	[3] 17,400
Brazil	[2] 322,000	338,743	505,820	369,841	505,000	552,857	719,000	
Paraguay		460	460	1,200	2,610	[3] 5,803	16,260	[2] 28,000
Argentina	[5] 3,045	16,297	16,450	24,650	17,282	26,892	73,703	
Belgian Congo		2,075	3,459	4,151	4,520	4,603	[3] 6,800	
Tanganyika Territory	[7] 7,971	3,462	3,410	2,402	6,132	6,004	8,400	
Nyasaland	4,536	2,107	1,651	2,900	3,285	4,601	2,322	
Union of South Africa	76	1,599	2,290	2,245	1,778	3,138	[3] 5,021	
Angola	510	1,058	904	2,349	2,067			
Mozambique	[6] 766	991	954	997	1,041	2,200	6,248	
Dutch East Indies	13,981	9,642	10,769	14,046	12,333			
New Hebrides	[4] [6] 303	[6] 2,219	[6] 2,282	1,796	3,124	2,812	1,828	
Australia	91	71	19	656	2,720	7,531	8,787	
Total Southern Hemisphere countries reporting 1909–1923	448,788	507,022	687,650	569,219	722,772	793,067	1,022,309	
Total all countries reporting 1909–1923	23,211,280	20,416,170	21,149,923	20,608,887	15,195,552	18,747,850	19,134,875	
Estimated World total	23,580,000	20,613,000	21,384,000	20,875,000	15,330,000	18,900,000	19,300,000	

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture except as otherwise stated. Data for crop year as given at the head of the table, are for crops harvested between about August 1 and July 31 of the following year. This applies to both Northern and Southern Hemispheres. For the United States prior to 1914 the figures apply to the year beginning September 1.

[2] From an unofficial source.
[4] For one year.
[5] Average for five years.
[6] Exports.
[7] Average for four years.
[10] Chinese Economic Bulletin quoting the Chinese Cotton Mill Owner's Association, which represents the most important cotton producing provinces where the commercial crop is grown. Cotton grown in other provinces is used for home hand-loom consumption. Various estimates made from time to time of the total production of China range from 2,000,000 to 7,000,000 bales, but are considered unreliable. The commercial crop for China, according to figures compiled by the United States Department of Commerce, was 1,175,000 bales for 1921–22, 1,300,000 bales for 1922–23, and 1,450,000 bales for 1923–24.

TABLE 308.—*Cotton: World production, 1900–1924*

Year beginning about Aug. 1—	Production in countries reporting all years 1900–1923	Production as far as reported	Estimated world totals	Three principal producing countries		
				United States	India	Egypt
	Bales	*Bales*	*Bales*	*Bales*	*Bales*	*Bales*
1900	14, 666, 823	14, 809, 578	15, 931, 000	10, 123, 027	2, 471, 000	1, 126, 000
1901	14, 019, 482	14, 226, 730	15, 292, 000	9, 509, 745	2, 297, 000	1, 320, 000
1902	15, 478, 087	16, 823, 334	16, 948, 000	10, 630, 945	2, 818, 000	1, 210, 000
1903	14, 768, 468	16, 185, 114	16, 253, 000	9, 851, 129	2, 645, 000	1, 349, 000
1904	19, 001, 958	20, 007, 125	20, 079, 000	13, 438, 012	3, 172, 000	1, 308, 000
1905	15, 807, 112	16, 856, 569	16, 925, 000	10, 575, 017	2, 859, 000	1, 235, 000
1906	20, 159, 539	21, 259, 290	21, 357, 000	13, 273, 809	4, 129, 000	1, 440, 000
1907	16, 166, 459	17, 357, 753	17, 458, 000	11, 107, 179	2, 613, 000	1, 499, 000
1908	18, 908, 812	21, 144, 006	21, 267, 000	13, 241, 799	3, 090, 000	1, 399, 000
1909	16, 304, 695	19, 289, 657	19, 329, 000	10, 004, 949	3, 998, 000	1, 036, 000
1910	17, 943, 268	21, 873, 607	21, 915, 000	11, 608, 616	3, 254, 000	1, 555, 000
1911	21, 400, 223	25, 322, 333	25, 356, 000	15, 692, 701	2, 730, 000	1, 530, 000
1912	20, 512, 458	24, 994, 921	25, 043, 000	13, 703, 421	3, 702, 000	1, 554, 000
1913	21, 626, 719	26, 214, 631	26, 259, 000	14, 156, 486	4, 239, 000	1, 588, 000
1914	23, 624, 294	28, 556, 341	28, 687, 000	16, 134, 930	4, 359, 000	1, 337, 000
1915	17, 219, 729	17, 605, 635	20, 689, 000	11, 191, 820	3, 128, 000	989, 000
1916	17, 865, 864	19, 768, 309	19, 845, 000	11, 449, 930	3, 759, 000	1, 048, 000
1917	17, 141, 010	19, 598, 564	19, 675, 000	11, 302, 375	3, 393, 000	1, 304, 000
1918	17, 099, 602	20, 550, 419	20, 613, 000	12, 040, 532	3, 328, 000	999, 000
1919	18, 251, 935	21, 319, 376	21, 384, 000	11, 420, 763	4, 853, 000	1, 155, 000
1920	18, 371, 074	20, 801, 878	20, 875, 000	13, 439, 603	3, 013, 000	1, 251, 000
1921	13, 344, 701	15, 314, 754	15, 330, 000	7, 953, 641	3, 753, 000	902, 000
1922	16, 020, 556	18, 881, 044	18, 900, 000	9, 762, 069	4, 247, 000	1, 170, 000
1923	16, 884, 359	19, 062, 239	19, 300, 000	10, 128, 478	4, 247, 000	1, 213, 000
1924				13, 153, 000	5, 069, 000	1, 322, 000

Division of Statistical and Historical Research. Bales of 478 pounds net. Data for crop year as given are for crops harvested between about Aug. 1 and July 31 of the following year. This applies to both Northern and Southern Hemispheres. For the United States prior to 1914 the figures apply to the year beginning Sept. 1.

TABLE 309.—*Cotton: Estimated monthly marketings by farmers, 1912–1923*

Year beginning August	Percentage of year's sales [1]												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Season
1912	.....	17. 2	25. 8	20. 3	12. 8	8. 0	5. 2	4. 5	2. 6	1. 5	1. 1	[2] 1. 0	100
1913	.....	18. 2	24. 4	19. 7	13. 3	8. 3	5. 3	4. 4	2. 7	1. 5	1. 2	[3] 1. 0	100
1914	1. 2	6. 8	14. 8	18. 0	16. 1	11. 0	8. 3	7. 7	6. 1	2. 5	[3] 7. 5	.....	100
1915	2. 7	11. 3	19. 3	20. 4	16. 4	8. 4	5. 4	5. 2	3. 9	3. 6	[3] 3. 4	.....	100
1916	3. 9	14. 6	23. 0	21. 6	15. 0	6. 4	4. 0	3. 9	3. 0	2. 5	1. 6	.5	100
1917	2. 5	11. 3	23. 0	22. 7	16. 2	8. 2	5. 8	4. 5	2. 6	1. 3	1. 0	.9	100
1918	3. 3	10. 9	18. 1	16. 4	13. 6	5. 4	4. 4	4. 6	4. 6	7. 5	6. 8	4. 4	100
1919	1. 4	9. 5	21. 0	22. 2	17. 4	8. 8	5. 6	4. 9	3. 2	2. 7	1. 7	1. 6	100
1920	3. 1	10. 0	16. 2	15. 7	11. 0	6. 4	5. 6	6. 0	6. 7	6. 9	6. 8	5. 6	100
1921	3. 6	14. 0	22. 3	17. 1	12. 1	5. 9	4. 3	4. 6	4. 6	5. 9	3. 0	2. 6	100
1922	5. 2	16. 8	25. 3	19. 8	12. 8	5. 9	4. 4	3. 7	2. 0	1. 0	1. 5	1. 6	100
1923	4. 1	16. 3	24. 6	24. 9	13. 3	5. 8	3. 1	2. 4	1. 7	1. 3	.9	1. 6	100
Average	2. 6	13. 1	21. 5	19. 9	14. 2	7. 4	5. 1	4. 7	3. 6	3. 2	3. 0	1. 7	100

Division of Crop and Livestock Estimates.

[1] As reported by about 7,500 cotton growers, supplemented by records of State weighers, cooperative associations, and cotton dealers.
[2] Includes August.
[3] Includes July.

TABLE 310.—*Cotton: International trade, calendar years 1909–1923*

[Thousand bales—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Brazil	1	83	(1)	90	(1)	157		88
British India	60	1,966	130	2,240	73	2,447	71	2,955
Egypt	(1)	1,442	(1)	993	(1)	1,343	(1)	1,549
Persia	(1)	109	1	8				
Peru	(1)	87		168		184		196
United States	215	9,008	291	6,678	390	6,307	392	5,486
PRINCIPAL IMPORTING COUNTRIES								
Austria			116	[2] 1	128	17	122	18
Austria-Hungary	906	12						
Belgium	496	159	428	227	283	64	308	58
Canada	137		182		232	(1)	235	
China	43	240	469	170	497	235	450	272
Czechoslovakia			423	8	321	3	368	16
France	1,435	316	976	100	1,213	112	1,206	125
Germany	2,258	232	1,533	[2] 76	1,314	160	998	133
Hungary			[2] 4		10	(1)	14	1
Italy	896	(1)	728	3	820	2	855	3
Japan	1,405		2,420		[3] 824		[3] 1,168	
Netherlands	277	145	120	2	117	2	115	3
Norway	18		7		11		12	
Poland			[2] 158		205	(1)	240	4
Russia	886	(1)	[2] 2		[3] 1			
Spain	382	1	380	4	382	1	385	2
Sweden	93	1	59	1	84	(1)	87	
Switzerland	113		114		99		121	
United Kingdom	4,164		2,137		2,823		2,487	
Other countries	220	155	223	269	194	233	78	65
Total	14,005	13,956	10,901	11,038	10,081	11,267	9,712	10,974

Division of Statistical and Historical Research. Official sources except where otherwise noted. Bales of 500 pounds gross weight, or 478 pounds net. The figures for cotton refer to ginned and unginned cotton and linters, but not to mill waste, cotton batting, scarto (Egyptian and Soudan). Wherever unginned cotton has been separately stated in the original reports, it has been reduced to ginned cotton in this statement at the ratio of 3 pounds unginned to 1 pound ginned.

[1] Less than 500 bales.
[2] International Institute of Agriculture.
[3] Eight months, May–December.

TABLE 311.—*Cotton: Farm price per pound, 15th of month, United States, 1909–1924*

Year beginning August	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	11.5	12.2	13.2	13.8	14.2	14.3	14.0	14.0	14.0	14.1	14.0	14.1	13.6
1910	14.4	13.8	13.6	14.0	14.2	14.4	14.1	13.9	14.0	14.4	14.5	13.8	14.0
1911	12.5	11.0	9.6	8.8	8.6	8.7	9.4	10.0	10.5	11.0	11.1	11.6	9.7
1912	11.6	11.2	11.0	11.4	12.0	12.0	11.8	11.8	11.7	11.6	11.6	11.6	11.5
1913	11.6	12.6	13.2	12.6	12.0	11.8	12.2	12.2	12.0	12.3	12.4	12.4	12.5
Av. 1909–1913	12.3	12.2	12.1	12.1	12.2	12.2	12.3	12.4	12.4	12.7	12.7	12.7	12.3
1914	10.6	8.2	7.0	6.6	6.7	7.0	7.4	7.8	8.6	8.8	8.6	8.4	7.4
1915	8.3	9.8	11.4	11.4	11.4	11.4	11.3	11.3	11.5	11.8	12.4	12.6	11.2
1916	13.6	15.0	16.8	18.8	18.4	17.0	16.4	17.0	18.4	19.6	22.4	24.5	17.7
1917	23.8	23.4	25.3	27.5	28.3	29.3	30.0	31.0	30.2	28.0	28.0	28.2	27.2
1918	30.0	32.0	30.6	28.4	28.2	26.8	24.4	24.2	25.2	27.8	30.3	31.8	28.8
1919	31.4	30.8	33.9	36.0	35.8	36.0	36.2	36.8	37.5	37.4	37.3	37.1	35.0
1920	34.0	28.3	22.4	16.6	12.7	11.6	11.0	9.8	9.4	9.6	9.7	9.7	17.2
Av. 1914–1920	21.7	21.1	21.1	20.8	20.2	19.9	19.5	19.7	20.1	20.4	21.2	21.8	20.6
1921	11.2	16.2	18.8	17.0	16.2	15.9	15.7	16.0	16.0	17.3	19.6	20.6	16.9
1922	20.9	20.6	21.2	23.1	24.2	25.2	26.8	28.0	27.6	26.2	25.9	24.8	23.5
1923	23.8	25.6	28.0	29.9	32.1	32.5	31.4	27.7	28.7	28.1	27.8	27.3	29.0
1924	27.8	22.2	23.1	22.5	22.0								

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 314.—*Cotton, middling: Average spot price per pound at nine markets, 1914–1924*—Continued

LITTLE ROCK

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1914							7.67	8.15	9.04	9.07	8.89	8.58	
1915	8.61	10.08	12.32	11.68	12.15	12.28	11.94	11.88	12.25	12.80	12.96	13.07	11.84
1916	14.27	15.26	17.33	19.58	18.80	17.70	16.81	17.89	19.71	19.99	23.90	25.42	18.89
1917	25.49	22.14	26.72	28.26	29.55	31.02	30.06	32.53	33.32	30.00	29.28	29.35	29.05
1918	30.73	33.99	31.70	30.11	29.37	28.20	26.45	26.83	26.40	28.33	31.34	33.55	29.75
1919	31.73	30.31	35.32	40.08	39.94	39.98	39.10	40.19	42.57	41.45	40.31	39.60	38.38
1920	34.89	28.28	21.38	18.23	14.96	14.45	13.35	11.49	10.63	11.35	10.68	10.58	16.69
1921	11.81	19.60	19.75	18.12	17.84	17.57	16.90	16.89	16.87	18.90	21.17	22.07	18.12
1922	21.47	20.76	21.80	25.22	25.53	27.15	28.46	30.02	28.24	26.41	27.88	26.39	25.78
1923	24.20	27.64	29.10	33.55	34.41	33.94	31.76	28.70	30.15	30.20	29.50	29.48	30.22
1924	27.11	22.55	23.24	23.33	23.34								

DALLAS

1914							7.87	8.25	9.15	8.71	8.57	8.25	
1915	8.56	10.17	11.72	11.13	11.73	11.84	11.37	11.63	11.78	12.47	12.72	13.04	11.51
1916	14.14	14.83	16.81	19.18	17.63	17.17	15.75	17.77	19.09	19.58	24.17	25.04	18.43
1917	24.86	21.88	26.16	27.46	28.53	30.74	30.71	32.56	31.32	28.85	29.76	28.79	28.47
1918	31.09	33.34	30.89	28.78	29.33	27.72	25.84	25.68	27.02	29.75	32.10	34.16	29.64
1919	31.05	30.60	36.65	40.58	41.11	42.08	41.26	42.79	42.78	40.60	39.64	38.30	38.95
1920	32.74	26.40	20.69	17.08	13.70	13.63	12.16	10.64	10.53	11.20	10.23	10.50	15.79
1921	12.11	19.25	19.17	17.10	17.12	16.75	16.44	16.93	16.70	19.08	21.37	22.05	17.84
1922	21.19	20.14	21.67	24.75	24.79	26.08	27.86	29.88	27.79	25.87	27.72	25.34	25.31
1923	23.49	27.05	28.51	32.92	33.94	33.25	31.14	27.89	29.84	29.88	28.84	29.20	29.66
1924	27.33	22.11	22.73	22.95	22.74								

HOUSTON

1914							8.33	8.80	9.82	9.21	9.06	8.68	
1915	9.04	10.56	12.11	11.62	12.27	12.36	11.82	12.09	12.27	12.99	13.26	13.60	12.00
1916	14.79	15.39	17.42	19.80	18.10	17.64	16.05	18.18	19.43	20.13	24.60	25.54	18.92
1917	25.67	22.62	26.62	27.87	28.77	31.25	30.91	32.94	31.80	28.06	30.91	28.75	28.85
1918	31.26	33.70	32.05	30.01	30.26	28.56	27.00	26.43	27.33	30.18	32.04	34.24	30.26
1919	31.65	31.36	36.88	40.79	40.74	41.72	39.95	41.58	42.33	40.67	39.54	38.10	38.78
1920	32.94	27.33	20.98	17.56	14.16	13.95	12.62	10.95	10.89	11.85	11.02	11.69	16.53
1921	13.06	20.02	19.64	17.65	17.73	17.20	17.05	17.51	17.24	19.67	22.18	22.51	18.46
1922	21.59	20.69	22.20	25.33	25.45	27.51	28.71	30.54	28.59	26.65	28.42	25.62	25.94
1923	24.23	27.78	29.00	33.46	34.63	33.85	31.79	28.60	30.55	30.61	29.55	29.29	30.28
1924	27.69	23.03	23.53	23.92	23.55								

GALVESTON

1915	9.15	10.59	12.20	11.66	12.30	12.39	11.89	12.14	12.30	12.98	13.36	13.71	12.06
1916	14.77	15.48	17.48	19.82	18.43	17.79	16.30	18.31	19.63	20.18	24.58	25.99	19.06
1917	25.70	22.66	26.82	28.07	29.11	31.28	31.10	33.06	32.23	28.40	30.89	29.37	29.06
1918	31.56	34.19	32.25	30.30	30.64	29.45	28.26	26.94	27.63	30.59	32.87	34.62	30.78
1919	31.87	31.58	37.10	41.32	41.87	42.53	41.09	42.56	42.99	41.64	39.83	38.59	39.41
1920	33.78	28.15	21.98	18.10	15.00	14.38	12.99	11.76	11.47	12.01	11.27	11.80	16.89
1921	13.33	20.33	20.05	17.99	17.92	17.32	17.10	17.58	17.40	19.75	22.23	22.67	18.64
1922	21.79	20.77	22.28	25.37	25.48	27.54	28.81	30.52	28.63	26.75	28.57	25.87	26.03
1923	24.44	27.80	29.11	33.62	34.70	33.95	31.92	28.85	30.91	30.82	29.74	29.94	30.48
1924	28.01	23.12	23.56	23.92	23.59								

Division of Statistical and Historical Research. Compiled from reports of the Cotton Division, average of daily closing quotations.

TABLE 315.—*Cotton, middling: Monthly average spot price per pound, New York, 1889–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1889	11.39	11.32	10.61	10.26	10.25	10.62	11.21	11.41	11.69	12.17	12.17	12.16	11.27
1890	11.85	10.58	10.26	9.58	9.34	9.37	9.13	8.98	8.93	8.91	8.55	8.23	9.48
1891	8.05	8.60	8.53	8.16	7.97	7.54	7.21	6.86	7.05	7.33	7.55	7.32	7.68
1892	7.24	7.31	8.11	9.20	9.77	9.66	9.25	9.00	8.13	7.76	7.93	8.07	8.48
1893	7.59	8.17	8.33	8.17	7.91	8.07	7.89	7.58	7.60	7.25	7.32	7.12	7.75
1894	6.93	6.75	6.02	5.75	5.74	5.71	5.62	6.07	6.71	7.00	7.18	7.06	6.38
1895	7.58	8.39	9.01	8.65	8.41	8.26	8.04	7.80	7.98	8.23	7.63	7.28	8.10
1896	8.10	8.56	8.02	7.89	7.31	7.26	7.20	7.30	7.45	7.73	7.75	7.94	7.71
1897	8.01	7.13	6.30	5.88	5.89	5.92	6.17	6.18	6.28	6.42	6.47	6.15	6.40
1898	5.93	5.63	5.41	5.39	5.77	6.14	6.50	6.40	6.20	6.22	6.21	6.17	6.00
1899	6.25	6.48	7.30	7.61	7.66	7.78	8.75	9.75	9.78	9.65	9.22	10.06	8.36
1900	9.85	10.57	10.18	9.89	10.10	10.32	9.52	8.62	8.35	8.15	8.50	8.47	9.38
1901	8.18	8.40	8.35	7.95	8.45	8.28	8.64	9.06	9.37	9.55	9.38	9.22	8.73
1902	8.97	8.96	8.77	8.45	8.64	8.95	9.65	10.08	10.44	11.46	12.40	12.74	9.96
1903	12.75	11.99	9.94	11.22	12.83	14.42	14.87	15.58	14.36	13.50	11.65	10.92	12.84
1904	10.82	11.02	10.26	10.00	7.90	7.17	7.75	8.03	7.91	8.26	9.05	10.96	9.09
1905	10.89	10.85	10.35	11.45	12.13	11.87	11.13	11.35	11.72	11.87	11.06	10.89	11.30
1906	10.31	9.77	10.93	10.77	10.71	10.86	11.04	11.20	11.12	12.04	13.02	13.11	11.24
1907	13.33	12.57	11.50	11.03	11.89	11.73	11.53	11.01	10.17	10.93	11.63	11.01	11.53
1908	10.29	9.39	9.26	9.40	9.23	9.67	9.82	9.77	10.49	11.31	11.51	12.65	10.23
1909	12.75	13.00	13.99	14.77	15.25	14.87	14.84	15.05	15.10	15.45	15.10	15.74	14.66
1910	16.27	13.96	14.48	14.77	15.07	14.90	14.30	14.51	14.87	15.80	15.48	13.99	14.87
1911	12.53	11.31	9.63	9.43	9.37	9.55	10.34	10.63	11.57	11.62	11.65	12.57	10.85
1912	12.04	11.73	11.12	12.36	13.01	13.07	12.80	12.61	12.29	11.98	12.25	12.26	12.29
1913	12.14	13.44	14.08	13.68	13.04	12.72	12.83	13.27	13.23	13.44	13.47	13.17	13.21
Average 1909–1913	13.15	12.69	12.66	13.00	13.15	13.02	13.02	13.21	13.41	13.66	13.59	13.55	13.18
1914	(1)	(1)	(1)	[2] 7.67	7.53	8.28	8.54	9.01	10.25	9.81	9.68	9.22	.....
1915	9.41	10.83	12.37	11.89	12.33	12.33	11.73	11.90	12.05	12.94	12.97	13.05	11.98
1916	14.64	15.79	17.99	19.92	18.29	17.59	15.90	18.46	20.38	20.74	25.33	26.30	19.28
1917	25.49	23.05	28.02	29.78	30.74	32.26	31.76	33.74	31.85	27.57	30.39	31.54	29.68
1918	33.88	35.09	32.42	29.69	30.22	29.10	26.27	27.74	28.82	30.58	32.96	35.33	31.01
1919	32.10	30.60	34.98	39.40	39.19	39.26	38.77	41.20	42.30	41.25	39.27	41.20	38.29
1920	36.23	30.07	22.68	18.81	15.68	16.63	13.44	11.74	12.14	12.84	12.00	12.41	17.89
Average 1914–1920	.....	.....	.....	22.45	22.00	22.21	20.92	21.97	22.54	22.25	23.23	24.15	.....
1921	13.79	19.95	19.63	18.01	18.30	17.94	17.90	18.32	18.06	20.75	22.10	22.27	18.92
1922	21.86	21.35	22.73	25.64	25.65	27.55	28.63	30.55	28.88	27.20	28.52	26.26	26.24
1923	25.20	29.06	30.06	34.73	35.92	34.19	31.88	28.39	30.00	31.54	29.96	32.07	31.11
1924	29.02	24.24	24.51	24.22	23.85	.....	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Prior to September, 1909, compiled from the New York Commercial and Financial Chronicle; September, 1909, to date compiled from Market Reports of the New York Cotton Exchange, average of daily closing quotations.

[1] Cotton Exchange closed on account of the war.
[2] Cotton Exchange opened on Nov. 16. Quotations cover only half month.

TABLE 316.—*Cotton: Average closing price per pound for future delivery, New York, 1901–1924*

Year and month	Prices for delivery during—						Year and month	Prices for delivery during—					
	Jan.	Mar.	May	July	Oct.	Dec.		Jan.	Mar.	May	July	Oct.	Dec.
1901	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	1902	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
January	.....	.....	.....	.....	8.23	.....	January	7.94	8.04	8.12	8.15	7.64	.....
February	.....	.....	.....	.....	8.06	7.91	February	.....	8.47	8.41	8.40	7.82	.....
March	7.34	.....	.....	.....	7.53	7.43	March	.....	8.87	8.75	8.79	8.06	7.88
April	7.26	.....	.....	.....	7.52	7.35	April	8.10	.....	9.12	9.10	8.19	8.09
May	7.06	.....	.....	.....	7.06	7.03	May	7.99	.....	9.21	9.03	8.07	7.98
June	7.31	7.35	.....	.....	7.29	7.29	June	7.82	7.84	.....	8.66	7.88	7.81
July	7.59	7.62	.....	.....	7.54	7.56	July	7.76	7.76	.....	8.62	7.85	7.76
August	7.53	7.56	.....	.....	7.46	7.50	August	7.86	7.82	7.91	.....	7.92	7.84
September	7.70	7.72	7.73	.....	7.68	7.69	September	8.55	8.39	8.41	.....	8.54	8.44
October	7.89	7.84	7.83	7.59	7.86	7.89	October	8.64	8.44	8.44	8.37	8.40	8.37
November	7.58	7.50	7.46	7.47	.....	7.54	November	8.22	8.10	8.12	8.14	.....	8.20
December	8.06	8.12	8.15	8.14	.....	8.06	December	8.42	8.29	8.31	8.32	.....	8.40

TABLE 316.—*Cotton: Average closing price per pound for future delivery, New York 1901–1924*—Continued

Year and month	Prices for delivery during—					
	Jan.	Mar.	May	July	Oct.	Dec.
1903	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
January	8.69	8.73	8.77	8.77	8.09	.....
February	.....	9.46	9.49	9.35	8.33	.....
March	.....	9.84	9.82	9.63	8.54	8.43
April	.....	.....	10.29	9.89	8.54	8.42
May	8.96	.....	11.17	10.70	9.08	8.96
June	9.75	.....	.....	12.14	10.04	9.76
July	9.65	9.63	.....	12.49	9.89	9.67
August	9.88	9.87	.....	.....	10.10	9.87
September	9.70	9.70	9.69	9.70	9.82	9.71
October	9.63	9.67	9.71	9.73	9.52	9.65
November	11.00	11.06	11.07	11.07	.....	11.01
December	12.56	12.76	12.83	12.87	.....	12.45
1904						
January	13.84	14.25	14.46	14.53	12.11	.....
February	.....	14.06	14.39	14.43	11.79	11.43
March	.....	15.01	15.28	15.34	12.31	12.06
April	11.62	.....	14.06	14.30	11.76	11.60
May	11.05	.....	13.12	13.27	11.15	11.04
June	9.72	.....	.....	11.10	9.74	9.69
July	9.59	9.63	.....	10.49	9.60	9.56
August	9.98	10.03	10.13	.....	10.00	9.96
September	10.48	10.56	10.60	.....	10.39	10.46
October	9.97	10.06	10.11	10.10	9.78	9.90
November	9.68	9.80	9.91	9.95	.....	9.58
December	7.49	7.66	7.78	7.88	7.63	7.47
1905						
January	6.76	6.85	6.94	7.05	7.18	.....
February	.....	7.34	7.38	7.43	7.54	7.63
March	7.79	7.51	7.61	7.55	7.64	7.70
April	7.67	.....	7.48	7.41	7.55	7.63
May	8.01	8.09	7.81	7.77	7.89	7.97
June	8.83	8.89	9.18	8.52	8.68	8.79
July	10.86	10.97	11.02	10.63	10.78	10.86
August	10.86	10.94	10.99	.....	10.69	10.80
September	10.62	10.72	10.79	.....	10.46	10.57
October	10.18	10.34	10.43	.....	9.85	10.09
November	11.11	11.32	11.42	11.48	.....	10.96
December	11.59	11.88	12.03	12.09	.....	11.51
1906						
January	11.30	11.47	11.59	11.65	10.74	.....
February	.....	10.58	10.78	10.90	10.31	10.34
March	10.36	10.58	10.79	10.85	10.28	10.32
April	10.52	.....	11.15	11.04	10.47	10.48
May	10.64	10.70	11.32	11.09	10.59	10.60
June	10.45	10.53	.....	10.45	10.36	10.41
July	10.41	10.52	.....	10.13	10.30	10.37
August	9.60	9.71	9.69	.....	9.39	9.52
September	9.26	9.41	9.52	.....	8.92	9.18
October	10.67	10.83	10.90	10.97	10.63	10.61
November	10.07	10.24	10.35	10.43	.....	10.01
December	9.57	9.79	9.95	10.04	9.60	9.55
1907						
January	9.38	9.53	9.65	9.73	9.70	.....
February	10.05	9.29	9.46	9.57	9.82	9.90
March	10.29	9.56	9.70	9.76	10.03	10.11
April	10.21	10.31	9.68	9.73	9.97	10.05
May	11.12	11.20	10.73	10.80	10.93	10.99
June	11.77	11.86	.....	11.73	11.04	11.67
July	11.98	12.08	12.11	11.94	11.86	11.91
August	12.23	12.32	12.40	.....	12.02	12.14
September	11.64	11.75	11.83	11.44	11.45	11.57
October	10.66	10.71	10.76	10.77	10.67	10.84
November	10.26	10.33	10.39	10.38	.....	10.64
December	10.74	10.91	10.96	10.91	.....	11.34
1908						
January	10.92	11.08	11.10	10.97	10.29	.....
February	.....	10.70	10.81	10.61	10.02	10.00
March	.....	10.07	10.19	10.05	9.71	9.73
April	8.99	8.99	8.93	9.02	8.97	8.98
May	8.98	9.01	9.45	9.50	9.04	8.99
June	9.23	9.21	.....	10.18	9.42	9.27
July	9.09	9.10	.....	9.49	9.31	9.15
August	8.85	8.92	.....	.....	9.09	8.90
September	8.56	8.59	8.64	.....	8.84	8.67
October	8.61	8.56	8.52	8.49	8.97	8.77
November	8.97	8.93	8.92	8.86	8.65	9.15
December	8.66	8.72	8.78	8.75	8.54	8.99

Year and month	Prices for delivery during—					
	Jan.	Mar.	May	July	Oct.	Dec.
1909	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
January	9.33	9.38	9.34	9.28	9.05	9.0
February	9.22	9.50	9.45	9.43	9.29	9.2
March	9.16	9.45	9.41	9.33	9.22	9.1
April	9.88	9.87	10.17	10.13	9.95	9.9
May	10.57	10.57	10.98	10.75	10.61	10.6
June	10.97	10.98	11.10	11.00	10.98	11.0
July	12.18	12.19	12.20	12.12	12.17	12.2
August	12.22	12.24	12.26	.....	12.22	12.2
September	12.74	12.81	12.86	13.15	12.71	12.7
October	13.75	13.83	13.86	13.80	13.57	13.7
November	14.57	14.79	14.92	14.86	12.04	14.4
December	15.03	15.36	15.63	15.62	13.37	14.8
1910						
January	14.63	14.68	14.84	14.83	12.95	12.6
February	.....	14.55	14.64	14.48	12.68	12.5
March	12.67	14.88	14.84	14.60	12.78	12.6
April	12.35	.....	14.72	14.50	12.54	12.3
May	12.59	12.66	15.10	15.03	12.80	12.6
June	12.23	12.24	.....	15.06	12.45	12.2
July	12.83	12.86	12.97	15.76	13.04	12.8
August	13.49	13.55	13.59	13.59	13.62	13.5
September	13.17	13.26	13.31	13.28	13.21	13.1
October	14.38	14.50	14.58	14.57	14.32	14.3
November	14.51	14.69	14.82	14.78	.....	14.5
December	14.78	15.06	15.24	15.24	13.52	14.7
1911						
January	14.62	14.82	14.99	15.00	13.38	13.2
February	.....	14.07	14.25	14.26	12.97	12.8
March	12.45	14.27	14.42	14.24	12.61	12.5
April	12.77	12.90	14.74	14.72	12.89	12.7
May	12.99	13.06	15.60	15.69	13.09	13.0
June	13.30	13.36	13.41	15.18	13.32	13.3
July	12.30	12.37	12.46	13.75	12.33	12.3
August	11.26	11.35	11.44	11.49	11.27	11.3
September	10.99	11.11	11.22	11.22	10.92	11.0
October	9.28	9.41	9.54	9.61	9.29	9.4
November	9.01	9.11	9.20	9.26	9.28	9.2
December	8.76	8.87	8.98	9.07	9.19	9.1
1912						
January	9.24	9.37	9.52	9.64	9.76	9.8
February	10.35	10.02	10.18	10.27	10.30	10.3
March	10.63	10.34	10.44	10.55	10.61	10.6
April	11.43	11.57	11.16	11.29	11.40	11.4
May	11.44	11.53	11.18	11.24	11.39	11.4
June	11.52	11.63	11.69	11.22	11.46	11.5
July	12.34	12.44	12.50	12.06	12.31	12.3
August	11.54	11.67	11.74	.....	11.55	11.6
September	11.43	11.57	11.65	11.69	11.26	11.4
October	10.71	10.87	10.94	10.99	10.43	10.7
November	12.05	12.19	12.19	12.19	11.59	11.9
December	12.61	12.63	12.62	12.56	11.79	12.5
1913						
January	12.72	12.34	12.27	12.20	11.50	11.4
February	11.52	12.29	12.12	12.05	11.52	11.5
March	11.41	12.28	11.94	11.86	11.44	11.4
April	11.34	11.21	11.79	11.79	11.34	11.3
May	11.00	11.09	11.48	11.57	11.03	11.0
June	11.31	11.42	11.56	11.94	11.38	11.3
July	11.28	11.36	11.40	12.04	11.40	11.3
August	11.23	11.32	11.36	.....	11.38	11.3
September	13.09	13.18	13.24	13.24	13.25	13.1
October	13.37	13.40	13.40	13.30	13.74	13.5
November	13.10	13.17	13.13	13.04	.....	13.3
December	12.48	12.67	12.63	12.57	11.81	12.6
1914						
January	12.16	12.42	12.25	12.20	11.60	.....
February	.....	12.21	11.92	11.88	11.46	11.5
March	11.38	12.60	12.00	11.84	11.37	11.4
April	11.58	11.62	12.57	12.38	11.64	11.6
May	11.94	11.99	13.00	12.54	12.00	12.0
June	12.57	12.61	12.79	12.97	12.67	12.7
July	12.18	12.24	12.46	12.27	12.10	12.2
August	No quotations. The New York Cotton Exchange was closed during these months and to Nov. 16.					
September						
October						
November	7.40	7.55	7.72	7.89	8.09	.....
December	7.29	7.49	7.65	7.81	8.07	.....

TABLE 316.—*Cotton: Average closing price per pound for future delivery, New York, 1901–1924*—Continued

Year and month	Prices for delivery during—						Year and month	Prices for delivery during—					
	Jan.	Mar.	May	July	Oct.	Dec.		Jan.	Mar.	May	July	Oct.	Dec.
1915	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	1920	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
January	8.04	8.35	8.57	8.76	8.98	9.13	January	38.15	36.32	34.58	32.80	30.23	29.66
February	9.40	8.48	8.73	8.92	9.17	9.32	February	28.78	36.09	33.71	31.55	29.37	28.84
March	9.85	8.61	9.02	9.28	9.58	9.77	March	30.24	39.78	37.25	34.48	31.59	30.78
April	10.83	11.03	9.98	10.26	10.61	10.79	April	33.73	33.02	41.03	38.74	35.00	34.46
May	10.13	10.36	9.34	9.52	9.88	10.10	May	34.08	33.55	40.81	38.16	35.67	34.73
June	10.13	10.37	10.58	9.43	9.82	10.07	June	32.91	32.40	[1]31.88	37.61	34.68	33.55
July	9.60	9.85	10.06	8.84	9.25	9.51	July	31.00	30.35	29.68	40.58	33.31	31.74
August	9.82	10.06	10.29	10.49	9.41	9.70	August	27.53	27.24	26.91	[1]26.68	29.61	28.38
September	11.27	11.53	11.75	11.86	10.75	11.12	September	23.86	23.29	22.86	22.44	27.09	24.84
October	12.56	12.79	12.94	12.97	12.27	12.41	October	20.28	20.10	19.90	19.59	21.36	20.71
November	11.83	12.07	12.23	12.30	12.01	11.68	November	17.53	17.41	17.31	17.09	[2]16.79	17.92
December	12.16	12.44	12.66	12.78	12.42	12.11	December	15.22	15.12	15.25	15.32	15.33	15.39
1916							1921						
January	12.26	12.34	12.57	12.70	12.56	12.69	January	16.71	15.17	15.25	15.43	15.52	[1]15.59
February	12.30	11.63	11.84	12.01	12.11	12.25	February	[2]14.61	13.11	13.56	13.95	14.35	14.54
March	12.36	11.67	11.85	12.02	12.14	12.30	March	[2]13.13	[2]11.25	11.89	12.34	12.83	[2]13.06
April	12.40	12.54	11.87	12.02	12.17	12.34	April	[2]13.58	[2]13.83	11.93	12.49	13.06	13.45
May	13.14	13.28	12.74	12.82	12.93	13.08	May	14.03	14.33	12.54	12.92	13.57	13.93
June	13.23	13.38	13.51	12.85	13.00	13.16	June	13.22	[2]13.52	[1]13.80	11.84	12.64	13.12
July	13.27	13.43	13.58	12.85	13.05	13.22	July	13.06	13.35	13.46	12.16	12.62	13.05
August	14.79	14.93	15.07	15.12	14.55	14.72	August	14.18	14.38	[2]14.47	[1]14.69	13.77	14.17
September	15.87	16.03	16.20	16.28	15.60	15.79	September	19.68	19.58	19.41	19.12	19.54	19.79
October	18.01	18.14	18.27	18.32	17.54	18.04	October	18.94	18.76	18.36	17.90	[2]19.66	19.20
November	19.93	20.09	20.26	20.26	18.28	19.86	November	17.45	17.41	17.19	16.76	[2]15.94	17.61
December	18.10	18.37	18.59	18.63	16.83	18.50	December	17.86	17.81	17.49	17.05	16.35	17.77
1917							1922						
January	17.46	17.55	17.77	17.77	16.62	16.71	January	17.99	17.57	17.21	16.76	16.11	[1]15.86
February	15.97	15.81	15.92	15.96	15.55	15.68	February	[1]16.04	17.59	17.30	16.79	16.23	[2]16.12
March	17.39	17.98	18.14	17.99	17.27	17.36	March	16.46	18.14	17.89	17.25	16.75	16.61
April	18.74	18.87	20.63	19.73	18.65	18.71	April	17.27	17.29	17.90	17.45	17.36	17.34
May	19.89	20.05	20.18	20.31	19.78	19.86	May	19.54	19.49	20.26	19.80	19.72	19.68
June	24.74	24.92	25.06	24.93	24.57	24.69	June	21.17	21.04	[2]20.91	21.58	21.50	21.33
July	24.91	25.08	25.20	26.20	24.93	24.90	July	21.68	21.59	[2]21.40	[2]22.19	22.02	21.90
August	23.97	24.12	24.25	23.98	24.13	23.98	August	21.48	21.51	21.42	[1]21.25	21.60	21.63
September	21.55	21.71	21.83	21.88	21.88	21.63	September	21.18	21.26	21.19	[1]21.00	21.08	21.33
October	26.30	26.16	26.12	26.06	27.16	26.68	October	22.52	22.63	22.56	22.35	22.01	22.72
November	27.72	27.35	27.16	26.92	.....	28.42	November	25.37	25.34	25.17	24.85	[2]23.37	25.49
December	29.37	28.98	28.70	28.39	27.19	29.81	December	25.43	25.63	25.64	25.37	23.76	25.14
1918							1923						
January	31.42	30.89	30.49	30.15	28.93	28.56	January	27.18	27.48	27.66	27.36	25.50	25.28
February	.....	30.54	30.08	29.58	28.39	28.15	February	[2]25.06	28.52	28.74	28.13	25.56	[2]25.25
March	30.09	32.51	32.08	31.55	30.45	30.23	March	25.42	30.73	30.44	29.59	26.24	25.70
April	28.31	27.11	30.32	29.87	28.70	28.43	April	24.22	[1]24.05	28.66	27.78	24.97	24.51
May	24.08	23.97	25.52	25.17	24.33	24.20	May	22.91	[2]22.89	26.57	25.72	23.62	23.20
June	23.79	23.75	24.20	26.32	24.33	23.94	June	23.66	23.61	[2]23.50	27.22	24.49	23.94
July	24.14	24.09	24.09	27.78	24.84	24.30	July	22.59	22.61	[2]22.54	26.46	23.21	22.83
August	30.39	30.31	30.28	32.76	31.01	30.50	August	23.59	23.65	23.60	[2]23.50	23.93	23.86
September	32.80	32.09	32.62	32.56	33.55	32.96	September	27.35	27.34	27.28	28.77	28.07	27.79
October	30.03	29.76	29.61	29.49	31.60	30.48	October	28.61	28.64	28.68	28.09	29.03	29.12
November	27.35	26.87	26.57	26.32	24.44	28.10	November	33.72	33.92	34.01	33.45	28.14	34.19
December	27.44	26.31	25.47	24.83	22.73	28.16	December	34.62	34.99	35.16	34.32	28.42	35.19
1919							1924						
January	26.86	[4]24.65	23.48	22.63	20.71	19.29	January	[3]33.65	33.80	34.02	32.91	28.13	[1]27.68
February	19.23	22.60	21.63	20.95	19.65	19.42	February	[1]26.44	31.56	31.85	30.76	27.17	[2]26.74
March	20.45	24.94	23.76	22.32	20.78	20.48	March	[1]24.47	28.35	28.32	27.68	25.17	[2]24.82
April	22.60	22.38	26.85	25.03	23.27	22.83	April	24.04	[1]24.06	29.98	28.55	24.91	24.36
May	26.32	26.14	28.99	28.56	27.07	26.58	May	24.38	[1]24.49	30.82	28.89	25.44	24.66
June	30.67	30.50	30.38	31.65	31.10	30.86	June	24.81	[2]24.95	[2]24.99	28.78	25.76	25.04
July	34.32	34.24	34.15	34.60	34.47	34.48	July	25.52	25.75	[2]25.85	30.65	26.41	25.64
August	31.71	31.78	31.73	31.69	31.57	31.79	August	25.94	26.20	26.35	[1]25.68	26.52	26.00
September	30.36	30.50	30.57	30.48	30.08	30.35	September	23.06	23.32	23.55	[2]23.14	23.60	23.06
October	33.89	33.63	33.45	33.16	33.23	34.16	October	23.59	23.90	24.11	23.75	24.50	23.49
November	35.89	34.48	33.44	32.63	29.12	37.06	November	23.98	24.25	24.54	24.40	[2]23.30	23.74
December	36.86	34.66	32.75	31.24	28.64	36.29	December	23.42	23.81	24.16	24.29	23.59	23.12

Division of Statistical and Historical Research. Compiled from Market Reports of the New York Cotton Exchange, average of daily closing quotations.

[1] Based on nominal quotations.

[2] Quotations largely nominal.

TABLE 317.—*Cotton: Average spot price per pound in specified foreign markets 1912–1924*

LIVERPOOL, EGYPTIAN UPPERS, GOOD [1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912	18.0	16.9	17.6	19.3	19.5	21.3	21.3	20.2	19.1	18.3	18.9	19.3	19.1
1913	19.9	20.1	20.2	20.3	20.2	19.7	19.0	18.8	20.0	20.2	20.0	19.5	19.8
1914	18.9	17.9	17.3	17.9	18.1	18.2	17.6	16.5	16.1	13.5	12.6	12.2	16.4
1915	12.2	12.8	14.0	15.5	14.5	14.4	13.8	14.1	15.4	18.1	17.9	18.6	15.1
1916	21.9	22.5	22.4	21.6	22.4	23.5	23.7	23.7	27.2	31.2	39.5	39.6	26.6
1917	39.7	41.9	44.5	50.5	52.0	55.4	60.3	60.9	52.0	46.7	51.6	54.4	50.8
1918	53.8	51.5	54.9	56.3	54.0	52.6	54.4	55.8	55.4	54.3	51.7	50.4	53.8
1919	50.3	50.0	49.3	48.3	48.3	48.4	46.4	48.8	48.8	53.4	67.0	76.3	52.9
1920	94.0	105.0	108.7	107.6	97.1	81.3	71.6	68.6	53.4	37.0	29.4	23.4	73.1
Average 1914–1920	41.5	43.1	44.4	45.4	43.8	42.0	41.1	41.2	38.3	36.3	38.5	39.3	41.2
1921	24.6	20.8	19.6	21.5	18.8	18.8	18.0	18.6	29.3	33.3	28.3	29.4	23.4
1922	28.8	27.4	28.4	26.8	28.1	29.7	29.4	28.1	27.4	27.3	30.7	31.2	28.6
1923	31.9	32.5	33.9	33.0	30.4	31.9	31.0	31.5	33.4	33.5	39.6	41.5	33.7
1924	39.7	39.0	37.5	41.2	43.9	43.3	43.6	45.6	35.5	34.3	35.4	37.5	39.7

LIVERPOOL, NO. 1 OOMRAS, FULLY GOOD [1]

1912	10.3	10.8	10.9	11.3	11.6	11.7	12.3	12.2	11.9	11.6	12.1	12.5	11.6
1913	12.7	12.8	12.7	12.5	12.2	11.9	11.8	11.6	12.9	12.9	12.8	12.5	12.4
1914	12.0	11.5	11.5	11.5	11.4	11.0	10.6	9.7	9.1	8.8	7.9	7.7	10.2
1915	8.5	8.4	8.5	9.2	8.9	9.1	8.9	9.1	9.7	10.9	10.7	11.9	9.5
1916	12.6	12.4	12.1	11.9	13.0	12.8	12.9	14.2	15.0	15.8	17.6	16.6	13.9
1917	16.9	17.3	20.2	21.0	22.1	31.2	33.4	34.2	31.9	26.9	37.6	37.2	28.3
1918	38.2	37.6	38.2	38.2	35.2	36.8	36.8	37.8	44.1	42.4	37.5	34.3	38.1
1919	35.3	32.6	27.7	28.9	30.1	32.4	32.2	30.7	29.0	30.5	32.1	32.0	31.1
1920	32.6	30.0	32.3	31.8	30.2	29.1	26.1	23.8	21.6	18.5	15.7	12.0	25.3
Average 1914–1920	22.3	21.4	21.5	26.8	21.6	23.9	23.0	22.8	22.9	23.3	22.7	21.7	22.4
1921	11.9	10.6	9.2	9.4	9.8	9.2	9.3	10.5	16.0	16.9	15.3	15.4	12.0
1922	15.3	14.9	15.4	16.0	15.7	18.9	19.7	19.8	18.9	18.8	20.6	20.5	17.9
1923	21.9	22.2	21.7	20.7	19.4	20.8	20.2	19.6	21.8	22.0	25.9	27.7	22.0
1924	26.1	25.2	22.4	24.0	22.9	22.6	22.0	23.4	19.7	22.3	23.3	23.5	23.1

ALEXANDRIA, EGYPT, EGYPTIAN UPPERS, GOOD [2]

1912	15.8	16.6	16.8	17.6	18.1	18.9	19.4	18.5	17.2	15.8	17.0	18.1	17.5
1913	18.6	18.7	19.0	19.4	19.0	18.5	18.2	17.8	18.5	18.6	18.6	18.0	18.6
1914	17.4	17.0	16.4	17.0	16.8	16.7	16.3	[3]	[3]	9.6	11.2	10.5	14.9
1915	11.1	11.9	13.0	14.3	13.2	13.1	12.5	12.6	[3]	[3]	16.2	[3]	13.1
1916	19.2	21.1	21.0	20.3	20.6	21.4	20.7	20.6	23.3	27.5	34.5	35.4	23.8
1917	35.1	37.3	39.6	48.7	49.3	51.7	60.1	45.1	29.6	32.4	35.6	38.5	41.9
1918	37.9	36.6	38.0	38.3	36.5	37.6	40.5	[3]	[3]	[3]	[3]	[3]	------
1919	[3]	[3]	[3]	[3]	[3]	[3]	[3]	47.1	42.6	45.6	60.5	71.9	------
1920	85.2	94.6	87.2	94.0	82.7	69.8	61.2	54.9	41.9	32.5	24.2	19.5	62.3
1921	19.9	15.1	16.3	16.3	15.3	14.2	14.9	14.9	25.7	30.9	26.0	27.3	19.7
1922	25.3	23.3	22.9	22.7	24.7	25.7	26.1	25.0	23.3	24.1	26.7	27.0	24.8
1923	28.8	30.0	31.3	30.4	28.2	30.1	29.4	29.2	30.0	30.4	35.8	38.4	30.1
1924	38.8	37.9	35.2	39.2	41.8	39.4	38.1	35.8	28.1	29.2	31.2	33.9	35.7

[1] London Economist, average of weekly quotations.
[2] Monthly Agricultural Statistics, Ministry of Finance, Cairo, Egypt.
[3] No quotations.

TABLE 317.—*Cotton: Average spot price per pound in specified foreign markets, 1912–1924*—Continued

LIVERPOOL, AMERICAN MIDDLING [1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912	11.16	11.90	12.34	13.09	13.03	13.37	14.46	13.83	13.55	12.59	13.82	14.31	13.12
1913	14.06	13.97	13.97	14.00	13.58	13.67	13.61	13.38	15.10	15.55	14.94	14.54	14.20
1914	14.34	14.25	14.28	15.02	15.20	15.71	14.74	13.23	12.22	10.53	9.25	8.93	13.14
1915	9.77	10.06	10.46	11.37	10.42	10.47	10.32	10.79	12.24	13.90	13.74	15.03	11.55
1916	15.99	15.61	15.48	15.47	16.77	16.47	15.94	17.54	18.99	20.69	23.05	22.16	17.85
1917	21.76	21.34	24.07	25.23	26.17	34.07	37.65	38.21	35.96	34.85	43.38	44.25	32.24
1918	46.16	45.88	47.19	46.52	42.28	43.89	43.09	45.26	48.44	46.46	43.97	42.30	45.12
1919	37.66	34.53	30.39	33.24	35.70	38.25	38.33	34.06	32.20	38.06	41.99	40.92	36.28
1920	43.61	41.61	45.16	44.17	42.51	44.48	41.83	38.31	31.33	24.41	19.18	14.74	35.94
Average 1914–1920	27.04	26.18	26.72	27.29	27.01	29.05	28.84	28.20	27.34	26.99	27.79	26.90	27.45
1921	15.32	12.71	11.78	12.07	12.53	11.66	11.94	13.34	20.70	20.85	18.46	18.84	15.02
1922	18.12	17.75	19.21	18.89	21.42	23.46	24.98	24.90	23.98	24.55	27.96	28.26	22.79
1923	30.64	30.93	31.42	30.29	28.43	31.53	29.28	28.18	31.99	31.96	35.74	30.00	31.37
1924	34.33	32.53	29.77	33.15	32.00	30.74	30.38	31.62	25.06	26.13	26.09	25.73	29.79

Division of Statistical and Historical Research. Conversions at monthly average rates of exchange as quoted by International Institute of Agriculture Annual, 1921, and Federal Reserve Board.

[1] International Yearbook of Agricultural Statistics, 1921, p. 443. London Economist, 1922 to date. Average of weekly quotations.

TABLE 318.—*Cottonseed: Production, 1874–1924*

[Thousand short tons—i. e., 000 omitted]

Year beginning August	Production	Year beginning August	Production	Year beginning August	Production
1874	1,687	1891	4,274	1908	5,904
1875	2,057	1892	3,183	1909	4,462
1876	1,969	1893	3,579	1910	5,175
1877	2,148	1894	4,792	1911	6,997
1878	2,268	1895	3,416	1912	6,104
1879	2,616	1896	4,070	1913	6,305
1880	3,039	1897	5,253	1914	7,186
1881	2,455	1898	5,472	1915	4,992
1882	3,266	1899	4,668	1916	5,118
1883	2,639	1900	4,830	1917	5,040
1884	2,625	1901	4,630	1918	5,360
1885	3,045	1902	5,092	1919	5,074
1886	3,018	1903	4,716	1920	5,971
1887	3,291	1904	6,427	1921	3,531
1888	3,310	1905	5,060	1922	4,336
1889	3,495	1906	5,913	1923	4,502
1890	4,093	1907	4,952	1924 [1]	5,840

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

[1] Preliminary estimate by Department of Agriculture.

TABLE 319.—*Cottonseed: Production, and farm value, by States, 1920–1924*

State	Production, year beginning August					Total value, year beginning August				
	1920	1921	1922	1923	1924 [1]	1920	1921	1922	1923	1924 [1]
	1,000 short tons	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Virginia	9	7	12	22	13	230	220	480	980	481
North Carolina	410	344	378	452	340	10,550	11,420	15,600	20,160	12,043
South Carolina	720	334	218	341	333	16,620	11,510	9,230	15,450	11,768
Georgia	628	349	317	261	444	16,640	11,070	12,520	12,340	15,931
Florida	8	5	12	6	10	220	160	380	250	367
Alabama	294	257	366	260	440	7,840	7,890	13,310	11,980	15,374
Mississippi	397	361	439	268	480	9,570	10,330	14,940	12,540	16,536
Louisiana	172	124	152	163	213	4,490	3,400	4,760	6,660	6,494
Texas	1,934	978	1,433	1,932	2,118	41,350	27,430	45,370	75,640	65,425
Arkansas	540	354	452	278	488	12,400	9,990	14,910	12,370	16,148
Tennessee	145	134	174	101	147	3,700	4,090	6,680	4,780	5,121
Missouri	35	31	63	54	65	790	970	2,310	2,710	2,612
Oklahoma	594	214	279	291	644	11,210	5,300	8,780	11,520	20,460
All other	85	39	41	73	107	1,380	780	1,130	2,670	3,347
United States	5,971	3,531	4,336	4,502	5,840	136,990	104,560	150,400	190,050	192,107

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

[1] Preliminary estimate by Department of Agriculture. Value based on weighted average price Aug. 15 to Nov. 15.

TABLE 320.—*Cottonseed, and cottonseed products: Production, 1900–1924*

Year ended July 31—	Cotton-seed crushed	Crude cottonseed products			Year ended July 31—	Cotton-seed crushed	Crude cottonseed products		
		Oil	Cake and meal	Hulls			Oil	Cake and meal	Hulls
	1,000 short tons	*1,000 gallons*	*1,000 short tons*	*1,000 short tons*		*1,000 short tons*	*1,000 gallons*	*1,000 short tons*	*1,000 short tons*
1900	2,479	93,330	884	1,169	1914	4,848	193,330	2,220	1,400
1901	2,415	96,610	845	1,139	1915	5,880	229,260	2,648	1,677
1902	3,154	118,610	1,125	1,487	1916	4,202	167,110	1,923	1,220
1903	3,269	122,910	1,165	1,541	1917	4,479	187,688	2,225	969
1904	3,241	121,880	1,156	1,528	1918	4,252	174,996	2,068	996
					1919	4,479	176,711	2,170	1,137
1905	3,345	133,820	1,360	1,213	1920	4,013	161,529	1,817	1,143
1906	3,131	125,700	1,272	1,135					
1907	3,844	153,760	1,563	1,393	Av. 1914–1920	4,579	184,375	2,153	1,220
1908	2,565	103,050	1,043	927					
					1921	4,069	174,558	1,786	1,256
1909	3,670	146,790	1,492	1,330	1922	3,008	124,063	1,355	937
1910	3,269	131,000	1,326	1,189	1923	3,242	133,723	1,487	944
1911	4,106	167,970	1,792	1,375	1924				
1912	4,921	201,050	2,151	1,642					
1913	4,580	185,750	1,999	1,540					
Av. 1909–1913	4,109	166,632	1,752	1,415					

Division of Statistical and Historical Research. Compiled from reports of Bureau of the Census.

TABLE 321.—*Cottonseed: Farm price per ton, 15th of month, United States, 1910–1924*

Year beginning August	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Weighted average
1910		$26.23	$26.86	$25.36	$25.65	$26.35	$25.61	$25.49	$26.12	$25.46	$23.38	$22.70	$26.75
1911	$20.45	18.09	16.73	16.69	16.70	16.57	16.81	18.21	18.62	19.21	19.24	19.04	17.13
1912	18.02	17.61	18.04	18.57	21.42	21.98	22.01	21.55	21.89	21.88	21.54	21.37	18.77
1913	20.24	21.07	22.01	22.46	23.48	22.70	23.37	23.60	24.17	23.56	23.62	22.78	22.14
Av. 1910–1913	19.57	20.75	20.91	20.77	21.81	21.90	21.95	22.21	22.70	22.53	21.94	21.47	20.86
1914	20.16	13.88	15.28	14.01	17.73	19.14	23.33	22.32	22.69	22.07	20.82	20.05	15.59
1915	20.14	20.98	33.73	34.01	35.54	36.85	36.75	36.56	38.13	37.91	35.79	36.06	30.25
1916	35.22	41.13	47.19	55.82	56.35	52.53	51.43	53.18	55.94	55.61	57.19	56.90	48.11
1917	56.61	57.58	65.02	69.38	68.29	67.51	66.95	68.27	68.08	68.16	66.03	64.11	64.04
1918	61.34	67.90	65.85	64.97	65.05	64.93	64.65	64.00	64.28	63.83	63.80	64.24	65.62
1919	66.23	62.13	66.05	72.65	69.07	69.88	69.34	67.18	68.71	69.88	66.16	61.64	67.67
1920	43.22	29.96	28.94	26.00	19.83	18.96	19.76	18.92	17.23	17.28	17.06	18.75	28.56
Av. 1914–1920	43.27	41.94	46.14	48.12	47.41	47.11	47.46	47.20	47.87	47.82	46.69	45.96	45.72
1921	22.06	27.19	31.05	29.15	28.78	29.24	30.17	32.72	40.79	40.21	37.71	36.92	29.25
1922	32.44	25.37	31.79	40.18	42.93	43.35	45.16	46.32	47.60	46.58	43.14	41.42	32.19
1923	37.47	40.88	40.90	45.92	45.54	44.37	43.27	41.34	40.42	40.53	39.96	39.07	41.58
1924	38.44	31.74	31.95	33.57	35.48								

Division of Crop and Livestock Estimates.

COTTONSEED OIL

TABLE 322.—*Cottonseed oil: International trade, calendar years 1909–1923*

[Thousand gallons—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Brazil	624	[1] 2	1	1,416	4	644		
China		281		400		136		178
Egypt	257	476	4	506	100	1,343	3	3,360
Peru		[2 3] 21		557		718		699
United Kingdom	5,899	7,189	5,432	3,098	1,377	3,159	2,241	6,170
United States	[4] 629	38,968	89	33,673	3	10,040	3	6,614
PRINCIPAL IMPORTING COUNTRIES								
Algeria	364	157	133	9	(5)	2		
Argentina	1,001	2	454		705		639	
Australia [6]	142		59					
Austria			61					
Austria-Hungary	39	[3] 5						
Belgium	2,251	1,086	563	225	156	29	318	1
Canada	2,817		5,781		4,088		3,415	
Czechoslovakia [7]			[3] 1		47		247	
Denmark	[3] 944		1,774	26	1,107	14	501	
France	3,289	335	1,214	104	625	39	938	54
Germany	6,918		7,170		783		1,253	
Greece			253		104		26	
Italy	4,600	1	3,936	1	71	4	2	(5)
Mexico	3,607	[7] 341	917		542			
Netherlands	5,352	52	10,897	2,153	1,681	261	3,128	775
Norway	1,504		1,509	208	1,175	155	628	
Sweden	696	[4] 3	315	67	126	5		
Uruguay	[3] 525		339					
Other countries	3,565	31	1,456	102	632		45	
Total	45,023	48,950	42,358	42,545	13,326	16,549	13,387	17,851

Division of Statistical and Historical Research. Official sources except where otherwise noted.

[1] One year only.
[2] International Institute of Agriculture.
[3] Four-year average.
[4] Three-year average.
[5] Less than 500 gallons.
[6] Year beginning July 1.
[7] Two-year average.

TABLE 323.—*Cottonseed oil, prime summer yellow: Average spot price per pound (barrels), New York, 1890–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1890						4.67	4.61	4.80	5.07	5.48	5.48	5.50	
1891	5.26	5.12	4.67	3.90	3.93	3.91	3.90	3.82	4.17	4.23	4.28	4.29	4.29
1892	4.17	4.12	4.06	4.43	5.51	6.66	8.15	7.47	6.16	6.50	5.85	5.67	5.73
1893	5.60	5.18	5.28	5.03	4.53	4.74	4.52	4.21	4.39	4.37	4.38	4.42	4.72
1894	4.39	4.60	4.22	3.96	3.85	3.68	3.54	3.50	3.58	3.65	3.60	3.58	3.85
1895	3.67	3.55	3.70	3.88	3.84	3.78	3.50	3.41	3.52	3.32	3.31	3.20	3.56
1896	3.07	3.15	3.55	3.56	3.12	3.08	3.12	3.13	3.10	3.18	3.12	3.28	3.20
1897	3.47	3.57	3.17	2.87	2.91	3.02	3.01	3.02	3.03	3.38	3.33	3.14	3.16
1898	3.12	2.97	2.97	2.95	2.93	3.12	3.34	3.49	3.52	3.38	3.42	3.42	3.22
1899	3.51	3.52	3.94	3.73	4.29	4.75	5.02	4.83	5.04	5.00	4.77	4.90	4.44
1900	4.58	4.81	4.80	4.40	4.02	4.09	4.07	4.23	4.73	4.59	5.04	5.10	4.54
1901	5.32	5.47	5.48	4.71	5.27	5.68	5.50	5.58	5.65	6.11	6.09	5.84	5.55
1902	5.64	5.38	5.08	4.71	4.98	5.39	5.41	5.48	5.73	5.71	5.64	5.71	5.40
1903	5.54	5.49	5.26	4.55	4.77	4.84	5.09	4.94	4.32	3.78	3.88	3.46	4.66
1904	3.78	3.88	3.76	3.58	3.31	3.12	3.52	3.43	3.46	3.68	3.80	3.83	3.60
1905	4.03	3.62	3.47	3.83	3.97	4.41	4.20	4.50	4.92	5.18	4.95	5.08	4.35
1906	5.00	5.08	5.70	5.34	5.55	5.95	6.27	6.26	6.12	7.30	7.81	7.49	6.16
1907	7.34	7.37	6.46	4.65	5.02	6.08	5.53	5.34	5.70	6.09	6.33	6.07	6.00
1908	5.14	5.27	5.10	5.13	5.15	5.53	5.53	5.45	5.57	5.73	5.71	5.55	5.40
1909	5.46	5.94	6.60	6.84	7.32	7.30	7.14	7.48	7.76	7.99	7.96	8.51	7.19
1910	10.84	10.12	8.11	7.29	7.24	7.32	7.03	6.60	6.19	6.55	6.43	5.89	7.47
1911	5.85	6.96	5.97	5.73	5.37	5.39	5.54	5.69	6.46	7.18	6.86	6.67	6.14
1912	6.47	6.38	6.22	6.01	6.30	6.25	6.35	6.44	6.96	7.01	7.70	9.11	6.77
1913	8.88	7.67	7.00	7.05	6.86	6.98	7.12	7.38	7.51	7.18	7.30	7.18	7.34
Average 1909–1913	7.50	7.41	6.78	6.58	6.62	6.65	6.64	6.72	6.98	7.18	7.25	7.47	6.98
1914	6.67	5.87	5.22	5.55	5.83	6.56	7.08	6.70	6.61	6.40	6.18	6.06	6.23
1915	5.78	6.30	7.71	7.93	8.38	8.99	9.59	10.53	10.73	10.91	10.91	10.04	8.98
1916	9.27	10.17	11.75	12.53	12.38	12.32	12.51	13.62	15.30	16.23	16.26	14.52	13.07
1917	14.84	16.44	17.99	18.59	18.65	20.09	20.33	19.84	19.75	20.00	20.25	20.25	18.91
1918	20.25	20.25	20.25	20.25	20.25	20.25	20.25	20.25	21.25	21.25	25.03	27.37	21.41
1919	25.88	21.33	23.00	22.75	21.50	21.86	19.67	19.07	18.54	19.21	16.70	13.21	20.23
1920	12.32	13.48	11.43	10.14	8.91	8.59	7.34	6.26	6.24	7.22	7.46	8.57	9.00
Average 1914–1920	13.57	13.41	13.91	13.96	13.70	14.09	13.82	13.75	14.06	14.46	14.68	14.29	13.98
1921	8.69	9.88	8.69	8.30	8.28	8.62	9.86	11.48	11.57	11.71	11.33	10.97	9.95
1922	9.96	8.54	8.88	9.51	9.81	10.77	10.90	11.78	11.76	11.60	11.48	10.35	10.44
1923	10.34	11.62	12.01	11.67	11.00	11.00	10.03	9.77	10.09	9.82	10.42	11.98	10.81
1924	13.83	10.54	11.00	10.86	11.41								

Division of Statistical and Historical Research. January, 1891–December, 1908, compiled from Oil, Paint and Drug Reporter, Nov. 7, 1910, p. 40, average price per gallon divided by 7.5 to convert to pound basis; January, 1909–December, 1921, from annual reports of the New York Produce Exchange; 1922 and subsequently, compiled from Oil, Paint and Drug Reporter, average of daily ranges.

COTTONSEED MEAL

TABLE 324.—*Cottonseed meal, 36 per cent protein: Price per ton, Memphis, 1910–1924*

Year beginning August[1] —	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1910	$26.00	$25.75	$25.38	$24.38	$24.38	$23.88	$23.25	$23.25	$23.88	$23.88	$24.50	$25.63	$24.51
1911	26.50	25.75	24.63	24.63	24.63	24.38	25.13	26.00	27.25	28.00	27.25	26.75	25.91
1912	26.75	25.63	24.38	24.63	25.50	25.75	25.13	25.13	26.75	28.00	28.75	30.63	26.42
1913	31.75	27.00	27.13	27.38	27.25	26.75	26.13	26.75	27.63	27.75	27.50	27.75	27.56
1914	28.00	23.75	22.75	22.38	23.50	24.75	27.25	26.88	26.50	26.00	25.25	25.13	25.18
1915	25.63	27.13	30.50	32.00	34.00	32.25	29.00	28.38	28.88	27.75	27.25	27.25	29.17
1916	28.25	30.75	35.25	39.25	39.00	37.50	36.25	36.25	38.50	39.50	42.25	44.50	37.27
1917	45.50	43.00	45.50	49.75	46.50	46.50	46.50	46.50	46.50	46.50	46.50	46.50	46.31
1918	46.50	46.50	46.50	54.00	54.00	54.00	54.00	54.00	54.00	54.00	59.13	69.75	53.87
1919	76.25	63.00	66.50	70.25	69.25	71.00	65.00	65.75	64.81	65.13	63.63	59.40	66.66
1920	55.00	51.25	39.50	34.13	28.00	28.33	26.50	25.17	25.50	28.92	29.75	34.00	33.67
Av. 1914–1920	43.59	40.77	40.93	43.11	42.04	42.05	40.64	40.42	40.38	41.11	41.97	43.79	41.73
1921	36.44	36.00	34.50	33.44	34.20	34.75	36.12	41.12	43.00	43.75	42.50	39.80	37.97
1922	34.00	32.60	37.60	42.80	42.10	41.90	41.25	39.60	39.10	38.25	36.00	35.40	38.38
1923	39.00	40.20	40.75	42.70	40.60	39.10	37.75	36.70	36.60	36.50	36.60	38.75	38.77
1924	39.90	37.75	37.40	36.30	36.75								

Division of Statistical and Historical Research. 1910–1918, compiled from Cotton Oil Press; 1919–1924, compiled from reports of Hay, Feed, and Seed Division.

TABLE 325.—*Cottonseed meal, 36 per cent protein, bagged: Average price per ton at 16 markets, 1924*

Market	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Atlanta	$40.80	$39.25	$37.00	$36.40	$37.20	$37.30	$37.75	$39.50	$36.60	37.50	36.30	35.90
Baltimore	46.30	43.60	43.60	44.30	44.50	45.50	.....	47.00	45.00	44.90	44.10	44.10
Boston	47.90	44.90	43.40	43.30	43.60	44.10	46.70	48.20	45.10	45.90	45.30	44.00
Buffalo	45.60	44.30	43.40	43.25	43.60	44.50	45.50	46.80	43.50	43.40	42.75	42.40
Chicago	45.20	42.50	41.80	41.75	41.40	42.10	44.25	45.70	42.40	42.00	41.70	41.40
Cincinnati	45.10	42.50	40.30	39.00	39.90	39.90	43.20	43.75	42.25	41.90	40.90	40.70
Kansas City[1]	47.10	44.60	43.25	43.25	42.80	44.70	48.90	48.20	46.10	46.70	45.50	45.60
Los Angeles[2]	43.75	42.40	42.50	42.10	42.00	42.00	43.50	45.00	44.25	42.00	42.00	42.00
Memphis	39.10	37.75	36.70	36.60	36.50	36.60	38.75	39.90	37.75	37.40	36.30	36.75
Minneapolis	.....	.....	43.50	.....	.....	44.75	45.25	45.80	43.90	43.00	42.20	43.10
Omaha[1]	50.75	48.10	45.70	45.25	45.00	46.25	48.10	49.00	49.25	48.90	48.10	49.00
Philadelphia	48.00	45.90	45.20	44.75	45.10	45.30	46.50	47.30	45.30	45.50	44.70	44.10
Pittsburgh	46.00	44.50	43.25	42.90	42.40	45.60	46.40	45.70	43.70	43.25	43.00	42.50
St. Louis	43.60	40.10	39.75	38.75	38.80	41.40	43.40	43.75	41.75	40.50	38.40	38.75
San Francisco[1]	51.00	50.25	48.80	48.75	49.00	50.00	51.00	51.25	51.25	50.25	50.00	50.70
Savannah	41.80	40.40	38.20	38.25	38.10	38.10	38.40	41.40	39.30	41.00	38.70	39.40

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division.

[1] Forty-three per cent protein. [2] Forty-one cent protein.

TABLE 326.—*Cottonseed meal: Price per ton paid by farmers, United States, 1910–1924*

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
1910	$32.33	$33.77	$33.17	$32.70	$32.69	$32.18	$32.38	$32.64	$32.36	$31.84	$31.37	$31.58
1911	31.83	31.42	31.32	31.09	31.08	30.92	31.17	30.92	31.01	30.73	30.12	30.60
1912	30.42	30.87	31.22	31.80	32.28	31.84	31.82	31.53	30.60	30.28	29.37	30.16
1913	30.97	31.16	31.08	30.89	31.23	31.53	31.56	31.78	32.32	31.94	31.97	32.36
1914	32.49	32.59	32.65	32.75	32.98	32.68	32.62	32.34	30.73	29.44	28.86	29.04
1915	29.55	30.88	31.32	31.43	31.54	31.39	31.36	31.07	30.79	33.77	34.96	36.45
1916	37.03	37.08	36.46	36.02	35.72	35.60	34.93	35.05	36.17	37.80	41.52	42.96
1917	42.95	43.33	43.67	44.73	45.62	45.17	46.45	49.25	50.00	50.98	53.52	55.52
1918	55.93	56.25	56.59	56.41	56.21	56.18	55.69	55.60	57.40	59.22	59.93	60.64
1919	62.81	62.61	62.88	63.29	63.40	63.06	64.77	71.72	74.08	72.58	76.16	78.57
1920	79.39	79.79	79.70	78.87	78.74	78.52	77.63	78.84	68.22	61.81	50.96	47.97
1921	42.92	41.93	40.17	37.41	36.75	37.84	38.24	40.74	41.97	43.54	43.67	44.23
1922	45.08	45.26	47.90	49.44	50.47	50.42	51.06	48.87	45.48	46.10	50.54	52.70
1923	52.79	53.91	53.37	52.79	52.35	51.89	50.36	49.64	49.47	51.08	51.49	51.75
1924	52.33	51.73	50.26	49.34	49.09	47.99	48.08	49.78	48.98	48.39	47.86	48.49

Division of Crop and Livestock Estimates. As reported monthly by country dealers.

HAY

TABLE 327.—*Hay, tame: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per ton Dec. 1	Farm value Dec. 1	Value per acre[1]	Chicago prices No. 1 timothy per ton by carload lots				Domestic exports, fiscal year beginning July 1	Imports, fiscal year beginning July 1
							December		Following May			
							Low	High	Low	High		
	1,000 acres	*Short tons*	*1,000 short tons*	*Dollars*	*1,000 dollars*	*Dollars*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Short tons*	*Short tons*
1909	*51,041*	1.46	74,384	10.58	786,722	15.41	16.00	17.00	12.50	16.00	61,608	108,448
1910	51,015	1.36	69,378	12.14	842,252	16.51	*16.00*	*19.00*	*18.50*	*23.50*	61,850	377,168
1911	48,240	1.14	54,916	14.29	784,920	16.27	20.00	22.00	24.00	28.00	66,898	782,884
1912	49,530	1.47	72,691	11.79	856,695	17.30	13.00	18.00	14.00	16.50	68,006	175,082
1913	48,954	1.31	64,116	12.43	797,077	16.28	14.50	18.00	15.00	17.50	56,169	191,280
Av. 1909–1913	49,756	1.35	67,097	12.12	813,534	16.35	15.90	18.80	16.80	20.30	62,906	326,972
1914	49,145	1.43	70,071	11.12	779,068	15.85	15.00	16.00	16.50	17.50	118,169	22,609
1915	51,108	1.68	85,920	10.63	913,644	17.88	14.50	16.50	17.50	20.00	199,736	48,366
1916	55,721	1.64	91,192	11.22	1,022,930	18.36	15.00	17.50	19.00	22.00	95,792	65,125
1917	55,203	1.51	83,308	17.09	1,423,766	25.79	26.00	28.00	20.00	26.00	33,762	460,027
1918	55,755	1.37	76,660	20.13	1,543,494	27.68	29.00	31.00	34.00	37.00	32,366	310,742
1919	56,888	1.52	86,359	20.08	1,734,085	30.48	28.00	32.00	35.00	50.00	67,142	251,946
1920	58,101	1.51	87,855	17.76	1,560,235	26.85	26.00	32.00	21.00	23.00	55,446	126,185
Av. 1914–1920	54,560	1.52	83,052	15.44	1,282,460	23.51	21.93	24.71	23.29	27.93	86,069	183,571
1921	58,769	1.40	82,458	12.10	998,069	16.98	20.00	24.00	26.00	28.00	61,240	5,357
1922	61,159	1.57	95,748	12.55	1,202,063	19.65	20.00	22.00	21.00	23.00	53,096	35,430
1923	59,868	1.49	89,250	14.13	1,261,486	21.07	25.00	27.00	25.00	29.00	23,516	403,478
1924[2]	61,454	1.59	97,970	13.82	1,353,789	22.03	22.00	24.00	-----	-----	-----	-----

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Based on farm price Dec. 1. [2] Preliminary.

TABLE 328.—*Hay, wild: Acreage, production, and farm value, United States, 1909–1924*

Year	Acreage	Yield per acre	Production	Farm price per ton	Farm value	Year	Acreage	Yield per acre	Production	Farm price per ton	Farm value
	1,000 acres	*Short tons*	*1,000 short tons*	*Dolls.*	*1,000 dolls.*		*1,000 acres*	*Short tons*	*1,000 short tons*	*Dolls.*	*1,000 dolls.*
1909	[1] 17,186	1.07	18,383			1917	16,212	0.93	15,131	13.49	204,086
1910	17,187	.77	13,151			1918	15,365	.94	14,479	15.23	220,487
1911	17,187	.71	12,155			1919	17,150	1.07	18,401	16.50	303,639
1912	17,427	1.04	18,043			1920	15,787	1.11	17,460	11.35	198,115
1913	16,341	.92	15,063			1921	15,632	.98	15,391	6.63	101,991
1914	16,752	1.11	18,615	7.49	139,500	1922	15,871	1.02	16,131	7.14	115,176
1915	16,796	1.27	21,343	6.80	145,125	1923	15,556	1.12	17,361	7.88	136,734
1916	16,635	1.19	19,800	7.90	156,503	1924 [2]	14,931	.97	14,480	7.86	113,859

Division of Crop and Livestock Estimates.

[1] Census acreage. [2] Preliminary.

TABLE 329.—*Hay, wild: Acreage, production, and total farm value, by States, 1923 and 1924*

State	Acreage		Production		Total value, basis Dec. 1 price		State	Acreage		Production		Total value, basis Dec. 1 price	
	1923	1924 [1]	1923	1924 [1]	1923	1924 [1]		1923	1924 [1]	1923	1924 [1]	1923	1924 [1]
	1,000 acres	*1,000 acres*	*1,000 short tons*	*1,000 short tons*	*1,000 dollars*	*1,000 dollars*		*1,000 acres*	*1,000 acres*	*1,000 short tons*	*1,000 short tons*	*1,000 dollars*	*1,000 dollars*
Me	16	16	18	15	198	144	N. Dak	2,222	2,266	2,222	2,153	11,999	12,487
N. H	12	12	11	11	126	121	S. Dak	3,491	3,316	4,189	2,487	24,296	15,171
Vt	13	13	13	13	150	143	Nebr	2,296	2,173	2,526	2,173	20,208	15,211
Mass	12	12	12	12	192	180	Kans	892	915	1,063	1,034	7,792	7,341
R. I	1	1	1	1	18	16	Ky	23	22	23	26	276	348
Conn	9	9	11	10	199	160	Tenn	55	50	60	50	816	700
N. Y	67	67	79	86	924	886	Ala	25	22	20	15	276	232
N. J	22	22	26	29	390	371	Miss	43	40	52	24	614	350
Pa	25	24	29	32	450	384	La	18	18	22	18	264	265
Del	2	2	3	4	32	50	Tex	207	215	228	215	2,850	3,118
Md	4	4	5	6	80	80	Okla	520	525	510	473	5,610	4,588
Va	14	15	14	19	210	274	Ark	126	126	152	94	1,900	1,194
W. Va	11	12	11	16	154	208	Mont	653	653	594	588	4,752	5,292
N. C	100	101	100	101	1,550	1,616	Wyo	315	315	331	284	2,979	2,698
S. C	6	6	5	4	80	69	Colo	373	340	392	340	4,116	3,298
Ga	16	16	14	10	207	150	N. Mex	40	38	32	30	448	405
Fla	6	5	5	4	93	70	Ariz	12	4	15	2	243	24
Ohio	2		2		27		Utah	117	99	178	134	1,246	1,273
Ind	24	26	28	26	280	185	Nev	181	136	197	136	1,970	1,768
Ill	61	62	70	84	833	924	Idaho	132	121	158	139	1,232	1,320
Mich	52	54	62	68	533	585	Wash	27	24	43	24	400	317
Wis	368	298	478	387	4,780	3,251	Oreg	226	210	249	158	2,116	1,880
Minn	2,041	1,922	2,347	2,249	21,123	17,992	Calif	152	114	152	84	1,520	1,428
Iowa	401	361	481	455	4,964	3,988							
Mo	126	129	138	157	1,228	1,334	U. S	15,556	14,931	17,361	14,480	136,734	113,859

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 330.—*Hay, tame: Acreage, production, and total farm value, by States, 1921–1924*

State	Acreage				Production				Total value, basis Dec. 1, price			
	1921	1922	1923	1924[1]	1921	1922	1923	1924[1]	1921	1922	1923	1924[1]
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	1,245	1,233	1,245	1,245	1,004	1,545	1,594	1,432	20,080	20,240	21,519	18,616
New Hampshire	450	450	441	442	434	553	538	516	12,152	10,784	10,222	9,546
Vermont	900	909	918	946	926	1,260	1,285	1,420	20,372	22,050	21,202	22,862
Massachusetts	423	430	434	434	532	568	595	586	14,364	13,064	15,470	14,064
Rhode Island	45	45	45	45	58	58	56	62	1,566	1,537	1,501	1,488
Connecticut	320	320	320	320	410	433	421	416	10,660	11,258	10,104	10,400
New York	4,895	4,870	4,919	4,944	4,967	6,823	6,688	7,241	89,406	96,204	108,346	104,994
New Jersey	300	303	312	321	400	480	328	584	7,200	8,851	8,823	11,096
Pennsylvania	3,025	2,920	2,919	2,949	3,633	4,589	3,066	4,748	61,761	65,623	65,919	75,968
Delaware	73	77	81	93	89	116	95	155	1,558	2,204	1,995	2,635
Maryland	390	406	386	425	498	658	405	740	7,520	12,173	9,558	12,136
Virginia	930	1,040	1,019	983	913	1,314	1,019	1,370	16,160	21,024	20,380	24,386
West Virginia	725	768	753	768	880	1,031	895	1,171	15,400	17,321	17,810	20,610
North Carolina	690	800	784	738	821	962	955	728	16,256	17,508	19,100	15,288
South Carolina	396	455	434	422	327	450	348	174	6,540	7,875	6,264	3,828
Georgia	693	728	772	785	618	611	507	455	9,764	10,387	9,582	8,645
Florida	110	120	132	132	114	89	119	114	2,223	1,646	2,380	2,280
Ohio	3,213	3,374	3,250	3,344	4,083	5,072	3,913	5,282	46,954	54,778	65,347	67,610
Indiana	2,360	2,700	2,094	2,290	2,563	3,695	2,597	3,424	33,319	41,384	40,513	42,800
Illinois	3,172	3,645	3,280	3,674	3,744	5,284	4,265	5,511	50,544	66,050	63,122	74,398
Michigan	2,873	3,074	3,105	3,198	2,886	4,457	3,949	5,010	37,518	45,016	56,826	60,621
Wisconsin	3,064	3,155	3,187	3,203	4,132	5,348	4,243	6,072	63,633	65,780	67,888	80,758
Minnesota	1,949	1,988	2,016	2,056	3,037	3,134	2,522	3,501	26,118	33,534	28,499	40,262
Iowa	3,171	3,351	3,139	3,202	4,694	4,925	4,779	5,709	43,654	49,250	63,250	65,083
Missouri	3,200	3,520	3,310	3,476	3,850	3,876	4,048	4,820	37,730	44,574	48,576	57,840
North Dakota	961	1,028	895	1,024	1,308	1,619	1,337	1,639	10,072	12,142	9,092	12,456
South Dakota	970	1,000	1,050	1,059	1,552	1,809	1,847	1,680	9,933	13,568	14,960	14,952
Nebraska	1,565	1,553	1,584	1,604	3,390	3,028	3,824	3,717	23,730	33,914	39,005	35,683
Kansas	1,552	1,630	1,630	1,593	2,761	3,510	3,592	3,202	22,088	32,643	38,075	36,534
Kentucky	1,051	1,177	1,130	1,030	1,154	1,619	1,541	1,496	17,887	23,476	26,197	26,928
Tennessee	1,329	1,382	1,354	1,421	1,541	1,843	1,554	1,730	23,886	30,225	28,749	34,600
Alabama	836	760	789	823	763	724	634	590	11,903	12,308	11,729	11,210
Mississippi	428	458	471	471	486	557	590	405	7,047	8,076	9,145	7,088
Louisiana	208	214	214	218	208	285	308	157	3,752	3,790	4,620	2,795
Texas	639	671	723	747	895	1,049	1,183	844	8,860	12,064	18,928	14,179
Oklahoma	910	965	936	983	1,474	1,608	1,600	1,422	12,067	20,100	22,880	18,913
Arkansas	609	585	576	563	768	734	727	607	9,600	9,982	11,632	9,955
Montana	1,045	1,045	1,150	1,323	1,809	1,978	2,162	2,260	16,260	17,757	19,242	22,600
Wyoming	690	715	730	736	1,239	1,356	1,409	1,333	9,292	11,526	13,526	13,063
Colorado	1,195	1,191	1,203	1,248	2,576	2,273	2,463	2,584	17,774	25,458	27,832	28,424
New Mexico	191	162	158	145	435	292	331	309	5,524	5,694	5,290	4,759
Arizona	150	165	162	161	464	543	577	616	6,032	9,774	8,655	10,041
Utah	490	503	523	539	1,238	1,385	1,405	1,497	7,676	11,357	12,504	17,964
Nevada	* 177	179	180	180	478	505	480	394	4,302	5,959	5,280	5,595
Idaho	1,029	1,029	1,060	1,018	2,910	2,891	2,649	2,059	19,497	25,910	23,576	25,120
Washington	1,008	987	1,005	1,079	2,234	1,959	2,365	1,864	23,457	31,736	28,380	28,822
Oregon	995	965	984	987	2,087	1,929	2,207	1,441	20,453	26,284	24,277	19,165
California	2,129	2,108	2,066	2,067	4,955	5,217	5,265	4,823	54,505	78,255	73,710	104,650
United States	58,769	61,159	59,868	61,484	82,458	95,748	89,250	97,970	998,069	1,202,063	1,261,486	1,353,789

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 331.—*Hay, tame: Yield in short tons per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	T.	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*	*T.*
Maine	0.95	1.25	1.10	1.16	1.00	1.09	1.15	1.15	1.45	1.35	1.15	1.20	0.95	1.20	0.81	1.25	1.28	1.15
New Hampshire	.97	1.20	1.05	1.25	1.00	1.09	1.15	1.00	1.45	1.35	1.15	1.20	1.10	1.20	.98	1.23	1.22	1.17
Vermont	1.25	1.35	1.30	1.50	1.28	1.34	1.20	1.35	1.70	1.62	1.30	1.50	1.35	1.43	1.03	1.39	1.40	1.50
Massachusetts	1.15	1.28	1.08	1.25	1.21	1.19	1.32	1.50	1.58	1.50	1.20	1.40	1.35	1.40	1.26	1.32	1.37	1.35
Rhode Island	1.10	1.18	1.00	1.13	1.17	1.12	1.17	1.24	1.35	1.50	1.30	1.25	1.10	1.27	1.29	1.29	1.24	1.38
Connecticut	1.15	1.35	1.10	1.15	1.14	1.18	1.25	1.35	1.55	1.50	1.30	1.35	1.20	1.36	1.28	1.35	1.32	1.30
New York	1.05	1.32	1.02	1.25	1.14	1.16	1.20	1.30	1.62	1.46	1.25	1.40	1.25	1.35	1.01	1.40	1.36	1.46
New Jersey	1.25	1.50	1.05	1.44	1.30	1.31	1.35	1.45	1.60	1.45	1.50	1.50	1.55	1.50	1.33	1.61	1.05	1.52
Pennsylvania	1.20	1.38	1.00	1.43	1.32	1.27	1.28	1.40	1.60	1.41	1.41	1.35	1.40	1.41	1.20	1.57	1.05	1.61
Delaware	1.40	1.43	.88	1.33	1.30	1.27	1.10	1.20	1.45	1.26	1.25	1.28	1.40	1.28	1.22	1.51	1.17	1.67
Maryland	1.20	1.35	.72	1.51	1.26	1.21	1.15	1.20	1.48	1.25	1.35	1.40	1.55	1.34	1.28	1.62	1.05	1.74
Virginia	1.30	1.19	.64	1.20	1.27	1.12	.72	1.35	1.35	1.16	1.35	1.20	1.30	1.20	.98	1.26	1.00	1.39
West Virginia	1.25	1.20	.66	1.38	1.25	1.15	.92	1.50	1.54	1.27	1.30	1.20	1.25	1.28	1.21	1.34	1.19	1.52
North Carolina	1.38	1.50	1.05	1.30	1.31	1.31	1.15	1.85	1.30	1.13	1.20	1.02	1.05	1.24	1.19	1.20	1.22	.99
South Carolina	1.23	1.25	1.08	1.15	1.16	1.17	1.15	1.30	1.30	1.08	1.10	.90	.98	1.11	.83	.99	.80	.41
Georgia	1.35	1.40	1.35	1.35	1.40	1.37	1.35	1.15	1.15	1.03	1.24	.85	.81	1.08	.89	.84	.66	.58
Florida	1.38	1.33	1.30	1.25	1.35	1.32	1.35	1.20	1.25	1.10	1.14	.77	.65	1.07	1.04	.71	.90	.86
Ohio	1.43	1.39	.98	1.36	1.30	1.29	1.13	1.44	1.57	1.42	1.40	1.35	1.35	1.38	1.27	1.50	1.20	1.58
Indiana	1.40	1.30	.94	1.37	1.00	1.20	1.00	1.50	1.44	1.45	1.45	1.22	1.29	1.34	1.09	1.37	1.24	1.50
Illinois	1.45	1.33	.82	1.30	.98	1.18	.85	1.54	1.45	1.25	1.35	1.35	1.25	1.29	1.18	1.45	1.30	1.59
Michigan	1.30	1.30	1.16	1.33	1.05	1.23	1.28	1.40	1.70	1.50	1.03	1.20	1.20	1.33	1.00	1.45	1.26	1.57
Wisconsin	1.53	1.00	1.20	1.60	1.62	1.39	1.75	1.75	1.70	1.70	1.40	1.77	1.70	1.68	1.35	1.70	1.33	1.99
Minnesota	1.75	1.00	1.00	1.53	1.50	1.36	1.89	1.91	1.85	1.55	1.40	1.90	1.70	1.74	1.56	1.58	1.25	1.78
Iowa	1.64	1.05	.80	1.40	1.48	1.27	1.38	1.80	1.60	1.23	1.30	1.53	1.52	1.48	1.48	1.47	1.52	1.78
Missouri	1.35	1.30	.60	1.30	.60	1.03	.70	1.52	1.30	1.15	.90	1.35	1.24	1.17	1.20	1.10	1.22	1.39
North Dakota	1.37	.55	1.10	1.40	1.14	1.11	1.45	1.50	1.70	.88	1.10	1.00	1.25	1.27	1.36	1.57	1.49	1.69
South Dakota	1.50	.80	.55	1.46	1.20	1.10	1.70	2.00	1.90	1.50	1.60	1.75	1.75	1.74	1.60	1.81	1.76	1.59
Nebraska	1.50	1.00	.85	1.35	1.34	1.21	1.69	2.60	2.10	1.60	1.40	1.86	1.90	1.88	2.17	1.95	2.41	2.32
Kansas	1.45	1.15	.85	1.50	.90	1.17	1.51	2.30	1.55	2.18	1.73	2.46	2.08	1.97	1.78	2.15	2.20	2.05
Kentucky	1.36	1.29	.95	1.23	.87	1.14	.95	1.40	1.40	1.30	1.30	1.15	1.20	1.24	1.10	1.38	1.36	1.45
Tennessee	1.50	1.40	1.00	1.30	1.21	1.28	1.20	1.47	1.38	1.20	1.35	1.16	1.28	1.29	1.16	1.33	1.15	1.22
Alabama	1.50	1.43	1.40	1.25	1.36	1.39	1.31	1.45	1.10	.80	.81	.90	.86	1.03	.91	.95	.80	.72
Mississippi	1.47	1.42	1.50	1.48	1.33	1.44	1.45	1.40	1.40	1.45	1.20	1.35	1.44	1.38	1.14	1.22	1.25	.86
Louisiana	1.50	1.75	1.30	1.65	1.50	1.54	1.90	1.75	1.70	1.60	1.30	1.44	1.40	1.58	1.29	1.33	1.44	.72
Texas	.95	1.15	1.00	1.40	1.16	1.13	1.75	1.70	1.20	1.00	1.00	1.60	1.40	1.38	1.40	1.56	1.64	1.13
Oklahoma	.90	1.05	.80	1.25	.85	.97	1.13	2.30	1.70	1.60	1.20	1.82	1.60	1.62	1.62	1.67	1.71	1.45
Arkansas	1.25	1.35	1.15	1.23	1.20	1.24	1.05	1.60	1.25	1.47	1.30	1.12	1.16	1.28	1.26	1.25	1.26	1.08
Montana	1.79	1.40	2.00	1.90	1.80	1.78	2.50	2.00	1.70	1.40	1.60	1.00	1.80	1.71	1.79	1.89	1.88	1.71
Wyoming	2.40	2.40	2.10	1.90	1.90	2.14	2.30	2.20	1.80	1.70	2.10	1.40	2.00	1.98	1.80	1.90	1.93	1.81
Colorado	2.50	2.00	2.00	2.19	2.05	2.15	2.40	2.20	2.05	2.45	2.22	2.05	2.15	2.23	2.16	1.91	2.05	2.07
New Mexico	2.60	2.10	2.60	2.33	2.08	2.34	2.50	2.20	2.00	1.90	2.20	2.40	2.40	2.23	2.29	1.80	2.09	2.13
Arizona	3.30	2.10	3.86	3.40	4.00	3.33	3.20	3.20	3.80	3.50	3.20	3.50	3.10	3.36	3.09	3.29	3.56	3.83
Utah	2.90	3.00	2.50	2.78	2.33	2.70	2.75	2.50	2.20	2.90	2.35	1.92	2.62	2.46	2.53	2.75	2.69	2.78
Nevada	2.35	3.40	3.40	3.00	2.75	2.98	3.25	3.00	2.40	2.90	2.60	2.28	2.33	2.68	2.70	2.82	2.67	2.19
Idaho	2.85	3.00	3.10	2.80	2.90	2.93	2.65	2.70	2.50	3.00	3.00	2.30	2.70	2.69	2.88	2.52	2.50	2.92
Washington	2.10	2.10	2.40	2.20	2.30	2.22	2.20	2.30	2.40	2.20	1.80	2.40	2.00	2.19	2.22	1.98	2.35	1.73
Oregon	2.05	2.10	2.10	2.20	2.10	2.11	2.00	2.20	2.30	1.95	1.80	1.72	2.25	2.08	2.10	2.00	2.24	1.46
California	1.70	1.83	1.75	1.53	1.50	1.66	1.95	1.80	1.75	2.00	1.25	2.25	2.30	1.90	2.33	2.47	2.55	2.33
U. S.	* 46	1.36	1.14	1.47	1.31	1.35	1.43	1.68	1.64	1.51	1.37	1.52	1.51	1.52	1.40	1.57	1.49	1.59

Division of Crop and Livestock Estimates.

TABLE 332.—*Hay, wild: Yield in short tons per acre, by States, 1910–1924*

State	1910	1911	1912	1913	Av. 1910–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
Me	1.05	0.90	0.96	0.80	0.93	1.05	0.95	1.08	1.00	0.90	1.00	1.00	1.00	0.86	1.10	1.10	0.96
N. H	1.05	.85	1.05	.80	.94	1.00	.80	1.05	1.00	.90	1.00	.95	.96	.80	1.00	.94	.95
Vt	1.10	1.05	1.25	1.03	1.11	1.07	1.05	1.35	1.00	1.00	1.10	1.00	1.08	1.00	1.10	1.00	1.00
Mass	1.05	.88	1.05	1.01	1.00	1.10	1.05	1.05	1.00	1.00	1.10	1.10	1.06	1.00	1.00	1.00	1.00
R. I	1.00	.80	.93	.97	.92	1.00	1.00	1.00	.90	.90	.90	1.00	.96	.88	.90	.95	.85
Conn	1.00	.90	.95	.89	.94	1.15	.95	1.17	1.00	1.00	1.08	1.00	1.05	1.10	1.00	1.20	1.07
N. Y	1.05	.87	1.10	1.00	1.00	1.30	1.00	1.45	1.25	1.00	1.26	1.19	1.21	1.00	1.18	1.18	1.28
N. J	1.30	.90	1.30	1.15	1.16	1.50	1.15	1.45	1.45	1.30	1.20	1.35	1.34	1.23	1.40	1.20	1.30
Pa	1.20	.85	1.25	1.20	1.12	1.16	1.00	1.55	1.30	.95	1.25	1.24	1.21	1.20	1.20	1.15	1.35
Del	1.25	.80	1.20	1.15	1.10	1.24	1.20	1.28	1.12	1.14	1.33	1.50	1.26	.87	1.24	1.36	1.75
Md	1.25	.65	1.35	1.15	1.10	1.15	1.10	1.25	1.14	1.17	1.38	1.45	1.23	1.20	1.12	1.15	1.40
Va	1.05	.60	1.10	1.15	.98	.87	1.10	1.05	1.10	1.05	1.12	1.25	1.08	.75	1.00	1.00	1.25
W. Va	1.10	.60	1.20	1.15	1.01	.95	1.10	1.20	1.20	1.20	1.14	1.20	1.14	1.10	1.20	1.00	1.30
N. C	1.20	1.00	1.10	1.15	1.11	1.10	1.40	1.07	1.01	1.00	1.00	1.20	1.11	1.00	1.00	1.00	1.00
S. C	1.20	1.05	1.10	1.15	1.12	1.15	1.40	1.25	1.25	1.05	1.10	1.20	1.20	.81	1.00	.85	.60
Ga	1.30	1.30	1.30	1.35	1.31	1.15	1.20	1.25	1.10	.91	.95	.90	1.07	1.00	.92	.90	.60
Fla	1.20	1.15	1.10	1.20	1.16	1.05	1.15	1.00	1.00	1.10	1.05	.95	1.04	.90	.90	.85	.80
Ohio	1.25	.90	1.30	1.20	1.16	1.10	1.42	1.50	1.30	1.50	1.30	1.28	1.34	1.40	1.50	1.15	
Ind	1.25	.90	1.30	1.00	1.11	1.10	1.20	1.40	1.20	1.20	1.20	1.20	1.21	1.07	1.14	1.15	1.00
Ill	1.10	.75	1.10	.85	.95	1.05	1.30	1.20	1.40	1.30	1.15	1.20	1.23	1.20	1.25	1.15	1.35
Mich	1.10	.95	1.10	.85	1.00	1.25	1.15	1.33	1.25	1.05	1.25	1.28	1.22	1.10	1.30	1.20	1.25
Wis	.90	1.00	1.25	1.30	1.11	1.33	1.35	1.47	1.37	1.55	1.36	1.28	1.39	1.20	1.30	1.30	1.30
Minn	.70	.70	1.10	1.10	.90	1.44	1.35	1.52	1.24	1.15	1.46	1.40	1.37	1.28	1.22	1.15	1.17
Iowa	.80	.60	1.00	1.10	.88	1.20	1.35	1.30	1.15	1.20	1.26	1.27	1.25	1.16	1.14	1.20	1.26
Mo	1.00	.50	1.00	.60	.78	.84	1.15	1.10	1.00	.75	1.16	1.12	1.02	1.10	.95	1.10	1.22
N. Dak	.50	.80	1.00	.90	.80	1.02	1.15	1.20	.65	.90	.90	.95	.97	1.00	1.05	1.00	.95
S. Dak	.60	.40	1.00	.80	.70	1.10	1.40	1.25	.90	1.00	1.00	1.12	1.11	.80	.90	1.20	.75
Nebr	.75	.65	1.00	.90	.82	1.07	1.20	1.10	.85	.88	1.02	1.02	1.02	.84	.85	1.10	1.00
Kans	.90	.60	1.05	.70	.81	.96	1.40	1.10	.80	.60	1.15	.97	1.00	1.09	1.10	1.18	1.13
Ky	1.05	.90	1.05	.80	.95	1.20	1.20	1.15	1.50	1.00	1.10	1.00	1.16	.90	1.15	1.00	1.20
Tenn	1.15	.95	1.10	1.05	1.06	1.20	1.10	1.20	1.10	1.00	1.10	1.15	1.12	1.15	1.10	1.10	1.00
Ala	1.20	1.20	1.10	1.15	1.16	1.38	1.20	1.20	1.05	1.00	1.00	1.00	1.12	.90	.80	.80	.70
Miss	1.20	1.30	1.25	1.15	1.22	1.20	1.10	1.25	1.22	1.20	1.30	1.30	1.22	1.00	1.10	1.20	.60
La	1.35	1.00	1.25	1.20	1.20	1.55	1.40	1.40	1.25	1.00	1.50	1.30	1.34	1.30	1.40	1.20	1.00
Tex	.90	.70	1.00	.90	.88	1.25	1.40	1.05	.75	.60	1.25	1.10	1.06	1.10	1.10	1.10	1.00
Okla	.80	.60	.90	.70	.75	.68	1.25	1.00	.70	.56	1.20	1.20	.94	1.00	.90	.98	.90
Ark	1.05	.90	1.00	1.00	.99	1.00	1.20	1.00	1.12	.90	1.20	1.15	1.08	1.05	1.00	1.21	.75
Mont	.80	1.10	1.00	.95	.96	.94	1.10	.90	.75	.75	.35	.95	.82	.80	.90	.91	.90
Wyo	1.00	.95	.90	.90	.94	1.00	.95	.95	1.00	1.10	.92	1.00	.99	.80	.95	1.05	.90
Colo	.90	.90	1.10	.95	.96	1.20	1.12	.92	1.02	.94	.89	1.05	1.02	1.00	.97	1.05	1.00
N. Mex	.70	.95	.90	.70	.81	.80	.90	.65	.87	.70	.90	.82	.81	.85	.80	.80	.80
Ariz	.70	1.05	.75	1.00	.88	.80	.70	1.00	1.25	1.00	1.00	.80	.94	1.00	.50	1.25	.50
Utah	1.60	1.55	1.60	1.50	1.56	1.60	1.60	1.50	1.75	1.10	1.17	1.23	1.42	1.10	1.38	1.52	1.35
Nev	1.60	1.60	1.30	1.10	1.40	1.50	1.30	1.00	1.50	.50	.84	1.00	1.09	1.11	1.59	1.09	1.00
Idaho	1.50	1.60	1.40	1.50	1.50	1.25	1.40	1.20	1.40	1.10	1.00	1.20	1.22	1.50	1.20	1.20	1.15
Wash	1.20	1.40	1.25	1.25	1.28	1.30	1.20	1.40	1.40	1.33	1.20	1.15	1.28	1.50	1.14	1.58	1.00
Oreg	1.15	1.20	1.25	1.20	1.20	1.22	1.30	1.10	1.10	1.00	1.18	1.20	1.16	1.10	1.00	1.10	.75
Calif	1.10	1.10	1.00	1.00	1.05	1.20	1.10	1.00	1.15	.95	1.04	1.04	1.07	1.10	1.10	1.00	.74
U. S	.77	.71	1.04	.92	.86	1.11	1.27	1.19	.93	.94	1.07	1.11	1.09	.98	1.02	1.12	.97

Division of Crop and Livestock Estimates.

TABLE 333.—*Hay, alfalfa: Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production (thousands of short tons)				
	1920	1921	1922	1923	1924[1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924[1]
New Hampshire					1					3.00					3
Vermont	1	1	1	1	1	2.60	3.00	3.00	2.20	2.85	3	3	3	2	3
Massachusetts	1	1	1	1	1	2.80	3.00	3.10	3.50	3.00	3	3	3	4	3
Connecticut	1	1	1	1	1	2.60	3.50	3.50	2.40	2.86	3	4	4	2	3
New York	132	145	155	163	172	2.50	2.50	2.75	2.40	2.60	330	362	426	391	447
New Jersey	15	15	17	19	24	2.70	2.62	2.85	2.19	2.75	40	39	48	42	66
Pennsylvania	30	32	35	36	36	2.45	2.55	2.70	2.35	2.35	74	82	94	85	85
Delaware	2	2	2	2	2	3.00	2.70	2.90	2.50	2.70	6	5	6	5	5
Maryland	12	11	16	15	20	2.80	2.60	2.75	2.25	2.45	34	29	44	34	49
Virginia	24	23	29	35	36	2.37	1.80	2.30	2.10	2.20	57	41	67	74	79
West Virginia	5	5	6	6	6	2.30	2.40	2.45	2.30	2.50	12	12	15	14	15
North Carolina	3	3	4	4	5	2.40	2.10	2.40	2.30	2.70	7	6	10	9	14
South Carolina	3	3	3	3	3	2.20	2.25	2.20	2.00	1.80	7	7	7	6	5
Georgia	3	4	4	4	4	2.00	2.25	2.40	2.10	1.80	6	9	10	8	7
Ohio	89	90	118	120	124	2.50	2.50	2.50	2.60	2.50	222	225	295	312	310
Indiana	70	80	95	105	95	2.50	2.10	2.34	2.40	2.30	175	168	222	252	218
Illinois	100	107	124	136	177	2.70	2.59	2.70	2.90	2.85	270	277	335	394	504
Michigan	95	143	246	338	448	2.30	2.25	2.35	2.10	2.35	218	322	578	710	1,053
Wisconsin	106	131	92	155	265	2.70	2.66	2.67	2.30	2.80	286	348	246	356	742
Minnesota	59	77	88	123	268	2.90	2.60	2.61	2.34	2.70	171	200	230	288	724
Iowa	180	187	192	230	276	2.84	2.91	2.67	3.00	3.05	511	544	513	690	842
Missouri	168	164	170	185	200	2.52	2.05	2.40	2.35	2.50	423	336	408	435	500
North Dakota	56	56	65	80	120	1.90	2.20	2.50	2.10	2.00	106	123	162	168	240
South Dakota	459	508	543	590	608	2.33	1.90	2.22	2.10	1.80	1,069	965	1,205	1,239	1,094
Nebraska	1,233	1,196	1,163	1,163	1,211	2.70	2.36	2.07	2.60	2.40	3,329	2,823	2,407	3,024	2,906
Kansas	1,231	1,065	919	885	884	2.20	1.80	2.45	2.51	2.42	2,708	1,917	2,252	2,221	2,139
Kentucky	51	53	58	58	54	2.00	1.80	2.30	2.20	2.20	102	95	133	128	119
Tennessee	19	20	25	27	28	2.20	2.25	2.30	2.25	2.20	42	45	58	61	62
Alabama	10	10	20	25	23	1.87	1.70	1.50	1.50	1.50	19	17	30	38	34
Mississippi	28	24	24	22	18	2.30	2.50	2.30	2.41	1.25	64	60	55	53	22
Louisiana	8	12	18	21	13	2.90	2.80	2.75	2.33	1.25	23	34	50	49	16
Texas	56	57	60	63	60	2.60	2.50	2.40	2.60	1.85	146	142	144	164	111
Oklahoma	355	348	362	366	384	2.10	2.10	1.95	1.90	1.80	746	731	706	695	691
Arkansas	77	83	78	75	71	2.45	2.20	2.10	2.25	1.68	189	183	164	169	119
Montana	424	466	486	536	614	2.15	2.25	2.30	2.15	2.01	912	1,048	1,069	1,152	1,234
Wyoming	437	459	475	500	495	2.30	2.00	2.15	2.10	2.00	1,005	918	1,021	1,050	990
Colorado	845	818	818	783	803	2.80	2.50	2.15	2.25	2.30	2,366	2,045	1,759	1,762	1,847
New Mexico	127	132	107	104	87	2.70	2.60	2.40	2.60	2.70	343	343	257	270	235
Arizona	94	121	134	135	135	3.80	3.50	3.70	4.00	4.30	357	424	496	540	580
Utah	380	412	431	458	473	2.80	2.70	2.92	2.81	2.90	1,064	1,112	1,259	1,287	1,372
Nevada	110	120	121	124	126	2.80	3.20	3.39	3.23	2.60	308	384	410	401	328
Idaho	665	652	648	657	611	3.30	3.40	3.10	3.00	2.50	2,194	2,217	2,009	1,971	1,528
Washington	230	230	222	235	223	2.80	3.50	3.56	3.60	3.00	644	805	790	846	669
Oregon	217	220	240	246	246	3.50	3.50	3.40	3.50	2.50	760	770	816	861	615
California	920	941	952	981	1,001	3.70	3.70	3.80	3.80	3.75	3,404	3,482	3,618	3,728	3,754
United States	9,131	9,228	9,368	9,816	10,453	2.71	2.57	2.61	2.65	2.52	24,758	23,706	24,434	25,990	26,382

Division of Crop and Livestock Estimates

[1] Preliminary.

TABLE 334.—*Hay, clover: Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production (thousands of short tons)				
	1920	1921	1922	1923	1924[1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924[1]
Maine	31	31	38	38	38	1.40	1.10	1.60	1.70	1.50	43	34	61	65	57
New Hampshire	11	10	14	14	14	1.60	1.30	1.60	1.70	1.60	18	13	22	24	22
Vermont	20	18	25	26	27	1.60	1.30	1.60	1.78	1.70	32	23	40	46	46
Massachusetts	12	11	14	14	14	1.70	1.50	1.70	1.80	1.96	20	16	24	25	27
Rhode Island	1	1	1	1	1	1.60	1.60	1.70	1.70	1.60	2	2	2	2	2
Connecticut	10	12	14	14	14	1.60	1.65	1.70	1.90	1.85	16	20	24	27	26
New York	477	459	472	481	457	1.30	1.02	1.60	1.60	1.66	620	468	755	770	759
New Jersey	28	29	32	33	35	1.60	1.22	1.50	1.00	1.86	45	35	48	33	65
Pennsylvania	308	311	300	294	297	1.48	1.15	1.54	1.05	1.62	456	358	462	309	481
Delaware	18	17	19	18	21	1.45	1.00	1.34	1.02	1.60	26	17	25	18	34
Maryland	108	97	106	96	98	1.50	1.10	1.50	.90	1.70	162	107	159	86	167
Virginia	180	180	192	168	171	1.24	1.00	1.20	.80	1.47	223	180	230	134	251
West Virginia	63	66	79	74	73	1.40	1.26	1.45	1.30	1.60	88	83	115	96	117
North Carolina	84	84	101	105	104	1.45	1.30	1.40	1.40	1.05	122	109	141	147	109
South Carolina	----	----	2	2	2	----	----	1.50	1.50	.95	----	----	3	3	2
Georgia	3	4	3	3	3	1.54	1.34	1.50	1.20	.90	5	5	4	4	3
Ohio	693	691	844	780	760	1.25	1.19	1.50	1.10	1.56	868	822	1,266	858	1,186
Indiana	591	561	710	426	469	1.23	.93	1.43	1.10	1.43	727	522	1,015	469	671
Illinois	801	799	1,093	773	951	1.18	1.10	1.50	1.20	1.60	945	879	1,640	928	1,522
Michigan	541	584	738	808	800	1.13	.90	1.40	1.18	1.45	611	526	1,033	953	1,160
Wisconsin	784	753	789	608	664	1.75	1.25	1.70	1.42	2.10	1,372	941	1,341	949	1,394
Minnesota	455	391	430	366	373	1.85	1.60	1.60	1.26	1.74	842	626	688	461	649
Iowa	720	749	890	801	912	1.45	1.40	1.41	1.44	1.80	1,044	1,049	1,255	1,153	1,642
Missouri	511	544	704	598	647	1.35	1.20	1.35	1.30	1.45	690	653	950	777	938
North Dakota	23	38	124	116	135	1.37	1.45	1.75	1.85	1.75	32	55	217	215	236
South Dakota	35	40	60	57	58	1.50	1.30	1.40	1.50	1.60	52	52	84	86	93
Nebraska	60	66	74	100	144	1.70	1.50	1.40	1.70	2.40	102	99	104	170	346
Kansas	62	84	104	119	176	1.68	1.31	1.43	1.60	1.17	104	110	149	190	206
Kentucky	188	194	204	184	173	1.35	1.00	1.45	1.40	1.45	254	194	297	258	251
Tennessee	319	271	310	298	321	1.30	1.05	1.40	1.20	1.25	415	285	434	358	401
Alabama	15	20	35	46	42	1.39	1.35	.90	.83	.80	21	27	32	38	34
Mississippi	105	110	99	92	98	1.35	1.20	1.25	1.25	.80	142	132	124	115	78
Louisiana	39	41	39	34	44	1.50	1.50	1.50	1.80	.65	58	62	58	61	29
Oklahoma	5	6	6	6	6	1.60	1.60	1.40	1.65	1.30	8	10	8	10	8
Arkansas	53	57	60	60	61	1.45	1.20	1.25	1.41	1.00	77	68	75	85	61
Montana	42	44	45	55	82	1.60	1.60	1.80	1.80	1.55	67	70	81	99	127
Wyoming	15	16	25	27	28	2.00	1.60	1.60	1.50	1.60	30	26	40	40	45
Colorado	20	12	20	23	24	2.00	1.80	1.60	1.80	1.80	40	22	32	41	43
New Mexico	2	2	2	2	2	2.00	2.00	1.50	2.00	2.00	4	4	3	4	4
Utah	6	4	1	2	2	2.00	2.00	2.11	2.08	2.00	12	8	2	4	4
Nevada	3	2	1	1	1	1.90	1.95	1.89	1.73	1.00	6	6	2	2	1
Idaho	42	43	31	32	31	2.00	2.30	1.60	2.00	1.80	84	99	50	64	56
Washington	69	75	74	74	74	2.30	2.40	2.43	2.55	2.00	159	180	180	189	148
Oregon	91	94	140	147	140	2.15	2.25	2.20	2.70	1.70	196	212	308	397	238
California	15	15	15	15	14	1.70	1.90	1.30	1.70	1.50	26	28	20	26	21
United States	7,659	7,637	9,079	8,091	8,609	1.42	1.21	1.50	1.33	1.60	10,864	9,237	13,608	10,789	13,760

Division of Crop and Livestock Estimates.

[1] Preliminary

TABLE 335.—*Hay, clover and timothy (mixed): Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production (thousands of short tons)				
	1920	1921	1922	1923	1924[1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924[1]
Maine	620	628	604	610	610	0.95	0.85	1.40	1.40	1.29	589	534	846	854	787
New Hampshire	178	172	180	174	174	1.15	1.00	1.30	1.38	1.40	205	172	234	240	244
Vermont	547	531	545	550	569	1.40	1.00	1.45	1.50	1.61	766	531	790	825	916
Massachusetts	135	132	144	146	146	1.55	1.35	1.50	1.58	1.61	209	178	216	231	235
Rhode Island	15	15	16	16	16	1.35	1.40	1.45	1.40	1.50	20	21	23	22	24
Connecticut	84	84	84	83	83	1.45	1.60	1.65	1.50	1.58	122	134	139	124	131
New York	2,286	2,268	2,248	2,256	2,279	1.25	.90	1.42	1.40	1.52	2,858	2,041	3,192	3,158	3,464
New Jersey	136	123	138	142	145	1.65	1.30	1.60	1.04	1.78	224	160	221	148	258
Pennsylvania	1,534	1,596	1,568	1,560	1,544	1.40	1.18	1.60	1.04	1.65	2,148	1,883	2,509	1,622	2,549
Delaware	26	24	25	24	28	1.45	1.20	1.45	1.00	1.70	38	29	36	24	48
Maryland	151	148	147	135	151	1.50	1.30	1.60	1.00	1.78	226	192	235	135	269
Virginia	239	250	324	324	330	1.35	1.05	1.25	.85	1.60	323	262	405	275	528
West Virginia	275	275	288	292	286	1.30	1.15	1.35	1.20	1.62	358	316	389	350	463
North Carolina	42	40	38	39	45	1.35	1.35	1.40	1.30	1.40	57	54	53	51	63
South Carolina	3	3				1.40	1.20				4	4			
Georgia	2	2	2	2	2	1.39	1.10	1.80	1.00	1.00	3	2	4	2	2
Ohio	893	941	964	920	928	1.35	1.28	1.55	1.15	1.60	1,206	1,204	1,494	1,058	1,485
Indiana	639	730	690	528	633	1.25	1.10	1.37	1.16	1.60	799	803	945	612	1,013
Illinois	720	739	803	722	794	1.15	1.15	1.48	1.21	1.58	828	850	1,188	874	1,255
Michigan	1,436	1,312	1,291	1,123	1,150	1.15	.92	1.38	1.15	1.50	1,651	1,207	1,782	1,291	1,725
Wisconsin	1,549	1,362	1,470	1,625	1,560	1.70	1.28	1.76	1.30	1.80	2,633	1,743	2,587	2,112	2,808
Minnesota	608	642	738	701	685	1.70	1.52	1.60	1.23	1.59	1,034	976	1,181	862	1,089
Iowa	1,306	1,286	1,353	1,240	1,265	1.45	1.42	1.45	1.50	1.70	1,894	1,826	1,962	1,860	2,150
Missouri	908	864	1,060	1,002	1,048	1.24	1.15	1.00	1.22	1.35	1,126	994	1,060	1,222	1,415
North Dakota	19	20	18	16	18	1.25	1.40	1.60	1.40	1.60	24	28	29	22	29
South Dakota	72	74	96	92	96	1.50	1.30	1.30	1.30	1.45	108	96	125	120	139
Nebraska	125	96	76	84	43	1.65	1.40	1.60	1.70	1.80	206	134	122	143	77
Kansas	54	49	82	87	90	1.40	1.30	1.35	1.57	1.52	76	64	111	137	137
Kentucky	190	149	220	200	193	1.30	1.05	1.35	1.30	1.45	247	156	297	260	280
Tennessee	166	176	205	200	215	1.20	1.15	1.40	1.30	1.35	199	202	287	260	290
Alabama	2	2	3	3	3	1.40	1.30	1.40	1.10	1.00	3	3	4	3	3
Mississippi	8	8		2	2	1.40	1.20		1.47	.80	11	10		3	2
Louisiana	3	3	3	1	1	1.50	1.50	1.60	1.25	.55	4	4	5	1	1
Texas	6	5	4			1.80	1.30	1.40			11	6	6		
Oklahoma	5	5	6	6	5	1.80	1.45	1.30	1.10	1.39	9	7	8	7	7
Arkansas	60	62	60	55	55	1.40	1.20	1.10	1.10	.85	84	74	66	60	47
Montana	140	154	150	165	106	1.80	1.70	1.90	2.00	1.61	252	262	285	330	171
Wyoming	28	28	34	37	38	1.70	1.50	1.40	1.50	1.30	48	42	48	56	49
Colorado	112	112	95	122	124	2.00	1.60	1.60	1.70	1.90	224	179	152	207	236
New Mexico	2	2	2	2	2	2.00	2.00	1.00	1.50	1.70	4	4	2	3	3
Arizona	1	1	1			2.00	1.50	1.50			2	2	2		
Utah	25	29	32	25	26	2.00	1.90	2.10	2.08	1.80	50	55	67	52	47
Nevada	14	13	14	12	12	1.70	1.90	1.95	1.47	1.50	24	25	27	18	18
Idaho	75	75	103	95	94	1.75	2.00	1.80	1.90	1.50	131	150	185	180	141
Washington	93	98	94	96	95	2.10	2.20	2.00	2.55	1.90	195	216	188	245	180
Oregon	48	50	30	30	30	2.00	2.10	2.30	2.30	1.70	96	105	69	69	51
California	52	52	52	52	51	1.50	1.70	1.40	1.70	1.30	78	88	73	88	66
United States	15,632	15,430	16,100	15,596	15,770	1.37	1.17	1.47	1.30	1.58	21,407	18,028	23,649	20,216	24,895

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 336.—*Hay, timothy: Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production (thousands of short tons)				
	1920	1921	1922	1923	1924 [1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924 [1]
Maine	137	141	143	144	144	1.25	0.95	1.35	1.32	1.21	171	134	193	190	174
New Hampshire	59	60	62	62	62	1.35	1.15	1.40	1.30	1.30	80	69	87	81	81
Vermont	105	100	103	104	107	1.50	1.10	1.45	1.40	1.36	158	110	149	146	146
Massachusetts	72	71	71	71	71	1.60	1.30	1.55	1.50	1.47	115	92	110	107	104
Rhode Island	8	8	8	8	8	1.40	1.35	1.40	1.30	1.56	11	11	11	10	12
Connecticut	42	40	43	43	43	1.50	1.50	1.60	1.40	1.51	63	60	69	60	65
New York	1,300	1,291	1,300	1,313	1,285	1.20	1.00	1.37	1.32	1.40	1,560	1,291	1,781	1,733	1,799
New Jersey	81	85	80	77	75	1.60	1.30	1.50	.85	1.63	130	110	120	65	122
Pennsylvania	972	972	925	935	962	1.40	1.20	1.50	1.00	1.55	1,361	1,166	1,388	935	1,491
Delaware	11	10	11	10	11	1.43	1.25	1.37	.85	1.55	16	12	15	8	17
Maryland	81	80	85	81	83	1.45	1.25	1.41	.90	1.63	117	100	120	73	135
Virginia	84	82	108	105	107	1.25	1.10	1.20	.75	1.45	105	90	130	79	155
West Virginia	234	230	236	229	234	1.30	1.20	1.30	1.10	1.45	304	276	307	252	339
North Carolina	24	27	26	23	25	1.40	1.30	1.40	1.30	1.20	34	35	36	30	30
Georgia	2	3	2	2	2	1.00	1.20	1.40	1.00	1.00	2	4	3	2	2
Ohio	1,418	1,414	1,350	1,310	1,370	1.32	1.22	1.38	1.15	1.50	1,872	1,725	1,863	1,506	2,055
Indiana	760	765	730	744	780	1.28	1.05	1.33	1.20	1.38	973	803	971	893	1,076
Illinois	1,024	1,029	1,057	1,004	944	1.29	1.10	1.33	1.15	1.30	1,321	1,132	1,406	1,155	1,227
Michigan	643	655	676	686	640	1.20	.92	1.35	1.10	1.30	772	603	913	755	832
Wisconsin	527	538	663	572	601	1.51	1.80	1.51	1.05	1.57	796	699	1,001	601	944
Minnesota	501	632	546	573	545	1.62	1.45	1.43	1.02	1.36	812	916	781	584	741
Iowa	792	840	808	760	646	1.39	1.31	1.28	1.17	1.38	1,101	1,100	1,034	889	891
Missouri	1,277	1,216	1,232	1,142	1,142	1.20	1.10	.90	.95	1.15	1,532	1,338	1,109	1,085	1,313
North Dakota	179	182	154	139	132	1.20	1.30	1.45	1.20	1.15	215	237	223	167	152
South Dakota	166	168	134	129	132	1.50	1.30	1.25	1.15	1.18	249	218	168	148	156
Nebraska	47	36	22	20	14	1.60	1.30	1.20	1.40	1.40	75	47	26	28	20
Kansas	156	120	101	75	84	1.27	1.34	1.19	1.38	1.26	198	161	120	104	106
Kentucky	231	219	223	219	216	1.25	1.00	1.30	1.30	1.25	289	219	290	285	270
Tennessee	80	76	105	100	110	1.25	1.10	1.30	1.05	1.15	100	84	136	105	126
Alabama	2	2	2	2	2	1.45	1.30	1.50	1.20	1.00	3	3	3	2	2
Mississippi	2	2	2	------	------	1.50	1.20	1.25	------	------	3	2	2	------	------
Louisiana	2	2	2	------	------	1.50	1.50	1.50	------	------	3	3	3	------	------
Oklahoma	5	5	4	4	5	2.00	1.30	1.10	1.20	1.44	10	6	4	5	7
Arkansas	27	28	25	20	20	1.25	1.15	1.00	1.00	.80	34	32	25	20	16
Montana	90	81	83	87	70	1.50	1.40	1.50	1.63	1.40	135	113	124	142	98
Wyoming	32	32	50	52	50	1.40	1.30	1.20	1.40	1.30	45	42	60	73	65
Colorado	44	48	45	44	44	2.00	1.50	1.60	1.60	1.80	88	72	72	70	79
New Mexico	5	5	2	2	2	2.00	1.80	1.00	1.30	1.70	10	9	2	3	3
Utah	13	12	9	13	13	1.80	1.90	2.05	2.11	1.75	23	23	18	27	23
Nevada	5	5	5	7	7	1.50	2.00	1.80	1.59	1.50	8	10	9	11	10
Idaho	81	79	93	106	104	1.80	1.80	1.70	1.70	1.15	146	142	158	180	120
Washington	50	53	50	52	51	1.90	2.00	1.69	2.10	1.50	95	106	84	109	76
Oregon	32	32	20	20	20	1.80	1.90	1.60	1.80	1.50	58	61	32	36	30
California	13	13	13	15	14	1.40	1.50	1.50	1.50	1.10	18	20	20	22	15
United States	11,416	11,489	11,409	11,104	10,977	1.33	1.17	1.33	1.15	1.38	15,211	13,486	15,176	12,776	15,125

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 337.—*Hay, grains cut green: Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production (thousands of short tons)				
	1920	1921	1922	1923	1924 [1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924 [1]
Maine	13	20	16	16	16	1.70	1.45	2.10	2.20	1.70	22	29	34	35	27
New Hampshire	10	12	10	10	10	1.70	1.60	1.30	2.20	2.00	17	19	13	22	20
Vermont	16	18	16	16	16	2.00	1.90	1.80	2.00	2.20	32	34	29	32	35
Massachusetts	15	18	14	14	14	1.95	1.85	1.90	2.00	2.00	29	33	27	28	28
Rhode Island	3	3	3	3	3	1.55	1.60	1.60	1.60	1.75	5	5	5	5	5
Connecticut	12	15	12	12	12	1.60	1.50	1.80	2.00	2.05	19	22	22	24	25
New York	65	130	80	86	89	2.00	1.80	1.50	1.40	1.87	130	234	120	120	166
New Jersey	7	10	5	7	8	1.60	1.20	1.30	1.08	2.10	11	12	6	8	17
Pennsylvania	11	20	16	18	19	1.60	1.40	1.60	1.50	1.80	18	28	26	27	34
Delaware	3	4	3	2	3	1.40	1.20	2.00	1.75	1.70	4	5	6	4	5
Maryland	6	10	8	8	12	1.30	1.20	1.75	1.50	2.00	8	12	14	12	24
Virginia	53	50	50	41	37	1.40	1.40	1.25	1.00	1.50	74	70	62	41	56
West Virginia	30	35	39	39	41	1.30	1.25	1.40	1.40	1.70	39	44	55	55	70
North Carolina	56	50	78	80	79	.95	1.40	1.20	1.30	1.10	53	70	94	104	84
South Carolina	71	60	34	35	30	1.00	.85	1.30	1.20	.55	71	51	44	42	16
Georgia	60	63	65	70	47	.85	.83	.80	.61	.55	51	52	52	43	26
Florida	8	5	5	6	5	1.00	1.20	1.00	.95	.95	8	6	5	6	5
Ohio	21	38	50	40	60	1.70	1.40	1.50	1.40	1.70	36	53	75	56	102
Indiana	44	94	300	147	163	1.60	1.20	1.00	1.20	1.50	70	113	300	176	244
Illinois	37	84	73	62	99	1.40	1.34	1.50	1.53	1.44	52	86	110	95	143
Michigan	28	86	15	27	32	1.42	1.25	1.10	1.25	1.40	40	108	16	34	45
Wisconsin	20	60	36	45	31	1.60	1.40	1.30	1.30	1.61	32	84	47	58	50
Minnesota	28	29	40	80	62	1.60	1.45	1.40	1.30	1.65	45	42	56	104	102
Iowa	31	32	27	31	20	1.60	1.50	1.40	1.60	1.60	50	48	38	50	32
Missouri	128	192	87	45	68	1.40	1.25	.45	1.10	1.40	179	240	39	50	95
North Dakota	327	269	279	256	285	1.20	1.20	1.40	1.25	1.40	392	323	391	320	399
South Dakota	107	78	80	80	72	1.20	1.20	1.10	1.20	1.10	128	94	88	96	79
Nebraska	27	27	39	34	31	1.40	1.30	1.10	1.25	1.70	38	35	43	42	53
Kansas	23	47	43	30	30	1.80	1.50	1.20	1.20	1.60	41	70	52	36	48
Kentucky	90	135	123	130	141	1.20	1.00	1.20	1.10	1.55	108	135	148	143	219
Tennessee	133	130	90	95	105	1.10	1.00	1.20	.80	.80	146	130	108	76	84
Alabama	50	118	100	118	103	.90	.90	1.00	.75	.65	53	106	100	88	67
Mississippi	15	17	10	10	10	.95	1.00	.95	1.02	.80	14	17	10	10	8
Louisiana	6	15	10	6	4	1.25	1.20	1.20	1.50	.65	8	18	12	9	3
Texas	151	136	109	50	43	1.05	1.00	1.00	1.90	1.10	159	136	109	95	47
Oklahoma	100	112	48	53	48	1.20	1.20	1.10	1.10	1.00	120	134	53	58	48
Arkansas	170	112	82	75	80	1.00	1.10	1.00	.80	1.10	170	123	82	60	88
Montana	313	202	195	208	288	1.15	1.20	1.40	1.37	1.40	360	242	273	285	403
Wyoming	91	73	71	75	86	1.25	1.20	1.50	1.70	1.50	114	88	106	128	129
Colorado	98	105	110	107	94	1.10	1.20	1.10	1.20	1.00	108	126	121	128	94
New Mexico	25	24	11	11	12	1.20	1.50	.40	1.20	1.30	30	36	4	13	16
Arizona	18	24	22	18	17	1.10	1.30	1.50	1.50	1.50	20	31	33	27	26
Utah	13	15	14	11	11	1.20	.95	.88	1.69	1.75	16	14	12	19	19
Nevada	9	7	8	6	6	1.20	1.22	1.24	1.28	1.50	11	9	10	8	9
Idaho	154	149	134	149	168	1.50	1.70	1.20	1.50	1.20	231	253	161	224	202
Washington	477	491	490	490	578	1.60	1.70	1.25	1.75	1.25	763	835	612	858	722
Oregon	462	489	410	413	423	1.70	1.60	1.20	1.50	.80	768	782	492	620	338
California	1,070	1,032	1,000	930	911	1.20	1.20	1.40	1.40	.90	1,284	1,238	1,400	1,302	820
United States	4,704	4,925	4,560	4,295	4,522	1.31	1.31	1.25	1.37	1.19	6,177	6,475	5,715	5,876	5,377

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 338.—*Hay, legumes: Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production (thousands of short tons)				
	1920	1921	1922	1923	1924[1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924[1]
Maine	3	4	2	2	2	1.20	1.10	1.30	1.20	2.00	4	4	3	2	4
New Hampshire	1	2	2	2	2	1.10	1.00	1.20	1.30	1.50	1	2	2	3	3
Vermont	1	2	1	1	1	1.40	1.30	1.50	1.30	2.00	1	3	2	1	2
Massachusetts	1	2	1	1	1	1.50	1.60	1.40	1.50	1.62	2	3	1	2	2
Rhode Island	1	1	1	1	1	1.40	1.30	1.40	1.40	2.10	1	1	1	1	2
Connecticut	2	1	1	1	1	1.30	1.30	1.40	1.40	2.10	3	1	1	1	2
New York	5	5	5	5	5	1.28	.80	1.20	1.20	1.60	6	4	6	6	8
New Jersey	3	3	3	3	4	1.40	1.30	1.60	1.30	2.12	4	4	5	4	8
Pennsylvania	4	4	4	4	5	1.80	1.80	1.90	1.50	1.75	7	7	8	6	9
Delaware	8	9	13	20	23	1.40	1.45	1.75	1.40	1.95	11	13	23	28	39
Maryland	16	18	24	32	40	1.50	1.50	2.00	1.50	1.82	24	27	48	48	73
Virginia	227	240	225	243	210	1.20	.70	1.29	1.24	.82	272	168	291	302	172
West Virginia	12	13	15	13	22	1.20	1.00	1.60	1.54	1.75	14	13	24	20	38
North Carolina	286	344	396	386	388	.95	1.05	1.03	1.02	.84	272	361	408	394	325
South Carolina	196	250	341	339	327	.95	.82	.85	.71	.38	186	205	291	242	124
Georgia	434	469	504	562	594	.90	.88	.78	.64	.55	391	413	395	359	328
Florida	55	53	50	59	53	.80	1.00	.68	.90	.94	44	53	34	53	50
Ohio	10	10	17	50	62	1.60	1.50	1.70	1.50	1.55	16	15	29	75	96
Indiana	35	50	95	74	80	1.40	1.20	1.49	1.45	1.65	49	60	142	107	132
Illinois	84	92	160	239	324	1.20	1.30	1.50	1.70	1.35	101	120	240	406	436
Michigan	6	12	25	36	32	1.30	1.20	1.32	1.50	1.60	8	14	33	54	51
Wisconsin	8	24	30	35	31	1.50	1.70	1.20	1.30	1.64	12	41	36	45	51
Minnesota	19	19	30	45	20	1.40	1.40	1.20	1.10	1.77	27	27	36	50	35
Iowa	9	10	7	12	15	1.60	1.80	1.40	1.90	2.00	14	18	10	23	30
Missouri	63	70	107	165	221	1.15	1.10	1.20	1.22	1.38	72	77	128	202	304
North Dakota	28	28	28	25	25	1.10	1.20	1.40	1.40	1.67	31	34	39	35	42
South Dakota	24	19	12	12	12	1.30	1.10	1.40	1.00	1.10	31	21	17	12	13
Nebraska	6	5	4	5	5	1.30	1.40	1.40	1.50	1.30	8	7	6	8	6
Kansas	3	4	6	8	14	1.50	1.80	1.40	1.31	1.75	4	7	8	10	24
Kentucky	45	67	96	96	100	1.10	1.00	1.28	1.45	1.60	50	67	123	139	160
Tennessee	260	280	313	311	312	1.30	1.20	1.30	1.19	1.28	338	336	407	371	399
Alabama	458	444	380	404	470	.80	.80	.80	.66	.65	366	355	304	266	306
Mississippi	92	128	193	202	226	1.10	.90	.99	1.10	.86	101	115	191	222	195
Louisiana	87	93	105	111	107	1.35	1.10	1.10	1.14	.73	117	102	116	127	78
Texas	60	54	50	56	65	1.30	1.20	1.04	.84	.74	78	65	52	47	48
Oklahoma	24	30	33	33	33	1.30	1.10	1.30	1.30	1.00	31	33	43	43	33
Arkansas	97	108	128	137	126	1.15	1.00	1.09	1.08	.82	112	108	140	148	103
Montana	6	5	4	5	7	1.20	1.30	1.30	1.35	1.35	7	6	5	7	9
Wyoming	2	2				1.50	1.50				3	3			
Colorado	10	10	15	14	26	1.40	1.50	1.33	1.40	1.50	14	15	20	20	39
New Mexico	3	3	3	3	3	1.30	1.30	1.00	1.50	1.20	4	4	3	4	4
Arizona	1					1.50					2				
Utah	1	1				1.40	1.60				1	2			
Nevada	1	1				1.80	1.75				2	2			
Idaho	1	1				1.60	1.20				2	1			
Washington	7	7	7	7	7	1.50	1.60	2.17	2.25	1.85	10	11	15	16	13
Oregon	25	25	48	49	49	1.60	1.50	2.00	2.00	1.50	40	38	96	98	74
California	26	26	26	20	18	1.20	1.30	1.20	1.50	1.40	31	34	31	30	25
United States	2,756	3,048	3,510	3,828	4,067	1.06	.99	1.09	1.05	.96	2,925	3,020	3,813	4,037	3,895

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 339.—*Hay, millet, Sudan grass, and other: Acreage, yield per acre, and production, by States, 1920–1924*

State	Thousands of acres					Yield per acre (short tons)					Production, (thousands of short tons)				
	1920	1921	1922	1923	1924 [1]	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924 [1]
Maine	416	421	430	435	435	0.79	0.64	0.95	1.03	.88	329	269	408	448	383
New Hampshire	191	194	182	179	179	.98	.82	1.07	.94	.80	187	159	195	168	143
Vermont	224	230	218	220	225	1.04	.97	1.15	1.06	1.21	233	222	247	233	272
Massachusetts	184	188	185	187	187	1.15	1.10	1.01	1.06	1.00	212	207	187	198	187
Rhode Island	17	17	16	16	16	1.18	1.06	1.00	1.00	1.06	20	18	16	16	17
Connecticut	169	167	165	166	166	.98	1.01	1.05	1.10	.99	166	169	174	183	164
New York	630	597	610	615	657	.98	.95	.89	.83	.91	617	567	543	510	598
New Jersey	31	35	28	31	30	1.29	1.14	1.46	.90	1.61	40	40	41	28	48
Pennsylvania	80	90	72	72	86	1.22	1.21	1.42	1.14	1.15	98	109	102	82	99
Delaware	6	7	4	5	5	1.33	1.14	1.25	1.50	1.40	8	8	5	8	7
Maryland	25	26	20	19	21	1.36	1.19	1.90	.90	1.10	34	31	38	17	23
Virginia	105	105	112	103	92	1.30	.97	1.15	1.11	1.40	136	102	129	114	129
West Virginia	99	101	105	100	106	1.35	1.35	1.20	1.08	1.22	132	136	126	108	129
North Carolina	145	142	157	147	94	1.01	1.31	1.40	1.50	1.10	146	186	220	220	103
South Carolina	87	80	75	55	60	.82	.75	1.40	1.00	.45	71	60	105	55	27
Georgia	156	148	148	129	133	.80	.90	.97	.69	.65	125	133	143	89	87
Florida	52	52	71	67	74	.79	1.06	.70	.90	.80	41	55	50	60	59
Ohio	26	29	31	30	40	1.50	1.34	1.61	1.60	1.20	39	39	50	48	48
Indiana	66	80	80	70	70	1.33	1.18	1.25	1.25	1.00	88	94	100	88	70
Illinois	314	342	335	344	385	1.09	1.17	1.09	1.20	1.10	342	400	365	413	424
Michigan	40	81	83	87	96	1.18	1.31	1.23	1.40	1.50	47	106	102	122	144
Wisconsin	70	190	75	87	51	1.21	1.41	1.20	1.40	1.63	85	276	90	122	83
Minnesota	186	159	116	128	103	1.50	1.57	1.40	1.35	1.56	279	250	162	173	161
Iowa	62	67	74	65	68	1.65	1.63	1.53	1.75	1.79	102	109	113	114	122
Missouri	137	150	160	173	150	1.45	1.41	1.14	1.60	1.70	199	212	182	277	255
North Dakota	284	368	360	263	309	1.18	1.38	1.55	1.56	1.75	335	508	558	410	541
South Dakota	113	83	75	90	81	1.60	1.28	1.63	1.62	1.31	181	106	122	146	106
Nebraska	182	139	175	178	156	1.70	1.76	1.83	2.30	1.98	309	245	320	409	309
Kansas	220	183	375	426	316	2.33	2.36	2.18	2.10	1.91	513	432	818	894	602
Kentucky	256	234	253	243	153	1.31	1.23	1.31	1.35	1.29	335	288	331	328	197
Tennessee	379	376	334	323	330	1.26	1.22	1.24	1.00	1.12	478	459	413	323	368
Alabama	218	240	220	191	180	1.00	1.05	1.14	1.04	.80	218	252	251	199	144
Mississippi	150	139	130	143	117	1.23	1.08	1.35	1.31	.85	184	150	175	187	100
Louisiana	61	42	37	41	49	1.15	1.07	1.11	1.49	.60	70	45	41	61	30
Texas	283	387	448	554	579	1.51	1.41	1.65	1.58	1.11	426	546	738	877	638
Oklahoma	373	404	506	468	502	1.55	1.37	1.55	1.67	1.25	578	553	786	782	628
Arkansas	163	159	152	154	150	1.18	1.13	1.20	1.20	1.15	192	180	182	185	173
Montana	90	93	82	94	150	1.45	1.38	1.66	1.56	1.40	130	128	136	147	218
Wyoming	77	80	60	39	39	1.32	1.50	1.35	1.59	1.40	102	120	81	62	55
Colorado	127	90	88	110	133	1.41	1.30	1.33	2.14	1.85	179	117	117	235	246
New Mexico	23	23	35	34	37	1.70	1.52	.60	1.00	1.20	39	35	21	34	44
Arizona	9	4	8	9	9	1.56	1.75	1.50	1.10	1.10	14	7	12	10	10
Utah	23	17	16	14	14	1.10	1.40	1.69	1.17	2.25	25	24	27	16	32
Nevada	30	28	30	30	28	1.50	1.50	1.57	1.33	1.00	45	42	47	40	28
Idaho	32	30	20	21	10	1.40	1.60	1.40	1.45	1.20	45	48	28	30	12
Washington	53	54	50	51	51	1.50	1.50	1.80	2.00	1.10	80	81	90	102	56
Oregon	85	85	77	79	79	1.40	1.40	1.51	1.60	1.20	119	119	116	126	95
California	54	50	50	53	58	1.30	1.30	1.10	1.30	2.10	70	65	55	69	122
United States	6,803	7,012	7,133	7,138	7,065	1.24	1.21	1.31	1.34	1.21	8,443	8,507	9,358	9,566	8,536

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 340.—*Hay: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant disease	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic [1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	10.7	2.2	0.6	1.2	0.1	0.3	0.3	15.7	0.1	0.5	0.1	0.1	1.1	17.6
1910	17.4	1.2	.3	1.2	.1	.5	.1	21.2	.1	.5	.2	.1	1.5	23.6
1911	27.7	.8	(2)	.9	.1	1.9	(2)	31.9	.1	.6	.1	.1	1.9	34.7
1915	3.7	4.9	.6	1.8	.1	.1	.3	11.9	.2	.5	.1	(2)	1.2	13.9
1916	5.5	1.6	.3	1.1	.1	.2	.1	8.6	(2)	.3	.1	(2)	.6	9.6
1917	11.5	1.3	.2	2.9	.2	.3	.1	16.8	.1	.4	.1	(2)	.9	18.3
1918	17.5	.7	.2	2.8	.1	.8	.1	22.7	.1	.9	.2	(2)	1.0	24.9
1919	9.9	1.9	.3	1.0	.1	.4	.1	13.9	.1	1.0	(2)	.1	.5	15.6
1920	7.2	1.4	.2	1.3	.2	.2	.1	10.7	.2	1.0		.1	.7	12.7
1921	15.1	.9	.2	1.4	.2	.7	.2	19.4	.2	.9	.2		.3	21.0
1922	10.6	.9	.2	.8	.2	.3	.1	13.2	.2	.8	.1	(2)	.2	14.6
1923	12.7	1.5	.4	1.9	.3	.4	.1	17.3	.2	.8	.1	(2)	.3	18.7

Division of Crop and Livestock Estimates.

[1] Includes all other climatic. [2] Less than 0.05 per cent.

TABLE 341.—*Hay: Shipments from eight markets, 1910–1924*

Year beginning July	Baltimore	Chicago	Kansas City	Milwaukee	Minneapolis	Peoria	Pittsburgh	St. Louis	Total
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1910	11,864	18,011	93,828	5,958	31,350	10,373	76,631	112,435	360,450
1911	13,257	49,160	58,896	4,445	28,910	17,222	75,420	146,285	393,695
1912	8,313	22,681	85,176	3,159	4,820	7,819	65,800	105,533	303,301
1913	8,995	39,184	78,756	9,718	5,500	16,077	65,148	139,376	362,754
1914	8,896	83,414	67,608	17,306	5,390	19,788	37,512	172,590	412,504
1915	9,681	55,791	73,668	6,841	4,156	9,676	87,216	90,415	337,444
1916	13,657	33,439	138,432	5,765	4,351	15,324	55,032	103,990	369,990
1917	26,913	62,665	222,912	5,293	7,042	10,621	20,536	177,240	533,222
1918	20,221	52,802	143,040	2,986	4,147	7,650	23,511	119,625	373,982
1919	4,118	32,637	276,492	5,270	6,925	6,151	26,267	111,695	469,555
1920		18,631	153,648	3,863	2,020	7,100	40,480	63,250	288,992
Av. 1914–1920		48,483	153,686	6,761	4,862	10,901	41,508	119,829	397,956
1921		9,700	50,748	10,435	3,531	4,520	31,509	43,610	154,053
1922		10,951	78,060	14,879	2,625	3,460	7,323	61,720	179,618
1923		14,280	101,048	6,121	3,584	2,130		54,452	181,615
1923									
July		716	5,324	708	90	70		3,657	10,565
August		582	4,488	432	148	50		3,555	9,255
September		1,522	4,896	516	131	180		4,245	11,490
October		358	4,476	382	326	160		3,315	9,017
November		723	6,720	584	286	280		4,555	13,148
December		750	7,968	499	495	100		3,450	13,262
1924									
January		937	11,820	405	189	170		4,195	17,716
February		1,273	14,268	418	369	530		5,795	22,653
March		3,524	13,224	600	622	160		6,715	24,845
April		1,612	15,540	358	418	180		6,065	24,173
May		1,643	6,924	634	237	190		5,345	14,973
June		640	5,400	585	273	60		3,560	10,518
Total		14,280	101,048	6,121	3,584	2,130		54,452	181,615
July		518	6,948	280	220	80		2,600	10,156

TABLE 342.—*Hay, all: Stocks on farms, May 1, United States, 1910–1924*

Year	Production of all hay preceding year	Per cent on farms May 1	On farms May 1	Price per ton May 1	Year	Production of all hay preceding year	Per cent on farms May 1	On farms May 1	Price per ton May 1
	Short tons	*Per cent*	*Short tons*			*Short tons*	*Per cent*	*Short tons*	
1910	92, 767, 000	11. 6	10, 745, 000	$11. 08	1918	98, 439, 000	11. 7	11, 476, 000	17. 97
1911	82, 529, 000	12. 4	10, 222, 000	11. 69	1919	91, 139, 000	9. 4	8, 559, 000	22. 31
1912	67, 071, 000	8. 5	5, 732, 000	16. 31	1920	104, 760, 000	10. 1	10, 618, 000	24. 22
1913	90, 734, 000	14. 9	13, 523, 000	10. 42	1921	105, 315, 000	17. 8	18, 771, 000	13. 08
1914	79, 179, 000	12. 2	9, 631, 000	11. 63	1922	97, 770, 000	11. 2	10, 919, 000	12. 98
1915	88, 686, 000	12. 2	10, 797, 000	11. 03	1923	112, 013, 000	12. 0	13, 392, 000	12. 69
1916	107, 263, 000	13. 5	14, 452, 000	11. 27	1924	106, 611, 000	12. 0	12, 835, 000	13. 69
1917	110, 992, 000	11. 4	12, 659, 000	13. 94					

Division of Crop and Livestock Estimates.

TABLE 343.—*Hay: Receipts at 12 markets, 1910–1924*

Year beginning July	Baltimore	Boston	Chicago	Kansas City	Milwaukee	Minneapolis	New York	Peoria	Philadelphia	Pittsburgh	St. Louis	San Francisco	Total
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1910	68, 589	162, 420	273, 983	308, 940	38, 313	66, 306	336, 471	37, 419	86, 851	119, 685	253, 540	184, 594	1, 937, 111
1911	69, 284	164, 196	351, 630	318, 948	44, 199	63, 570	286, 474	41, 822	96, 484	115, 608	256, 462	147, 483	1, 956, 160
1912	58, 939	139, 920	274, 769	343, 392	47, 138	37, 290	296, 866	38, 131	82, 063	106, 993	222, 998	141, 224	1, 789, 723
1913	63, 186	117, 740	369, 032	285, 288	36, 263	38, 280	317, 543	43, 660	75, 680	103, 466	261, 155	133, 598	1, 844, 861
1914	54, 904	115, 161	325, 095	398, 604	45, 060	45, 513	330, 098	33, 957	78, 583	83, 923	308, 727	161, 750	1, 981, 375
1915	50, 415	126, 590	273, 181	398, 172	34, 637	45, 376	294, 395	51, 299	84, 006	106, 710	232, 628	146, 560	1, 843, 969
1916	50, 874	123, 780	237, 932	359, 316	24, 360	35, 652	212, 256	48, 870	78, 284	92, 202	210, 591	104, 468	1, 578, 585
1917	64, 053	97, 150	352, 730	419, 964	23, 131	39, 126	199, 727	40, 250	61, 618	74, 075	237, 506	82, 460	1, 691, 790
1918	41, 870	67, 000	287, 031	386, 460	16, 656	28, 457	221, 580	35, 050	31, 571	72, 721	213, 043	72, 440	1, 473, 879
1919	32, 650	58, 740	225, 050	599, 340	19, 053	22, 601	167, 088	33, 306	52, 466	63, 680	254, 042	85, 807	1, 613, 823
1920	19, 559	50, 220	149, 801	337, 169	19, 466	23, 015	150, 338	21, 140	40, 057	79, 062	188, 550	75, 272	1, 153, 649
Av. 1914–1920	44, 904	91, 234	264, 403	414, 146	26, 052	34, 249	225, 069	37, 696	60, 941	81, 768	235, 012	104, 108	1, 619, 581
1921	13, 730	51, 250	135, 625	196, 534	19, 038	23, 467	98, 904	10, 970	51, 226	76, 162	121, 104	59, 185	857, 195
1922	15, 536	47, 010	152, 632	244, 169	17, 626	25, 972	92, 516	33, 060	42, 188	61, 769	138, 312	60, 017	930, 807
1923	26, 830	42, 910	149, 623	257, 774	17, 094	30, 024	84, 682	29, 470	49, 884	60, 918	136, 414	69, 583	955, 206
1923													
July	1, 452	4, 650	10, 616	15, 224	1, 008	2, 239	7, 730	320	2, 574	3, 652	7, 376	7, 072	63, 913
August	1, 837	1, 930	6, 510	23, 958	996	1, 794	5, 385	3, 950	2, 532	2, 097	10, 228	14, 000	75, 217
September	2, 708	4, 080	11, 724	20, 977	1, 152	1, 800	7, 672	4, 890	2, 700	6, 127	12, 804	6, 676	83, 310
October	2, 834	4, 430	19, 095	21, 582	1, 692	2, 875	9, 306	5, 600	4, 296	9, 218	11, 504	9, 285	101, 717
November	2, 267	3, 150	10, 575	21, 401	2, 472	2, 520	8, 403	2, 670	6, 252	9, 107	13, 200	7, 496	89, 513
December	1, 446	3, 760	10, 334	17, 446	1, 571	3, 516	9, 183	1, 120	4, 620	5, 105	8, 652	8, 640	75, 398
1924													
January	2, 891	4, 500	12, 390	29, 480	1, 373	2, 620	8, 701	1, 660	5, 388	5, 216	13, 152	(1)	87, 371
February	2, 099	3, 030	15, 310	30, 091	1, 626	2, 799	4, 838	1, 630	2, 772	7, 799	12, 876	7, 086	91, 956
March	1, 868	2, 980	12, 717	23, 067	1, 728	4, 050	6, 024	2, 010	3, 540	(1)	11, 556	(1)	69, 540
April	2, 559	2, 400	10, 857	25, 079	1, 025	2, 206	4, 482	2, 290	4, 548	(1)	10, 932	3, 002	69, 380
May	2, 999	4, 230	17, 536	17, 930	1, 455	1, 638	5, 810	2, 360	5, 826	8, 327	14, 188	2, 116	83, 715
June	2, 570	3, 770	11, 959	11, 539	996	1, 967	7, 148	970	4, 836	4, 270	9, 946	4, 210	64, 181
Total	26, 830	42, 910	149, 623	257, 774	17, 094	30, 024	84, 682	29, 470	49, 884	60, 918	136, 414	69, 583	955, 206
July	1, 371	4, 780	13, 720	15, 609	1, 144	2, 018	7, 614	730	3, 780	3, 987	9, 968	8, 268	72, 989
August	930	2, 010	6, 986	23, 705	686	1, 810	4, 487	3, 240	2, 088	1, 903	8, 470	5, 524	61, 839
September	809	2, 750	12, 275	23, 660	1, 275	1, 541	5, 461	4, 960	2, 856	1, 490	13, 932	3, 736	74, 745
October	1, 208	5, 210	19, 160	38, 424	874	3, 330	6, 774	4, 000	3, 456	5, 643	12, 072	4, 664	104, 815
November	1, 264	3, 170	14, 061	24, 936	1, 037	2, 298	4, 603	3, 630	3, 280	8, 514	15, 975	4, 490	87, 258
December	830	2, 790	13, 482	21, 240	850	2, 764	7, 586	1, 330	2, 232	4, 708	9, 852	4, 881	72, 545
Total, six months	6, 412	20, 710	19, 684	147, 574	5, 866	13, 761	36, 525	17, 890	17, 692	26, 245	70, 269	31, 563	474, 191

Division of Statistical and Historical Research. Compiled from Hay Trade Journal; Annual Reports of San Francisco Merchants' Exchange; Minneapolis Chamber of Commerce Reports and Daily Market Record; Chicago Board of Trade and Daily Trade Bulletin; Kansas City Grain Market Review.

[1] Not reported.

TABLE 344.—*Hay, tame: Farm price per ton December 1, by States, 1909–1924, and value per acre, 1924*

State.	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre 1924 [1]
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Maine	14.70	12.80	14.40	13.70	13.90	13.90	13.10	14.90	12.40	11.10	13.90	18.70	24.60	15.53	20.00	13.10	13.50	13.00	14.95
New Hampshire	17.90	15.80	17.20	15.00	17.20	16.62	17.00	17.40	14.50	12.00	18.80	24.00	25.00	18.39	28.00	19.50	19.00	18.50	21.64
Vermont	14.70	12.40	14.00	14.00	14.50	13.92	14.60	15.50	12.60	11.50	16.30	20.10	23.00	16.23	22.00	17.50	16.50	16.10	24.15
Massachusetts	18.90	19.10	23.00	21.50	21.10	20.72	21.50	22.00	19.00	19.90	26.00	27.00	28.00	23.34	27.00	23.00	26.00	24.00	32.40
Rhode Island	18.60	19.60	24.10	22.20	21.20	21.14	20.20	22.50	20.00	20.30	25.50	32.00	33.20	24.81	27.00	26.50	26.80	24.00	33.12
Connecticut	19.30	19.00	23.50	22.50	20.10	20.88	19.50	20.00	18.50	19.50	24.00	30.20	30.00	23.10	26.00	26.00	24.00	25.00	32.50
New York	14.20	13.70	17.90	14.90	15.30	15.20	14.60	15.70	11.90	15.10	20.40	20.50	23.60	17.40	18.00	14.10	16.20	14.50	21.17
New Jersey	16.50	18.20	22.00	20.00	19.00	19.14	19.50	19.00	17.60	20.00	28.00	29.10	27.50	22.96	18.00	18.10	26.90	19.00	34.58
Pennsylvania	14.60	15.00	20.00	15.60	14.90	16.02	14.50	15.60	13.80	17.50	23.70	24.00	23.50	18.94	17.00	14.30	21.50	16.00	25.76
Delaware	15.00	14.80	22.50	15.00	15.70	16.60	17.00	17.00	15.90	20.50	28.00	26.00	21.50	20.84	17.50	19.00	21.00	17.00	28.39
Maryland	14.40	15.40	22.40	14.40	15.20	16.36	15.30	16.20	14.00	19.90	26.80	24.00	25.00	20.17	15.10	18.50	23.60	16 40	28.54
Virginia	13.30	14.50	20.50	15.20	15.50	15.80	17.20	15.70	15.00	21.30	23.00	23.70	23.50	19.91	17.70	16.00	20.00	17.80	24.74
West Virginia	13.30	15.00	20.00	15.00	14.90	15.64	17.20	15.00	14.50	21.10	23.50	25.60	24.20	20.16	17.50	16.80	19.90	17.60	26.75
North Carolina	14.40	14.60	17.00	16.70	16.50	15.84	17.10	16.50	17.50	19.70	21.00	24.20	23.00	19.84	19.80	18.20	20.00	21.00	20.79
South Carolina	15.50	16.00	17.00	18.00	18.70	17.64	17.00	15.60	16.70	20.60	26.10	31.00	25.00	21.71	20.00	17.50	18.00	22.00	9.02
Georgia	15.80	16.40	17.00	17.00	17.90	16.82	16.20	15.10	16.20	20.00	23.50	25.30	23.50	19.97	15.80	17.00	18.90	19.00	11.02
Florida	15.00	17.00	18.50	18.10	18.20	17.36	17.20	16.00	16.00	18.20	18.50	23.00	19.00	18.27	19.50	18.50	20.00	20.00	17.20
Ohio	10.90	12.50	18.90	13.00	12.80	13.62	13.40	12.70	10.60	19.00	22.20	21.80	19.50	17.03	11.50	10.80	16.70	12.80	20.22
Indiana	10.50	11.90	16.80	11.40	14.10	12.94	14.10	11.00	10.90	18.70	19.80	21.60	19.30	16.49	13.00	11.20	15.60	12.50	18.75
Illinois	9.90	12.00	17.00	12.60	14.10	13.12	14.40	10.80	11.30	20.00	21.00	21.40	20.60	17.07	13.50	12.50	14.80	13.50	20.25
Michigan	11.40	13.60	17.00	12.70	13.10	13.56	12.00	12.20	10.00	17.20	23.50	23.40	21.00	17.04	13.00	10.10	14.50	12.10	19.00
Wisconsin	9.60	15.10	15.60	12 10	11.10	12.70	9.30	9.90	11.60	17.30	21.60	20.30	20.40	15.77	15.40	12.30	16.00	13.30	25.27
Minnesota	6.00	9.10	11.90	6.40	6.60	8.00	6.10	6.40	7.00	12.10	14.10	14.50	11.20	10.20	8.60	10.70	11.30	11.50	19.55
Iowa	7.10	9.60	12.50	9.50	9.60	9.66	10.10	8.70	9.00	16.80	18.20	17.40	16.24	13.78	9.30	10.00	12.50	11.40	20.29
Missouri	8.30	9.20	13.30	9.80	14.50	11.02	13.60	8.50	9.30	17.50	20.50	19.50	15.70	14.94	9.80	11.50	12.00	12.00	16.68
North Dakota	5.00	7.60	7.00	5.50	5.80	6.18	5.20	5.70	6.00	11.50	14.60	14.10	9.90	9.57	7.70	7.50	6.80	7.60	12.16
South Dakota	5.10	7.10	8.50	6.10	6.50	6.66	5.70	5.30	5.40	10.60	10.00	13.50	8.50	8.43	6.40	7.50	8.10	8.90	14.15
Nebraska	6.00	8.90	9.70	8.40	8.70	8.34	6.90	5.80	7.10	15.20	17.20	14.00	9.00	10.74	7.00	11.20	10.20	9.60	22.27
Kansas	6.00	7.80	9.90	7.60	12.50	8.76	7.40	5.60	7.60	16.60	19.40	15.80	10.20	11.80	8.00	9.30	10.60	11.20	22.96
Kentucky	11.90	13.10	17.30	13.70	16.80	14.50	16.00	12.50	12.60	20.30	23.70	25.40	22.00	18.93	15.50	14.50	17.00	18.00	26.10
Tennessee	12.80	13.40	16.70	15.80	16.20	14.96	17.00	13.90	15.00	19.30	24.00	27.00	20.50	19.53	15.50	16.40	18.50	20.00	24.40
Alabama	13.50	13.20	12.80	14.60	14.20	13.66	13.80	12.40	13.00	16.20	20.30	22.30	19.50	16.79	15.60	17.00	18.50	19.00	13.68
Mississippi	11.50	12.20	11.00	12.50	13.50	12.14	12.00	11.00	11.00	15.30	18.50	20.50	17.20	15.07	14.50	14.50	15.50	17.50	15.05
Louisiana	10.70	11.50	12.00	12.70	12.50	11.88	12.00	10.30	11.00	14.30	21.20	23.00	16.00	15.40	14.00	13.30	15.00	17.80	12.82
Texas	11.90	12.00	11.90	10.40	11.80	11.60	9.80	7.90	10.50	20.00	24.90	18.00	13.40	14.93	9.90	11.50	16.00	16.80	18.98

Oklahoma	7.30	8.40	8.00	7.40	10.40	8.30	7.90	5.60	9.00	15.40	19.50	15.10	10.50	11.86	8.20	12.50	14.30	13.30	19.28
Arkansas	10.80	11.00	13.00	12.00	13.50	12.06	12.90	10.30	12.50	15.40	19.50	20.50	16.00	15.30	12.50	13.60	16.00	16.40	17.71
Montana	10.00	12.50	10.00	8.30	9.60	10.08	8.70	7.50	11.00	18.60	19.60	23.00	12.00	14.34	8.70	9.00	8.80	10.60	17.10
Wyoming	8.90	12.50	10.30	8.60	6.70	9.40	7.50	7.80	12.00	17.00	14.00	23.00	12.00	13.33	7.50	8.50	9.60	9.80	17.74
Colorado	10.00	10.80	9.30	8.70	10.00	9.76	7.40	7.60	11.00	16.60	15.50	18.50	12.00	12.66	6.90	11.20	11.30	11.00	22.77
New Mexico	11.10	11.50	13.00	8.50	12.10	11.24	9.30	8.80	14.00	21.00	20.00	18.20	17.00	15.47	12.70	19.50	16.00	15.40	32.80
Arizona	12.80	13.00	12.00	12.00	11.00	12.16	8.80	9.60	14.50	24.80	24.00	20.00	29.00	18.67	13.00	18.00	15.00	16.30	62.43
Utah	9.00	9.00	9.00	8.00	9.10	8.82	7.70	8.00	15.00	15.00	17.10	21.90	13.00	13.96	6.20	8.20	8.90	12.00	33.36
Nevada	10.50	10.80	9.50	8.70	11.00	10.10	8.30	7.50	9.60	15.90	19.90	19.60	16.00	13.83	9.00	11.80	11.00	14.20	31.10
Idaho	9.10	9.00	7.60	6.30	7.20	7.84	7.30	7.70	12.10	16.00	17.60	22.00	12.50	13.60	6.70	10.00	8.90	12.20	24.64
Washington	14.00	15.70	12.00	10.10	10.90	12.54	11.00	10.80	13.80	20.00	25.40	23.00	18.50	17.50	10.50	16.20	12.00	15.50	26.82
Oregon	11.70	12.10	9.60	8.30	9.00	10.14	9.20	9.50	10.90	17.50	20.00	19.10	14.50	14.39	9.80	13.60	11.60	13.30	19.42
California	11.50	9.60	10.90	13.70	13.50	11.84	8.20	11.20	12.60	19.20	20.00	17.20	20.00	15.49	11.00	15.60	14.00	21.70	50.56
United States	10.58	12.14	14.29	11.79	12.43	12.25	11.12	10.63	11.22	17.09	20.13	20.08	17.76	15.43	12.11	12.56	14.13	13.82	22.03

Division of Crop and Livestock Estimates.

[1] Based on farm price Dec. 1.

TABLE 345.—*Hay, all (loose): Farm price per ton, 15th of month, United States, 1909–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted av.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1909	10.12	9.70	9.85	10.19	10.42	10.48	10.90	11.48	11.57	11.30	10.96	10.80	10.61
1910	10.75	10.98	11.16	11.16	11.67	11.92	11.74	11.68	11.46	11.52	12.04	12.78	11.54
1911	13.51	13.73	13.58	13.57	13.95	14.02	14.07	14.52	15.15	15.98	16.26	15.27	14.36
1912	13.18	11.62	11.12	11.05	11.44	11.45	10.98	10.74	10.52	10.42	10.48	10.51	11.17
1913	10.45	10.74	11.24	11.48	11.97	12.06	11.68	11.68	11.60	11.58	11.64	11.46	11.49
Av. 1909–1913	11.60	11.35	11.39	11.49	11.89	11.99	11.87	12.02	12.06	12.16	12.28	12.16	11.83
1914	11.02	10.93	11.03	10.87	10.95	10.80	10.65	10.86	10.94	11.00	11.10	11.00	10.92
1915	10.52	10.07	9.89	9.90	9.92	9.97	10.31	10.65	10.80	11.06	11.37	11.28	10.40
1916	10.50	9.80	9.68	9.82	10.31	10.74	11.10	11.44	12.04	13.24	14.31	14.32	11.22
1917	13.43	13.08	13.54	14.50	15.85	17.32	18.48	19.01	18.91	18.32	17.55	16.60	16.30
1918	16.00	16.67	17.94	18.86	19.31	19.64	19.86	19.80	20.17	21.42	22.80	22.52	19.42
1919	20.94	20.34	20.16	19.58	19.40	20.00	21.16	22.04	22.62	23.58	24.54	24.24	21.27
1920	22.26	20.38	19.41	18.20	17.08	16.43	15.76	14.76	13.94	13.34	12.80	12.56	16.65
Av. 1914–1920	14.95	14.47	14.52	14.53	14.69	14.99	15.32	15.51	15.63	15.99	16.35	16.07	15.17
1921	12.17	11.72	11.53	11.24	11.19	11.29	11.34	11.58	12.05	12.64	12.82	12.28	11.74
1922	11.44	10.78	10.68	10.87	11.38	11.82	11.98	12.04	12.18	12.54	12.82	12.32	11.67
1923	11.78	11.98	12.25	12.44	12.75	13.15	13.59	13.60	13.63	13.73	13.65	13.75	12.98
1924	13.49	12.95	12.68	12.64	12.88	12.69							

Division of Crop and Livestock Estimates. Mean of prices reported on 1st of month and 1st of succeeding month.

TABLE 346.—*Hay, alfalfa: Farm price per ton, 15th of month, United States, 1914–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted av.
1914	$8.65	$8.38	$8.72	$8.96	$9.20	$9.05	$9.48	$9.32	$9.79	$9.81	$9.58	$8.50	$9.12
1915	8.28	8.28	8.22	8.14	8.72	9.52	9.89	10.35	10.74	10.73	10.56	10.49	9.39
1916	9.87	9.80	10.06	10.25	11.37	12.31	12.79	13.63	14.68	17.68	17.92	16.77	12.76
1917	14.13	15.28	16.33	17.59	19.19	20.39	21.27	21.38	20.82	18.97	17.84	16.74	18.42
1918	16.58	18.22	19.72	20.23	20.42	20.74	20.42	20.91	21.40	22.28	23.32	20.89	20.35
1919	20.15	20.72	20.89	20.56	21.63	22.95	24.13	24.41	24.68	24.57	25.68	24.20	22.70
1920	21.70	20.43	19.12	18.03	17.10	16.59	14.98	13.55	12.88	11.35	10.88	10.64	15.96
1921	9.85	9.66	9.86	9.82	9.67	10.46	10.55	11.04	11.80	12.39	12.28	10.98	10.58
1922	10.61	10.54	11.15	11.87	12.70	13.31	14.06	14.02	14.33	14.09	14.40	13.63	12.82
1923	12.45	12.01	12.78	13.37	13.59	14.39	13.99	14.08	13.98	14.09	14.12	13.70	13.54
1924	13.19	13.84	13.59	12.85	13.91	13.40							

Division of Crop and Livestock Estimates.

TABLE 347.—*Hay, clover: Farm price per ton, 15th of month, United States, 1914–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted av.
1914	$11.85	$12.09	$12.44	$12.47	$12.70	$12.76	$13.07	$13.36	$13.41	$13.65	$13.79	$12.78	$12.83
1915	11.65	10.87	10.82	10.60	10.59	10.95	11.24	11.41	11.70	11.87	12.52	12.46	11.29
1916	10.84	9.93	10.01	10.08	10.46	10.86	11.38	11.65	11.90	13.06	13.94	14.22	11.33
1917	12.95	12.76	13.79	15.01	17.14	18.67	19.82	21.11	21.37	19.68	18.30	16.54	17.21
1918	15.73	17.18	19.27	20.60	21.13	21.26	21.69	21.11	21.25	23.36	25.33	25.48	20.93
1919	22.02	21.58	21.74	21.17	21.61	22.60	23.78	24.94	26.13	26.93	28.31	27.80	23.69
1920	24.62	22.82	22.57	21.29	20.60	19.96	19.17	17.39	16.44	15.47	14.90	14.52	19.48
1921	13.89	14.17	14.37	13.99	13.83	14.17	13.90	14.10	14.06	14.51	14.90	14.33	14.15
1922	12.82	12.66	12.54	12.51	12.67	13.03	13.39	13.35	13.24	13.47	13.58	13.70	13.03
1923	13.52	13.51	14.12	14.73	14.94	15.82	15.51	15.98	16.31	16.08	15.92	15.95	15.14
1924	15.45	14.00	13.75	13.65	13.64	13.45							

Division of Crop and Livestock Estimates.

TABLE 348.—*Hay, timothy: Farm price per ton, 15th of month, United States, 1914–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted average
1914	$13.06	$13.09	$13.54	$13.66	$13.69	$13.69	$14.07	$14.28	$14.28	$14.53	$14.74	$14.33	$13.87
1915	13.43	12.39	12.32	12.14	12.24	12.73	13.11	13.39	13.61	14.00	14.50	14.71	13.09
1916	12.97	11.74	11.57	11.54	12.03	12.29	12.61	12.91	13.20	14.26	15.31	15.76	12.83
1917	14.68	14.11	14.89	16.23	18.33	20.31	21.37	22.25	22.53	21.47	20.40	18.55	18.67
1918	17.61	18.98	20.85	22.60	22.93	22.94	23.48	22.69	22.68	24.74	27.27	27.50	22.66
1919	24.22	23.89	23.65	23.04	22.90	23.71	24.59	25.49	26.75	27.99	29.92	30.05	25.13
1920	26.59	24.35	24.15	22.74	22.09	21.22	19.88	18.30	17.04	16.09	15.44	15.16	20.64
1921	14.51	15.01	14.83	14.39	14.22	14.31	14.51	14.77	15.06	15.52	16.10	15.75	14.82
1922	14.33	13.61	13.44	13.70	13.93	13.91	14.41	14.46	14.50	14.64	14.96	14.95	14.18
1923	14.86	14.68	15.13	16.22	16.78	16.95	16.96	17.25	17.53	17.53	17.48	17.52	16.53
1924	16.74	15.24	14.47	14.54	14.00	14.37							

Division of Crop and Livestock Estimates.

TABLE 349.—*Hay, prairie: Farm price per ton, 15th of month, United States, 1914–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Weighted average
1914	$7.49	$7.29	$7.33	$7.59	$7.49	$7.37	$7.65	$7.86	$8.03	$8.58	$8.29	$7.72	$7.69
1915	7.37	6.83	6.64	6.44	6.75	6.95	7.38	7.34	7.39	7.56	7.71	7.97	7.13
1916	7.25	6.96	7.21	7.26	7.85	8.14	8.58	8.60	9.32	10.94	12.02	11.84	8.61
1917	10.11	10.82	11.40	12.29	13.32	14.91	15.39	15.74	15.47	14.47	12.75	12.78	13.31
1918	12.51	13.26	14.35	15.06	15.47	16.30	16.33	16.35	17.38	18.85	20.22	18.71	16.03
1919	16.10	16.10	15.90	15.88	16.91	17.19	17.54	17.36	16.52	16.66	18.06	17.59	16.78
1920	15.38	13.74	12.93	11.83	11.47	10.80	10.20	9.46	8.70	8.43	8.05	8.02	10.94
1921	7.67	7.50	7.52	6.78	7.49	7.47	7.39	7.67	7.94	8.02	8.24	8.40	7.62
1922	7.68	7.76	7.54	7.74	8.13	8.98	9.44	9.52	9.61	9.74	10.64	10.07	8.79
1923	9.17	8.97	8.58	9.19	9.07	9.26	8.84	8.87	8.66	8.78	8.74	8.54	8.92
1924	8.35	8.60	8.49	8.25	8.25	8.62							

Division of Crop and Livestock Estimates.

TABLE 350.—*Hay, alfalfa No. 1, Kansas City: Average price per ton, 1910–1924*

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1910	$12.08	$13.50	$13.89	$14.25	$14.25	$14.23	$13.51	$12.93	$13.07	$13.67	$13.29	$12.38	$13.42
1911	15.13	14.44	14.87	15.00	15.27	15.50	17.72	18.37	20.49	22.73	19.34	11.62	16.71
1912	12.59	13.00	13.58	15.11	15.11	15.00	14.79	12.86	14.06	13.75	13.28	10.70	13.65
1913	12.12	14.80	16.14	16.54	16.00	16.01	15.96	15.25	15.18	15.30	15.54	14.23	15.26
1914	12.38	13.42	13.33	12.51	13.21	13.79	13.75	13.73	14.75	15.11	13.73	13.42	13.59
1915	11.54	11.90	12.25	13.11	12.83	14.35	14.54	15.34	13.92	14.44	14.45	11.42	13.34
1916	11.29	13.40	13.58	15.68	18.50	19.33	19.81	20.25	21.10	24.33	24.52	21.87	18.64
1917	21.18	24.09	24.07	27.43	31.10	32.76	30.01	31.33	27.56	24.11	22.64	20.57	26.40
1918	22.60	29.08	31.45	30.14	31.21	31.01	32.85	31.01	34.56	37.90	36.20	36.43	32.04
1919	26.93	27.63	24.86	30.24	33.39	35.10	35.75	34.68	33.79	34.10	35.46	31.75	31.99
1920	27.21	29.49	27.23	23.95	25.05	23.01	23.30	20.30	20.30	20.30	21.00	22.20	23.45
Average 1914–1920	19.02	21.29	20.97	21.87	23.61	24.19	24.29	23.83	23.71	24.43	24.17	21.98	22.78
1921	17.50	19.00	17.20	19.80	20.40	19.60	20.00	19.60	22.10	22.50	22.10	15.40	19.69
1922	15.50	15.80	18.30	22.60	23.90	23.00	23.40	23.70	24.60	26.25	25.90	22.90	22.15
1923	18.90	20.90	22.80	24.90	24.80	24.90	25.30	23.50	24.70	26.10	24.50	18.00	23.28
1924	18.60	20.00	20.25	20.80	21.25	22.70							

Division of Statistical and Historical Research. Compiled from Kansas City Daily Price Current and Kansas City Grain Market Review, average of daily range.

TABLE 351.—*Hay, prairie No. 1, Kansas City: Average price per ton, 1910–1924*

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1910	$10.83	$10.82	$11.67	$11.34	$11.16	$10.86	$11.07	$10.95	$10.84	$11.31	$11.55	$13.61	$11.33
1911	15.93	12.93	11.50	11.60	12.07	12.61	13.84	13.66	16.70	20.85	20.48	15.16	14.78
1912	8.79	7.96	8.39	8.96	8.91	9.39	10.45	9.37	9.19	9.56	9.53	9.97	9.21
1913	10.60	13.62	15.76	16.00	15.66	15.57	14.20	14.50	14.40	16.00	16.42	15.43	14.85
1914	12.10	9.96	11.58	11.35	10.94	10.98	11.25	10.89	11.26	11.41	11.02	11.03	11.15
1915	11.32	8.65	8.63	9.71	9.54	8.97	8.84	9.15	8.96	9.50	9.74	8.65	9.30
1916	8.50	8.06	9.36	9.47	10.74	11.15	10.57	10.92	12.92	18.68	19.74	20.57	12.56
1917	18.14	18.57	18.06	19.60	25.07	25.47	24.00	23.79	23.42	21.13	19.17	17.66	21.17
1918	19.26	25.25	26.57	27.58	26.84	24.04	28.25	26.82	32.35	36.63	38.91	37.34	29.15
1919	20.89	19.98	19.32	19.75	21.12	25.34	21.40	20.68	20.64	21.70	24.02	18.95	21.15
1920	17.21	19.52	18.47	16.45	16.13	14.49	14.00	13.10	14.10	13.70	14.10	13.40	15.39
Average 1914–1920	15.35	15.71	16.00	16.27	17.20	17.21	16.90	16.48	17.66	18.96	19.53	18.23	17.12
1921	12.30	11.40	11.30	12.40	12.00	11.30	11.10	10.30	11.50	11.90	12.40	11.90	11.65
1922	12.90	10.70	11.00	14.00	14.20	12.70	12.60	13.25	14.60	19.10	19.10	18.60	14.40
1923	11.80	11.50	13.80	14.60	14.75	14.75	14.80	14.50	14.80	14.50	13.90	12.50	13.85
1924	11.60	11.60	11.00	12.40	11.60	11.90	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Kansas City Daily Price Current and Kansas City Grain Market Review, average of daily range.

TABLE 352.—*Hay, timothy No. 1, Chicago: Average price per ton, 1910–1924*

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1910	$18.75	$19.50	$17.25	$17.25	$17.50	$17.50	$18.00	$16.25	$16.25	$17.75	$21.00	$21.75	$18.23
1911	23.50	21.50	20.00	20.50	21.25	21.00	21.75	20.75	21.50	24.00	26.00	21.25	21.92
1912	19.75	18.50	18.50	18.00	17.00	15.50	15.75	14.25	14.75	15.50	15.25	14.25	16.42
1913	15.00	17.75	17.75	18.00	17.00	16.25	15.50	14.75	15.25	16.00	16.25	15.25	16.23
1914	16.25	16.75	15.50	15.25	15.50	15.50	16.25	15.50	15.25	16.25	17.00	17.50	16.04
1915	19.25	20.25	19.00	17.00	15.50	15.50	16.25	15.50	16.75	18.75	18.75	18.00	17.54
1916	16.00	16.00	15.50	16.25	16.25	16.25	15.50	15.75	15.75	18.00	20.50	18.75	16.71
1917	17.75	19.25	21.00	25.00	27.25	27.00	28.25	29.00	28.00	24.00	23.00	19.00	24.04
1918	21.50	26.50	32.00	31.00	30.00	30.00	29.50	26.00	30.50	33.50	35.50	33.00	29.92
1919	34.50	35.00	29.00	28.00	29.50	30.00	32.50	34.00	35.25	43.00	46.50	42.75	35.09
1920	38.50	40.25	33.75	32.25	32.00	28.50	26.90	24.40	25.30	23.80	21.90	22.50	29.17
Average 1914–1920	23.39	24.86	23.68	23.54	23.71	23.25	23.59	22.88	23.83	25.33	26.16	24.50	24.06
1921	24.40	24.00	24.20	22.60	22.90	21.90	22.50	21.80	23.60	26.80	25.70	23.60	23.67
1922	24.50	22.00	20.90	22.40	23.00	21.10	21.75	21.50	23.00	23.00	23.10	24.00	22.52
1923	24.00	25.20	26.60	26.50	26.80	27.10	26.80	24.80	25.30	26.20	26.30	25.20	25.90
1924	25.00	25.40	24.40	22.90	22.80	23.00	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and Daily Trade Bulletin, average of daily range.

TABLE 353.—*Hay and straw: Average price per ton at Chicago, 1924*

Class and grade	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Alfalfa No. 1	$29.50	$28.75	$28.00	$28.00	$28.00	$28.00	$26.50	$22.90	$22.75	$22.50	$23.20	$23.00
Alfalfa, standard	25.75	24.50	22.00	22.00	21.20	22.00	21.50	18.80	19.00	18.50	18.20	18.00
Alfalfa No. 2	21.00	21.50	18.00	17.00	16.00	17.00	17.50	16.20	16.25	15.40	14.20	14.00
Clover No. 1	23.50	23.40	20.20	19.00	19.10	18.75	18.25	15.00	15.00	15.60	17.10	17.40
Clover No. 1, medium mixed	23.00	22.00	21.40	21.90	21.20	21.00	20.30	21.70	19.00	17.75	18.60	20.25
Clover No. 1, light mixed	26.00	24.90	24.30	24.50	24.00	24.25	24.50	24.30	22.50	21.10	21.50	21.60
Clover No. 2, light mixed	23.10	22.10	20.90	21.40	20.60	21.60	21.00	21.40	19.90	18.00	18.70	18.25
Prairie No. 1, midland	14.90	16.00	13.20	13.75	13.80	14.25	14.50	15.20	14.90	14.75	12.20	13.10
Prairie No. 1, upland	20.40	19.50	19.40	19.75	19.60	17.75	17.75	18.20	16.40	17.00	17.00	17.75
Prairie No. 2, upland	17.40	17.00	17.20	17.25	16.80	15.75	16.00	16.40	15.10	15.50	15.20	15.25
Timothy No. 1	27.40	26.25	26.20	27.00	26.60	26.40	26.50	26.80	25.25	23.60	23.60	23.50
Timothy No. 2	25.00	22.90	22.30	23.50	23.00	22.50	23.00	23.30	20.90	19.50	19.50	19.40
Oat straw	12.40	13.40	11.30	12.00	12.90	12.25	11.25	12.00	11.00	9.50	9.80	10.25
Rye straw	13.40	15.00	13.50	12.90	13.60	15.00	14.90	14.50	12.40	11.25	12.10	14.10
Wheat straw	11.75	12.40	11.00	11.25	12.20	11.60	11.30	11.00	10.25	9.25	9.80	10.25

Division of Statistical and Historical Research. Compiled from reports of the Hay, Feed, and Seed Division, average of weekly range.

TABLE 354.—*Hay and straw: Average price per ton at Kansas City, 1924*

Class and grade	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Alfalfa, selected dairy	$28.75	$29.00	$29.00	$29.90	$28.50	$28.50	.....	$22.75	$22.90	$24.20	$24.30	$26.40
Alfalfa, choice	26.90	26.60	26.60	27.75	26.20	21.50	$21.00	21.70	21.10	22.50	22.90	24.40
Alfalfa No. 1	25.40	24.00	24.75	26.25	24.40	19.90	18.40	19.80	19.75	21.30	21.10	22.50
Alfalfa, standard	23.20	20.75	21.40	22.80	20.75	17.40	16.10	17.60	18.00	19.60	18.60	20.10
Alfalfa No. 2	19.70	16.60	16.50	17.10	15.20	13.60	12.90	14.90	15.75	17.40	15.60	17.00
Alfalfa No. 3	16.50	12.40	11.90	12.00	10.50	9.40	9.20	11.40	12.10	14.40	12.80	14.40
Clover No. 1	19.00	19.00	19.00	19.00	19.00	19.00	14.10	15.50	16.25	16.50	15.50	15.90
Clover No. 2	14.90	14.75	14.75	14.75	14.75	14.75	11.80	12.75	12.75	13.50	12.75	13.00
Clover No. 1, mixed	17.60	18.30	17.50	18.10	17.50	17.00	14.75	14.40	15.00	15.10	15.00	15.00
Clover No. 2, mixed	14.10	14.60	14.30	14.90	13.80	13.25	11.90	11.70	12.50	12.80	12.75	12.75
Clover, light mixed	19.60	20.40	19.20	19.80	19.30	19.00	16.40	15.50	16.20	16.40	16.25	16.25
Prairie No. 1, lowland	9.10	9.10	9.00	8.30	6.25	6.25	6.40	6.40	6.50	6.50	6.50	6.50
Prairie No. 2, lowland	7.60	7.40	7.25	6.50	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Prairie No. 1, midland	9.60	9.70	9.50	9.90	7.00	7.00	7.50	7.50	7.50	7.50	7.50	7.50
Prairie No. 2, midland	8.00	8.40	8.25	8.40	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Prairie No. 1, upland	14.90	14.60	14.60	14.50	14.20	13.10	11.70	11.80	10.90	12.00	12.00	12.10
Prairie No. 2, upland	13.40	13.10	12.80	12.80	12.40	11.40	10.25	10.40	9.60	10.40	10.40	10.60
Prairie No. 3, upland	10.80	10.40	9.90	9.90	8.80	8.75	8.00	8.00	7.30	7.80	8.10	8.50
Timothy No. 1	19.40	20.50	19.90	20.25	19.90	19.75	16.80	15.60	16.00	16.60	16.50	16.50
Timothy, standard	17.75	19.10	18.60	19.40	18.40	18.00	15.40	14.30	15.25	15.40	15.25	15.25
Timothy No. 2	15.75	17.25	16.90	18.00	16.60	16.00	13.75	12.80	13.75	14.10	14.00	14.00
Timothy No. 3	13.25	14.75	14.40	14.70	12.80	12.25	11.50	11.25	12.25	12.50	12.50	12.50
Packing hay	8.00	7.90	7.75	7.10	5.20	5.30	5.25	5.60	5.25	6.25	6.25	6.50
Oat straw [1]	9.10	9.40	6.75	8.00	7.10	8.25	.....	.....	5.00	.....	.....	.....
Wheat straw [1]	9.00	9.40	7.00	7.75	7.25	8.60	9.25	7.10	7.20	8.80	7.20	9.40

Division of Statistical and Historical Research. Compiled from the Hay Trade Journal, except where noted. Average of weekly range.

[1] Hay, Feed, and Seed Division.

TABLE 355.—*Hay and straw: Average price per ton at St. Louis, 1924*

Class and grade	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
Alfalfa No. 1	29.90	28.40	26.60	30.00	30.00	27.30	30.00	.....	25.00	28.40	27.40	26.25
Alfalfa, standard	26.00	26.50	21.60	28.00	28.00	.....	23.00	22.20	22.30	22.80	24.25	23.00
Alfalfa No. 2	22.60	21.60	20.25	21.00	21.30	21.70	21.10	16.60	17.00	18.80	17.10	17.00
Alfalfa No. 3	20.00	18.80	16.90	18.25	17.00	17.00	16.40	14.80	15.25	14.00	15.50	15.00
Clover No. 1	26.90	26.80	28.00	26.50	24.30	23.00	24.00	.....	20.00	20.00	19.75	21.25
Clover No. 2	24.50	22.00	23.00	21.50	21.00	19.75	19.00	.....	16.00	16.80	17.10	18.00
Clover No. 3	20.00	18.50	17.50	17.50	17.50	17.50	.....	12.00	14.30	.....	13.00	12.75
Clover No. 1, mixed	22.70	23.00	23.00	23.00	21.80	21.30	21.90	.....	22.00	.....	17.00	19.75
Clover No. 2, mixed	20.90	19.70	19.90	22.70	21.10	20.70	18.25	15.40	17.50	17.30	16.25	17.75
Clover No. 1, light mixed	24.25	23.40	23.00	24.00	21.50	21.70	22.10	19.50	19.50	18.90	19.50	20.50
Clover No. 1, heavy mixed	23.75	22.00	22.00	21.75	21.00	21.00	19.25	17.00	.....	17.80	16.40	18.00
Prairie No. 1	19.50	19.50	19.50	19.50	18.75	17.30	16.50	16.50	14.75	15.70	16.10	17.25
Prairie No. 2	17.40	17.50	17.60	17.50	17.30	15.70	15.25	14.85	12.70	12.75	15.50	15.60
Prairie No. 3	15.00	15.40	15.40	13.90	14.40	14.00	13.50	.....	11.75	12.50	12.90	12.90
Timothy No. 1	26.25	25.60	25.90	26.75	25.70	25.20	25.25	21.60	24.90	24.50	22.50	22.75
Timothy, standard	24.00	23.00	23.50	24.90	23.80	23.30	23.25	18.50	22.60	21.20	20.60	21.75
Timothy No. 2	21.80	20.00	21.20	22.40	20.50	20.50	20.80	19.40	19.25	16.90	16.40	18.25
Timothy No. 3	17.75	17.75	18.60	19.60	18.00	17.80	18.40	16.90	15.20	14.60	13.75	15.50
Oat straw	10.50	9.20	9.50	9.50	9.50	9.50	9.50	8.60	8.00	8.00	8.00	8.00
Rye straw [1]	10.50	9.50	9.50	9.50	9.50	9.50	9.50	8.50	.....	.....	.....	8.50
Wheat straw	11.00	9.20	9.50	9.50	9.50	9.50	9.50	8.60	8.00	8.00	8.50	8.50

Division of Statistical and Historical Research. Compiled from Hay Trade Journal, except where noted. Average of weekly range.

[1] National Hay Press.

PASTURE

TABLE 361.—*Pasture: Condition, 1st of month, United States, 1909–1924*

Year	May	June	July	Aug.	Sept.	Oct
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	80.1	89.3	93.1	84.8		
1910	89.3	88.5	81.6	73.0		
1911	81.3	81.8	69.6	59.6		
1912	81.7	93.7	84.9	86.6		
1913	87.1	89.2	81.2	73.7		
Average 1909–1913	83.9	88.5	82.1	75.5		
1914	88.3	89.8	82.1	76.2		
1915	87.2	91.3	91.3	96.1	98.5	96.5
1916	85.2	93.4	97.7	86.9	80.4	76.9
1917	81.9	83.8	89.9	85.5	82.4	78.4
1918	83.1	92.5	84.5	75.4	69.9	77.3
1919	90.3	97.4	95.2	83.9	80.2	78.2
1920	79.8	88.8	89.5	86.3	86.2	86.2
Average 1914–1920	85.1	91.0	90.0	84.3	82.9	82.2
1921	91.8	90.1	80.8	74.3	81.6	84.8
1922	84.5	93.8	89.0	87.9	81.3	76.0
1923	77.0	84.8	85.5	77.6	78.8	83.1
1924	80.2	82.2	87.6	84.0	80.8	82.6

Division of Crop and Livestock Estimates.

HOPS

TABLE 362.—*Hops: Acreage, production, and farm value, United States, 1915–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per pound, Dec. 1	Farm value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1915	44,653	1,186.6	52,986	11.7	6,203
1916	43,900	1,152.5	50,595	12.0	6,073
1917	29,900	982.9	29,388	33.3	9,795
1918	25,900	829.4	21,481	19.3	4,150
1919	21,000	1,189.0	24,970	77.6	19,376
1920	28,000	1,224.3	34,280	35.7	12,236
1921	27,000	1,086.7	29,340	24.1	7,080
1922	23,400	1,185.6	27,744	8.6	2,383
1923	18,440	1,071.1	19,751	18.8	3,722
1924[1]	20,350	1,244.9	25,333	10.3	2,620

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 363.—*Hops: Acreage, production, and farm value, by States, 1923 and 1924*

State	Acreage		Average yield per acre		Production		Average farm price, per pound, Dec. 1		Farm value	
	1923	1924[1]	1923	1924	1923	1924[1]	1923	1924	1923	1924[1]
	Acres	*Acres*	*Pounds*	*Pounds*	*1,000 pounds*	*1,000 pounds*	*Cents*	*Cents*	*1,000 dollars*	*1,000 dollars*
Washington	1,890	2,350	2,123	1,716	4,012	4,033	18.0	10.0	722	403
Oregon	11,550	12,000	722	1,050	8,339	12,600	20.0	10.0	1,668	1,260
California	5,000	6,000	1,480	1,450	7,400	8,700	18.0	11.0	1,332	957
Total	18,440	20,350	1,071.1	1,244.9	19,751	25,333	18.8	10.3	3,722	2,620

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 364.—*Hops: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average 1909–1913	1921	1922	1923	Preliminary 1924	Average 1909–1913	1921	1922	1923	Preliminary, 1924
NORTH AMERICA	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Canada [1]	[2] 718	507	507	500	.....	[2] 1,429	1,704	1,343	2,000	.....
United States [3]	[4] 45,000	27,000	23,400	18,440	20,350	[4] 1,108	1,087	1,186	1,071	1,345
EUROPE										
United Kingdom: England	33,797	25,133	26,452	24,893	25,897	977	998	1,274	1,030	1,925
Belgium	[5] 5,313	3,731	4,258	2,975	4,200	1,319	998	785	1,073	900
France	[5] 17,072	10,774	10,430	10,166	[6] 10,378	788	617	857	495	882
Germany	[5] 56,267	27,870	29,687	28,691	28,700	515	255	462	244	433
Austria	[5] 7 6,210	240	242	264	.....	[7] 573	396	355	371	.....
Czechoslovakia	[5] 7 38,385	18,952	19,408	19,177	21,700	[7] 599	338	641	356	762
Hungary	[5] 7 628	502	131	79	[6] 124	[7] 814	558	687	759	887
Yugoslavia	[5] 3,749	2,982	4,505	2,758	[6] 5,313	725	381	699	812	788
Poland	[5] 11,963	.....	4,823	4,895	5,000	493	.....	738	584	683
OCEANIA										
Australia	1,251	1,562	1,547	.....	.....	1,285	1,537	1,557	.....	.....
New Zealand	[4] 653	540	675	.....	.....	.....	1,257	1,587	.....	.....
Totals comparable with 1909–13	221,006	.....	126,065	.....	.....	.....	.....	.....	.....	.....
Totals comparable with 1924	212,174	.....	123,094	112,074	121,662	.....	.....	.....	.....	.....
Estimated world total	221,006	123,793	126,065	114,838	124,562	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise specified.

[1] British Columbia only.
[2] Two-year average.
[3] Principal producing States.
[4] One year only.
[5] Estimates for present boundaries.
[6] Unofficial estimates.
[7] Four-year average, 1909–1912.

TABLE 365.—*Hops: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand pounds—i. e., 000 omitted]

Country	Production				
	Average 1909–1913	1921	1922	1923	Preliminary, 1924
NORTH AMERICA					
Canada [1]	[2] 1,026	864	681	1,000	.....
United States [3]	53,654	29,340	27,744	19,751	25,333
EUROPE					
United Kingdom: England	33,021	25,088	33,712	25,648	49,340
Belgium	[4] 7,008	3,722	3,344	3,192	3,780
France	[4] 13,459	6,646	8,940	5,036	[5] 9,149
Germany	[4] 28,961	7,097	13,704	7,011	12,420
Austria	[4] [6] 3,560	95	86	98	.....
Czechoslovakia	[4] [6] 22,997	6,401	12,439	6,819	16,667
Hungary	[4] [6] 511	280	90	60	[5] 116
Yugoslavia	[4] 2,718	1,135	3,148	2,240	[5] 4,189
Poland	[4] 5,897	.....	3,558	2,857	[5] 3,417
OCEANIA					
Australia	1,607	2,401	2,408	[4] 1,700	.....
New Zealand	.....	679	1,071	[4] 560	.....
Totals comparable with 1909–1913	174,419	.....	109,854	75,413	.....
Totals comparable with 1924	168,226	.....	106,679	72,614	124,995
Estimated world total	175,119	85,748	110,925	75,972	126,695

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise specified.

[1] British Columbia only.
[2] Two-year average.
[3] Principal producing States.
[4] Estimate for present boundaries.
[5] Unofficial estimate.
[6] Three-year average, 1909–1912.

TABLE 366.—*Hops: Consumption and movement, United States, 1910–1924*

Year ending June 30	Consumed by brewers [1]	Exports [2]		Total of brewers' consumption and exports	Imports [2]	Net domestic movement
		Domestic	Foreign			
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
1910	43,293,764	10,589,254	14,590	53,897,608	3,200,560	50,697,048
1911	45,068,811	13,104,774	17,974	58,191,559	8,557,531	49,634,028
1912	42,436,665	12,199,663	35,869	54,663,197	2,991,125	51,672,072
1913	44,237,735	17,591,195	35,859	61,864,789	8,494,144	53,370,645
1914	43,987,623	24,262,896	30,224	68,280,743	5,382,025	62,898,718
1915	38,839,294	16,210,443	16,947	55,066,684	11,651,332	43,415,352
1916	37,451,610	22,409,818	134,571	59,995,999	675,704	59,320,295
1917	41,949,225	4,874,876	26,215	46,850,316	236,849	46,613,467
1918	33,481,415	3,494,579	37,823	37,013,817	121,288	36,892,529
1919	13,924,650	7,466,952	4,719	21,396,321	6	21,396,315
1920	[3] 6,440,894	30,779,508	104,198	37,324,600	2,696,264	34,628,336
1921	[3] 5,988,982	22,206,028	827,803	29,022,813	4,807,998	24,214,815
1922	[3] 4,452,676	19,521,647	487,633	24,461,956	893,324	23,568,632
1923	[3] 4,555,759	13,497,183	198,006	18,250,948	1,294,644	17,956,304
1924	[3] 3,814,858	20,460,705	132,572	24,408,135	761,174	23,646,961

Division of Statistical and Historical Research.

[1] From records of the Bureau of Internal Revenue.
[2] From reports of the Bureau of Foreign and Domestic Commerce.
[3] Hops used to make "cereal beverages."

TABLE 367.—*Hops: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Austria-Hungary	938	18,333						
Czechoslovakia			2,403	6,625	54	10,586	526	6,826
France	5,436	335	2,862	5,806	3,032	3,329	3,796	4,974
Germany	7,688	17,564	1,750	[1] 5,712	4,806	7,444	2,056	4,250
New Zealand	61	352	19	235	21	221	16	282
Poland					345	1,135	152	1,548
Russia	1,258	2,348						
United States	6,235	15,416	1,629	18,460	1,201	14,882	1,018	20,019
Yugoslavia			[2] 165			1,932		5,078
PRINCIPAL IMPORTING COUNTRIES								
Argentina	618		1,226		656		996	
Australia	1,106	22	754	1		[3] 1		
Austria			1,247	650	[3] 1,281	[3] 141	3,263	140
Belgium	6,915	4,814	8,507	4,228	4,630	2,072	4,671	2,377
British India	246		272		282		294	
Canada	1,396	176	2,140	321	1,965	826	4,240	1,182
Denmark	1,027	[4] 1	388	1	609	1	580	
Hungary			[3] 146	[3] 39	[3] 225	[3] 179		
Italy	529	10	846	11	778	87	504	35
Japan	253		658		[3] 754			
Netherlands	2,938	1,405	1,072	1,311	1,323	549	1,228	716
Norway	289		422		546		350	
Sweden	987	1	685	152	865	85	1,036	
Switzerland	1,257	[4] 2	492		749		521	
Union of South Africa	487		390		404		398	
United Kingdom	21,028	2,102	24,256	246	14,284	316	1,549	2,425
Other countries	2,277		2,681		1,625	400	208	106
Total	62,969	62,941	55,010	43,798	40,435	44,186	27,402	49,938

Division of Statistical and Historical Research. Official sources except where otherwise noted.
Lupulin and hopfenmehl (hop meal) are not included.

[1] Eight months, May–December.
[2] International Institute of Agriculture.
[3] Three-year average.
[4] One year only.

TABLE 368.—*Hops: Wholesale price per pound, 1913–1924*

Year	New York, State, prime to choice			San Francisco		
	Low	High	Average[1]	Low	High	Average[1]
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1913	17	48		19	30	
1914	23	50		10	30	
1915	13	30		10	15	
1916	15	55		7	14	
1917	34	90		6	40	
1918	23	54	37.9	19	22.5	19.5
1919	37	85	59.9	34	84	59.2
1920	41	105	80.2	33	85	61.2
1921	26	50	37.0	12	35	24.4
1922	19	40	25.3	9	30	17.6
1923	19	58	32.5	10	35	17.2
1924	31	58	47.3	12.5	40.0	24.2
1924						
January	53	58	54.1	25	30	27.5
February	56	58	57.0	25	30	27.5
March	56	58	57.0	25	40	31.1
April	54	58	56.8	30	40	35.0
May	52	56	54.2	30	40	33.6
June	52	54	53.0	27	35	31.9
July	45	54	50.0	17	30	23.3
August	36	45	40.1	17	22	19.1
September	31	45	38.6	12.5	22	18.5
October	35	45	39.1	12.5	16	14.2
November	32	37	35.0	12.5	16	14.2
December	32	34	32.5	12.5	16	14.2

Division of Statistical and Historical Research. Compiled from New York Journal of Commerce and San Francisco Daily Commercial News.

[1] Monthly averages are computed from daily ranges. Yearly averages are simple averages of monthly averages.

PEANUTS

TABLE 369.—*Peanuts: Acreage, production, and farm value, United States, 1916–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per pound, Nov. 15	Farm value
	1,000 acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1916	1,043	881.1	919,028	4.5	41,243
1917	1,842	777.7	1,432,581	6.9	98,512
1918	1,865	664.9	1,240,102	6.5	80,271
1919	1,132	691.9	783,273	9.3	73,094
1920	1,181	712.5	841,474	5.3	44,256
1921	1,214	683.1	829,307	4.0	33,097
1922	1,005	630.0	633,114	4.7	29,613
1923	896	722.9	647,762	6.8	43,918
1924[1]	986	624.9	616,200	6.2	37,981

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 370.—*Peanuts: Acreage, production, and farm value, by States, 1923 and 1924*

State	Acreage		Average yield per acre		Production		Average farm price per pound, Nov. 15		Farm value	
	1923	1924 [1]	1923	1924	1923	1924 [1]	1923	1924	1923	1924 [1]
	1,000 acres	*1,000 acres*	*Lbs.*	*Lbs.*	*1,000 lbs.*	*1,000 lbs.*	*Cts.*	*Cts.*	*1,000 dollars*	*1,000 dollars*
Virginia	124	114	990	650	122,760	74,100	6.5	6.8	7,979	5,039
North Carolina	160	181	1,100	845	176,000	152,945	7.4	7.0	13,024	10,706
South Carolina	38	32	800	700	30,400	22,400	7.2	6.0	2,189	1,344
Georgia	152	198	512	600	77,824	118,800	6.9	5.6	5,370	6,653
Florida	80	86	600	710	48,000	61,060	7.0	5.3	3,360	3,236
Tennessee	14	16	935	730	13,090	11,680	7.0	6.0	916	701
Alabama	142	200	469	500	66,598	100,000	5.8	5.5	3,863	5,500
Mississippi	15	14	600	480	9,000	6,720	6.0	6.4	540	430
Louisiana	17	17	450	355	7,650	6,035	7.5	6.0	574	362
Texas	122	98	620	450	75,640	44,100	6.4	6.5	4,841	2,866
Oklahoma	15	14	650	700	9,750	9,800	5.0	6.0	488	588
Arkansas	17	16	650	535	11,050	8,560	7.0	6.5	774	556
Total	896	986	722.9	624.9	647,762	616,200	6.8	6.2	43,918	37,961

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 371.—*Peanuts: Farm price per pound, 15th of month, United States, 1910–1924*

Year beginning November	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Weighted av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	4.7	4.5	4.4	5.0	4.8	4.9	4.8	5.2	5.0	5.3	5.1	4.6	4.6
1911	4.4	4.4	4.3	4.7	5.0	4.9	4.9	5.2	4.9	5.0	4.8	4.7	4.4
1912	4.7	4.6	4.6	4.5	4.7	4.8	4.7	5.0	5.1	4.9	4.9	4.8	4.6
1913	4.4	4.8	4.7	4.7	4.7	4.9	5.1	5.1	5.2	4.9	5.0	4.5	4.6
Av. 1910–1913	4.6	4.6	4.5	4.7	4.8	4.9	4.9	5.1	5.0	5.0	5.0	4.6	4.6
1914	4.4	4.3	4.5	4.4	4.2	4.5	4.8	4.8	4.7	4.5	4.4	4.3	4.4
1915	4.2	4.2	4.3	4.4	4.4	4.6	4.6	4.7	4.6	4.6	4.4	4.4	4.3
1916	4.4	4.7	4.9	5.3	5.5	6.2	7.3	7.7	7.6	7.2	6.6	6.1	4.8
1917	7.1	7.1	7.0	7.2	7.4	8.3	8.2	7.9	7.8	7.9	8.3	6.9	7.1
1918	6.6	6.1	6.0	6.9	7.0	6.9	7.2	7.7	8.2	8.1	8.3	8.1	6.5
1919	9.1	9.1	9.9	10.5	11.2	10.9	11.2	11.2	11.0	8.5	8.0	5.8	9.2
1920	5.3	4.7	4.4	4.1	4.0	3.5	3.4	3.8	3.8	3.9	4.0	4.0	4.7
Av. 1914–1920	5.9	5.7	5.9	6.1	6.2	6.4	6.7	6.8	6.8	6.4	6.3	5.7	5.9
1921	3.7	3.5	3.6	4.0	4.3	3.9	3.9	4.2	4.4	4.4	4.7	3.6	3.7
1922	5.2	5.0	5.9	6.5	6.7	7.1	7.1	7.3	6.9	6.7	6.7	7.0	5.5
1923	6.8	6.2	6.4	6.7	6.8	6.7	6.4	6.5	6.4	6.6	6.4	6.4	6.5
1924	6.3	5.6											

Division of Crop and Livestock Estimates.

TABLE 372.—*Peanuts: Monthly average prices of cleaned and shelled peanuts, f. o. b. important shipping points, November, 1920–October, 1924*

VIRGINIA-NORTH CAROLINA SECTION[1]

	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Cleaned Virginias, Jumbos:												
1920–21	12¾	11⅛	11⅛	11	10⅝	10⅜	11	12	12	11⅞	11¼	11¼
1921–22	10¼	8	7⅞	7⅛	6⅝	5⅞	5⅝	5⅞	5⅞	6	6	6⅝
1922–23	9¼	10¾	11¼	11	10¾	10⅝	10⅝	10⅜	10¼	9½	9½	9⅔
1923–24	9¼	8½	8⅝	8⅝	8½	8½	8⅝	8⅝	9½	10⅜	10⅜	10¼
Fancys:												
1920–21	6⅞	5¾	6½	6⅝	6¼	6⅜	6⅝	7⅛	7⅛	7	6⅞	6⅞
1921–22	7	6⅝	7⅛	6⅝	6⅜	5⅝	5⅛	5	4⅞	5	4⅝	5
1922–23	7	7¾	7⅛	7⅞	7¾	7⅝	7½	7⅜	7	6⅝	6⅝	6¼
1923–24	6⅝	6⅞	7	7⅛	7	7	7¼	7⅝	8⅜	9⅛	9⅜	9
Extras:												
1920–21	5¾	5	5	5	4⅝	4½	4⅝	5¼	4⅞	4¾	5	4⅞
1921–22	4⅞	4¼	4⅜	4¼	4⅛	3⅞	3¾	3⅞	3⅞	4⅛	4⅛	4⅛
1922–23	5½	6	6⅝	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6¼	6⅛	6¼
1923–24	6⅛	6	6⅛	6¼	6¼	6⅜	6⅝	6⅝	7⅜	8⅛	8⅛	8
Shelled Virginias, Extra Large:												
1920–21	12½	11⅝	12¼	12⅜	12½	12⅝	12⅝	12⅜	12¼	12	12	11¾
1921–22	10⅝	8¾	8⅞	8½	8¾	8⅛	7¾	7½	7⅝	8⅜	8¼	8⅜
1922–23	9½	12	14½	13⅜	12¾	12⅛	12⅜	12¼	12	11½	11⅛	11⅜
1923–24	10⅞	9¾	10⅛	10⅜	10⅜	10⅝	10⅜	10⅜	11⅝	12⅜	12⅜	12⅜
No. 1:												
1920–21	7¼	5⅛	5⅛	5	4⅝	4⅝	4⅞	5⅛	4⅞	5½	7⅛	7½
1921–22	7	5⅞	5⅝	5⅜	5⅞	5½	5½	6⅛	6½	7¼	6⅝	6⅝
1922–23	7⅜	8⅛	9⅝	10⅜	10⅛	10¾	10⅜	10½	9⅝	9	8⅞	9⅝
1923–24	9⅛	8⅞	9	9¼	9⅜	9⅝	9⅝	9½	10¾	11⅝	11⅜	10⅝
No. 2:												
1920–21	4⅜	3¾	3⅜	3½	3⅛	2⅞	2¾	2⅞	2⅝	3⅛	4¼	4¼
1921–22	4⅛	3¼	3½	3½	4½	4½	4½	5	5¼	5⅜	5½	5¼
1922–23	4⅞	6½	7¾	8⅞	8⅝	8⅝	9¼	9¼	8⅞	8	7⅝	8
1923–24	7⅞	7¼	7½	7¾	7⅝	7⅝	7¾	7¼	7¾	8¼	8	7⅜

SOUTHEAST SECTION: SOUTH CAROLINA, GEORGIA, ALABAMA, AND FLORIDA[2]

Shelled Spanish, No. 1:												
1920–21	7¼	5⅝	5¾	5¾	4⅞	4⅞	4½	4½	4¼	4⅞	5⅜	5⅞
1921–22	5⅝	5	5⅛	5½	6	5⅞	6⅛	7⅛	7¾	8¼	7½	6⅞
1922–23	9¼	9½	10¾	11¾	11⅜	12⅛	12½	12⅝	12¾	12½	12¾	11⅞
1923–24	11⅜	11½	11¾	11¾	11⅜	11⅛	11	11	11⅝	12⅛	10⅜	8¾
Spanish, No. 2:												
1920–21	5¼	4⅛	4¼	4	3¼	3¼	2⅞	3⅛	2¾	3⅞	4¼	4⅜
1921–22	4⅛	3¾	3⅞	4¼	5¼	6¼	6¼	5⅞	6⅝	6⅞	6½	5⅝
1922–23	7⅝	7⅝	9⅜	9¾	9⅛	10⅝	10¾	10⅛	10¼	9⅝	9¼	10⅛
1923–24	10½	10½	10⅝	10⅝	10⅛	9¾	9	8¼	8⅝	9¼	8¼	7⅜
Runners, No. 1:												
1920–21	5½	4⅛	4¼	4	3¼	3¼	3	3¼	3¾	4⅝	5	5
1921–22	4¾	4⅜	4⅝	5⅛	5⅛	5¾	5⅝	6½	6¼	6⅝	6¾	6⅝
1922–23	7½	7⅞	9⅛	9¾	9⅝	10⅛	10¼	10⅛	9⅞	9¾	------	9⅛
1923–24	9	8⅝	9¼	9½	9	8½	8¼	8⅛	9¼	10⅛	9⅜	7¾
Runners, No. 2:												
1920–21	4	3¾	3⅝	3⅜	2¾	2¾	2½	2⅝	2⅝	------	3⅞	4¼
1921–22	3⅝	3⅝	3⅝	3¾	5	------	------	------	------	4	5¾	------
1922–23	------	7	8¼	8⅜	8⅝	9⅝	9⅜	9¼	8¾	8½	------	8¼
1923–24	8¼	7⅞	8¼	8¼	8	7½	7¼	7⅛	8¼	8⅛	7⅞	7⅛

TEXAS[3]

Shelled Spanish, No. 1:												
1920–21	7⅛	6⅛	5⅞	6⅜	5⅛	5⅞	5⅞	5⅝	5¾	6¼	6¼	5⅞
1921–22	5⅛	5¼	5⅜	5¾	6⅜	6¼	6¼	7⅝	8⅛	8⅜	8	7⅜
1922–23	9⅛	9¼	10¼	11⅞	11¾	12½	12⅝	------	13	13	13	13⅛
1923–24	12½	11⅜	11¾	11⅞	11⅜	11¾	11	11	11⅝	12⅜	11¼	9¼
Spanish, No. 2:												
1920–21	5½	4⅛	4¼	4¾	3¾	3¼	4	4	4	4¼	4⅝	4⅝
1921–22	4⅝	4	4⅝	4⅝	5⅜	5¼	5¼	6	6½	7¼	7	6¾
1922–23	7⅜	7½	9¼	10¼	10¼	10½	10⅜	------	10⅜	10½	10½	10¼
1923–24	10½	10⅝	10⅝	10⅝	10¼	9⅝	9	8⅝	8⅞	9¼	9¼	8¾

Fruit and Vegetable Division.

[1] Important shipping points: Suffolk, Norfolk, Petersburg, Franklin, Va.; Edenton, N. C.
[2] Important shipping points: Albany, Fort Gaines, Donalsonville, Valdosta, Cordele, Ga.; Troy, Ala.; Charleston, S. C.
[3] Important shipping points: Fort Worth, Denison, De Leon, Tex.

TABLE 373.—*Peanuts: International trade, calendar years 1911–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1911–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Anglo-Egyptian Sudan		1,961		9,266		5,941		13,289
Brazil		274		422		123		
British India		503,448		383,555		590,332		597,356
China	32,882	138,472	22,845	284,461	20,090	238,032	23,390	391,183
Dutch East Indies	612	60,282	797	31,653	602	29,006		[1] 38,781
French possessions in India		306,701		[2] 66,451				
Gambia		131,912		[2] 132,552				
Guinea (French)	1	4,863		[2] 3,331				
Mozambique	[3] 1,098	[3] 15,907	150	35,175	579	28,043		
Nigeria		17,163		[2] 114,193				
Senegal	[3] 168	425,937		[2] 596,108				
Spain		9,205		8,137		3,164		8,790
PRINCIPAL IMPORTING COUNTRIES								
Algeria	7,022	218	4,407	82	6,359	197		150
Argentina	8,667		334	25	12,680	103	4,485	12,372
Canada	7,302		21,570		20,092		21,963	
Denmark	5,236		10,798		11,294		21,661	
Egypt	4,664	1,637	10,104	4,994	6,077	3,328	6,336	3,711
France	1,239,659	47,107	1,027,395	11,725	1,247,832	12,383	1,404,223	15,098
Germany	174,970	[4] 98	173,326		152,762		83,145	
Hongkong					44,443	34,414	49,511	39,837
Italy [5]	1,194	804	52,278	191	84,241	768	58,423	36
Japan		10,675	33,806	1,435				
Netherlands	122,862	32,863	64,478	3,928	98,301	2,679	117,386	4,698
Philippine Islands	2,264		3,111		3,102		3,154	
Tunis	[3] 1,459		2,022		2,795			
Union of South Africa	3,164	7	783	197	1,499	25	2,192	5
United Kingdom			216,946		149,707		224,548	
United States	20,988	6,804	57,984	14,493	15,192	12,621	76,484	4,806
Other countries	100,696	111,405	17,758	16,973	10,576	1,296	1,205	50
Total	1,734,908	1,827,743	1,720,892	1,719,347	1,888,223	957,455	2,098,106	1,130,162

Division of Statistical and Historical Research. Official sources except where otherwise noted. Includes shelled and unshelled, assuming the peanuts to be unshelled unless otherwise stated. When shelled nuts were reported, they have been reduced to terms of unshelled at the ratio of 3 pounds unshelled to 2 pounds shelled.

[1] Java and Madura only.
[2] International Institute of Agriculture, Oleoaginous Products and Vegetable Oils.
[3] Two-year average.
[4] One year only.
[5] Reports include some sesamum.

TABLE 374.—*Peanuts used in the production of oil, United States, 1919–1925*

[Thousand pounds—i. e., 000 omitted]

Year ending June 30—	July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June	Year
1919			[1] 70,936	[1] 116,240	
1920	12,694	4,350	5,861	9,261	32,166
1921	15,715	27,351	26,202	42,990	112,258
1922	37,538	38,281	43,038	26,159	145,016
1923	4,690	13,126	7,054	8,409	33,279
1924	938	6,137	4,656	5,444	17,175
1925	1,918	17,390			

Division of Statistical and Historical Research. Compiled from reports of Bureau of the Census. Quantities reported in terms of "hulled" have been converted to "in the hull" basis by dividing by 0.67.

[1] Includes peanuts "in the hull" which were not reported separately.

TABLE 375.—*Peanut oil, refined: Average price per pound (in barrels), at New York, 1916–1924*

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1916	12.19	12.60	13.33	13.49	13.50	14.38	14.80	17.58	17.83	17.87	17.44	18.05	15.26
1917	18.61	20.12	21.67	22.67	22.49	22.98	22.33	22.41	21.70	21.15	21.47	21.78	21.62
1918	21.44	22.75	22.75	21.06	20.36	20.25	19.90	22.38	24.58	26.91	29.31	30.05	23.48
1919	26.25	25.25	26.68	26.69	27.50	26.43	27.12	25.00	23.10	20.88	19.00	17.19	24.26
1920	16.88	16.20	14.62	12.75	12.52	12.34	11.00	10.70	10.50	10.25	10.00	10.12	12.32
1921	10.62	11.75	11.59	11.22	11.25	11.38	12.25	13.15	13.00	13.00	12.48	12.62	12.03
1922	12.40	12.25	13.03	14.25	16.88	17.38	17.85	17.75	16.56	16.00	16.00	16.00	15.53
1923	16.00	16.00	15.59	14.80	14.75	14.75	14.75	14.75	14.88	15.25	15.25	15.56	15.19
1924	16.45	16.25	16.25	16.25	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter, average of weekly range.

TABLE 376.—*Peanut oil: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average[1] 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
China	(2)	[3] 35,593	(2)	61,555	(2)	51,136	(2)	62,285
Dutch East Indies	[4] 2,090	[4] 45	[1] 1,776	[1] 2,457				
France	142	50,967	10,405	82,805	2,138	49,339	1,337	64,492
Netherlands	2,743	18,569	14,280	18,115	17,716	20,781	6,960	20,170
PRINCIPAL IMPORTING COUNTRIES								
Algeria	(2)	(2)	30,910	694	24,411	690		
Belgium	2,233	2,065	4,434	4,529	4,748	3,693	3,642	4,978
Denmark	2,941	[3] 156	1,342	662	3,047	705	1,517	
Germany	1,602		12,174		5,959	5,344	7,137	7,363
Hongkong					27,558	21,747	33,911	24,942
Italy	8,867	(2)	28,159	61	6,643	25	1,347	29
Morocco	(2)		2,545		2,032			
Norway	(2)	(2)	6,078	604	7,862	187	10,727	
Philippine Islands	[3] 976	(2)	2,712	(2)	3,119	(2)	3,011	(2)
Sweden	2,459		3,695	72	3,962	1,121		
United Kingdom	(2)	(2)	19,907	7,605	17,463	7,939	7,170	11,921
United States	[5] 7,295	(2)	3,021	1,708	2,470	963	8,009	203
Other countries	4,376	413	748	875	847	20	24	
Total	35,724	107,812	142,186	181,742	129,975	163,690	84,792	196,383

Division of Statistical and Historical Research. Official sources except where otherwise noted. Conversions made on the basis of 7.5 pounds to the gallon.

[1] International Institute of Agriculture, Oleaginous Products and Vegetable Oils.
[2] Not separately stated.
[3] Four-year average.
[4] Two-year average.
[5] Three-year average.

SUGAR

TABLE 377.—*Sugar beets and beet sugar: Production in the United States, 1914–1924*

State and year [1]	Acreage [2]			Production		Yield per acre		Average price per ton to growers	Farm value
	Planted	Harvested		Quantity harvested	Quantity worked (sliced)	As harvested	As worked (sliced)		
		Area	Per cent of planted						
	Acres	*Acres*	*Per cent*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Dollars*	*Dollars*
California:									
1920	136,000	123,000	90.50	1,074,000	1,032,000	8.74	8.56	13.13	14,096,000
1921	136,000	121,000	88.89	1,046,000	1,040,000	8.67	8.62	7.51	7,851,000
1922	62,000	57,000	92.29	424,000	424,000	7.40	7.38	10.14	4,306,000
1923	70,000	61,000	86.25	581,000	579,000	9.59	9.55	13.99	8,129,000
1924 [3]	93,000	85,000	91.40	789,000	789,000	9.28	9.28		
Colorado:									
1920	254,000	220,000	86.69	2,325,000	2,166,000	10.58	9.85	11.88	27,627,000
1921	214,000	206,000	93.40	2,279,000	2,159,000	11.39	10.79	6.37	14,521,000
1922	165,000	148,000	89.33	1,466,000	1,422,000	9.93	9.63	7.79	11,426,000
1923	182,000	164,000	90.44	1,990,000	1,890,000	12.15	11.50	8.15	16,276,000
1924 [3]	238,000	229,000	96.22	2,548,000	2,548,000	11.13	11.13		
Idaho:									
1920	58,000	45,000	78.32	396,000	405,000	8.77	8.97	12.10	4,787,000
1921	53,000	41,000	78.49	380,000	355,000	9.18	8.57	6.00	2,279,000
1922	33,000	24,000	71.08	273,000	258,000	11.59	10.94	8.28	2,262,000
1923	47,000	43,000	90.00	498,000	447,000	11.68	10.95	8.57	4,269,000
1924 [3]	62,000	45,000	72.58	262,000	262,000	5.82	5.82		
Michigan:									
1920	164,000	150,000	91.31	1,313,000	1,244,000	8.78	8.32	10.08	13,236,000
1921	164,000	148,000	90.27	1,153,000	1,117,000	7.80	7.55	6.10	7,041,000
1922	106,000	84,000	78.98	692,000	648,000	8.23	7.72	7.22	4,994,000
1923	131,000	109,000	83.31	883,000	815,000	8.11	7.49	9.38	8,282,000
1924 [3]	174,000	154,000	88.51	1,103,000	1,103,000	7.16	7.16		
Nebraska:									
1920	79,000	72,000	91.63	718,000	670,000	9.93	9.26	11.96	8,587,000
1921	72,000	72,000	100.65	773,000	730,000	10.72	10.12	6.59	5,093,000
1922	55,000	55,000	100.66	703,000	671,000	12.78	12.21	7.79	5,477,000
1923	66,000	58,000	96.38	640,000	597,000	11.04	10.30	8.10	5,181,000
1924 [3]	67,000	66,000	98.51	768,000	768,000	11.64	11.64		
Ohio:									
1920	54,000	49,000	91.28	436,000	382,000	8.86	7.77	9.89	4,313,000
1921	36,000	33,000	91.20	264,000	248,000	8.10	7.61	6.05	1,596,000
1922	28,000	26,000	91.85	220,000	206,000	8.51	7.98	6.88	1,512,000
1923	46,000	41,000	90.94	391,000	367,000	9.43	8.85	9.26	3,624,000
1924 [3]	48,000	41,000	85.42	331,000	331,000	8.07	8.07		
Utah:									
1920	116,000	113,000	96.96	1,390,000	1,261,000	12.35	11.20	12.03	16,713,000
1921	111,000	112,000	101.24	1,152,000	1,084,000	10.26	9.66	5.47	6,300,000
1922	80,000	73,000	90.77	819,000	775,000	11.29	10.69	7.96	6,519,000
1923	84,000	83,000	98.56	1,075,000	1,008,000	12.91	12.10	8.28	8,901,000
1924 [3]	98,000	92,000	93.88	574,000	574,000	6.24	6.24		
Wisconsin:									
1920	29,000	21,000	71.33	190,000	169,000	9.19	8.16	10.20	1,940,000
1921	18,000	17,000	91.48	148,000	133,000	8.82	7.96	7.00	1,034,000
1922	13,000	8,000	63.42	67,000	65,000	8.27	7.96	7.22	484,000
1923	20,000	15,000	73.87	122,000	113,000	8.36	7.75	8.72	1,064,000
1924 [3]	27,000	19,000	70.37	127,000	127,000	6.68	6.68		
Other States:									
1920	88,000	79,000	88.54	696,000	642,000	8.75	8.07	11.52	8,025,000
1921	78,000	71,000	89.66	587,000	548,000	8.23	7.69	6.26	3,677,000
1922	64,000	55,000	88.35	519,000	494,000	9.23	8.79	7.77	4,037,000
1923	92,000	83,000	90.99	820,000	749,000	9.82	8.99	8.83	7,243,000
1924 [3]	110,000	111,000	100.91	992,000	992,000	8.94	8.94		
United States:									
1914	515,000	483,000	93.94	5,585,000	5,288,000	11.60	10.90	5.45	30,438,000
1915	664,000	611,000	92.02	6,511,000	6,150,000	10.70	10.10	5.67	36,950,000
1916	768,000	665,000	86.57	6,228,000	5,920,000	9.36	8.90	6.12	38,139,000
1917	807,000	665,000	82.43	5,980,000	5,626,000	9.00	8.46	7.39	44,192,000
1918	690,000	594,000	86.13	5,949,000	5,578,000	10.01	9.39	10.00	59,494,000
1919	890,000	692,000	77.77	6,421,000	5,888,000	9.27	8.50	11.74	75,420,000
1920	978,000	872,000	89.08	8,538,000	7,991,000	9.79	9.17	11.63	99,324,000
Av. 1914–1920	759,000	655,000	86.27	6,459,000	6,063,000	9.87	9.26	8.49	64,851,000
1921	882,000	815,000	92.36	7,782,000	7,414,000	9.55	9.10	6.35	49,392,000
1922	606,000	530,000	87.50	5,183,000	4,963,000	9.77	9.36	7.91	41,017,000
1923	732,000	657,000	89.82	7,006,000	6,565,000	10.66	9.99	8.99	62,965,000
1924 [3]	917,000	842,000	91.82	7,494,000	7,494,000	8.90	8.90		

[1] Acreage and production of beets are credited to the State in which the beets are made into sugar. Year shown is that in which beets were grown. Sugar-making campaign extends into succeeding year.
[2] The planted acreage is that covered by factory contracts, agreements, understandings, all of which is not always actually planted by growers. Therefore abandonment may not represent actual loss of acreage.
[3] Preliminary.

TABLE 377.—*Sugar beets and beet sugar: Production in the United States, 1914–1924*—Continued

State and year [1]	Factories operating	Average length of campaign	Sugar made (chiefly refined)	Beets worked (sliced)	Analysis of beets		Recovery of sucrose [4]		Loss [5]
					Percentage of sucrose [2]	Purity coefficient [3]	Percentage of weight of beets	Percentage of total sucrose in beets	
California:	*No.*	*Days*	*Short tons*	*Short tons*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
1920	10	90	168,000	1,052,000	17.66	81.44	15.97	90.43	1.69
1921	9	84	171,000	1,040,000	17.80	81.46	16.48	92.58	1.32
1922	7	74	73,000	424,000	18.48	82.71	17.28	93.51	1.20
1923	6	88	100,000	579,000	18.35	82.94	17.33	94.44	1.02
1924 [6]			134,000	789,000	18.63		16.98	91.14	1.65
Colorado:									
1920	17	98	294,000	2,166,000	15.81	85.15	13.60	86.02	2.21
1921	15	95	295,000	2,159,000	15.66	83.28	13.66	87.23	2.00
1922	15	63	185,000	1,422,000	14.66	82.69	12.90	87.99	1.76
1923	16	78	240,000	1,890,000	14.59	82.34	12.73	87.25	1.86
1924 [6]			353,000	2,548,000	16.21		13.85	85.44	2.36
Idaho:									
1920	8	72	57,000	405,000	16.26	86.42	13.98	85.98	2.28
1921	7	60	57,000	355,000	17.45	86.54	15.99	91.63	1.46
1922	5	55	40,000	258,000	16.58	86.21	15.44	93.12	1.14
1923	9	61	68,000	447,000	16.39	86.74	14.64	89.32	1.75
1924 [6]			35,000	262,000	17.18		13.36	77.77	3.82
Michigan:									
1920	17	87	106,000	1,244,000	15.79	84.04	13.34	84.48	2.45
1921	17	71	122,000	1,117,000	13.28	81.68	10.95	82.45	2.33
1922	15	48	81,000	648,000	14.38	84.16	12.52	87.07	1.86
1923	16	57	110,000	815,000	15.29	84.40	13.51	88.36	1.78
1924 [6]			169,000	1,103,000	17.95		15.32	85.35	2.63
Nebraska:									
1920	5	110	90,000	670,000	15.74	83.94	13.37	84.94	2.37
1921	5	106	105,000	730,000	16.60	84.55	14.43	86.93	2.17
1922	5	92	87,000	671,000	14.79	84.26	12.94	87.49	1.85
1923	5	83	74,000	597,000	14.48	82.38	12.32	85.08	2.16
1924 [6]			101,000	768,000	15.76		13.15	83.44	2.61
Ohio:									
1920	5	100	47,000	382,000	15.44	82.45	12.31	79.73	3.13
1921	5	62	26,000	248,000	13.41	81.41	10.46	78.00	2.95
1922	4	60	25,000	206,000	14.65	82.81	11.94	81.50	2.71
1923	5	79	39,000	367,000	13.39	82.02	10.54	78.72	2.85
1924 [6]			50,000	331,000	17.52		15.11	86.24	2.41
Utah:									
1920	18	102	163,000	1,261,000	15.62	84.27	12.89	82.52	2.73
1921	18	78	156,000	1,084,000	16.52	84.72	14.37	86.99	2.15
1922	16	55	110,000	775,000	16.11	85.17	14.16	87.90	1.95
1923	17	67	137,000	1,008,000	15.66	85.02	13.59	86.78	2.07
1924 [6]			77,000	574,000	16.38		13.41	81.87	2.97
Wisconsin:									
1920	5	80	21,000	169,000	15.86	82.53	12.40	78.18	3.46
1921	5	51	14,000	133,000	13.47	82.11	10.59	78.62	2.88
1922	4	31	8,000	65,000	16.06	83.14	13.08	81.44	2.98
1923	4	51	14,000	113,000	15.71	85.32	12.33	78.49	3.38
1924 [6]			17,000	127,000	16.54		13.39	80.96	3.15
Other States:									
1920	12	70	83,000	642,000	15.46	83.12	13.06	84.48	2.40
1921	11	60	74,000	548,000	15.41	81.89	13.50	87.61	1.91
1922	10	54	68,000	494,000	15.91	83.54	13.79	86.68	2.12
1923	11	71	99,000	749,000	15.08	82.55	13.12	87.00	1.96
1924 [6]			151,000	992,000	16.52		15.21	92.07	1.31
United States:									
1914	60	85	722,000	5,288,000	16.38	83.89	13.65	83.33	2.73
1915	67	92	874,000	6,150,000	16.49	84.38	14.21	86.17	2.28
1916	74	80	821,000	5,920,000	16.30	84.74	13.86	85.03	2.44
1917	91	74	765,000	5,626,000	16.28	83.89	13.60	83.54	2.68
1918	89	81	761,000	5,578,000	16.18	84.70	13.54	84.30	2.54
1919	80	78	726,000	5,888,000	14.48	82.84	12.34	85.22	2.14
1920	97	91	1,089,000	7,991,000	15.99	83.96	13.63	85.24	2.36
Average 1914–1920	81	83	823,000	6,063,000	16.01	84.07	13.57	84.75	2.44
1921	92	76	1,020,000	7,414,000	15.77	83.09	13.76	87.25	2.01
1922	81	58	675,000	4,963,000	15.44	83.76	13.61	88.15	1.83
1923	89	70	881,000	6,565,000	15.34	83.43	13.41	87.42	1.93
1924 [6]			1,087,000	7,494,000	16.52		14.50	86.21	2.32

Division of Crop and Livestock Estimates.

[1] Acreage and production of beets are credited to the State in which the beets are made into sugar. Year shown is that in which beets were grown. Sugar-making campaign extends into succeeding year.
[2] Based upon weight of beets.
[3] Percentage of sucrose (pure sugar) in the total soluble solids of the beets.
[4] Percentage of sucrose actually extracted by factories.
[5] Percentage of sucrose (based upon weight of beets) remaining in molasses and pulp.
[6] Preliminary.

TABLE 378.—*Cane sugar: Production in Louisiana, 1911–1924*

Year [1]	Factories in operation	Sugar made [2]	Average sugar made per ton of cane	Cane used for sugar			Molasses made [3]	
				Area.	Average per acre	Production	Total	Per ton of sugar
	Number	*Short tons*	*Pounds*	*Acres*	*Short tons*	*Short tons*	*Gallons*	*Gallons*
1911	188	352,874	120	310,000	19	5,887,292	35,062,525	99
1912	126	153,573	142	197,000	11	2,162,574	14,302,169	93
1913	153	292,698	139	248,000	17	4,214,000	24,046,320	82
1914	149	242,700	152	213,000	15	3,199,000	17,177,443	71
1915	136	137,500	135	183,000	11	2,018,000	12,743,000	93
1916	150	303,900	149	221,000	18	4,072,000	26,154,000	86
1917	140	243,600	128	244,000	15.6	3,813,000	30,728,000	126
1918	134	280,900	135	231,200	18	4,170,000	28,049,000	100
1919	121	121,000	129	179,900	10.5	1,883,000	12,991,000	107
1920	122	169,127	136	182,843	13.6	2,492,524	16,856,867	100
Average 1914–1920	136	214,104	138	207,849	14.9	3,092,503	20,671,330	97
1921	124	324,431	155	226,366	18.5	4,180,780	25,423,341	78
1922	112	295,095	156	241,433	15.6	3,778,110	22,718,640	77
1923	105	162,023	136	217,259	11.1	2,386,650	15,719,400	97
1924	.....	105,000	148	180,000	7.9	1,422,000	10,807,000	103

Division of Crop and Livestock Estimates.

[1] Sugar campaign, usually not ended before February following season of growth of cane.

[2] Chiefly raw.

[3] Figures for molasses, 1911–1914, are as reported by the Louisiana Sugar Planters' Association; figures for later years as reported by Division of Crop and Livestock Estimates.

TABLE 379.—*Cane sugar: Production in Hawaii, 1913–1924*

Island, and year ended Sept. 30	Average length of campaign	Sugar made (chiefly raw)	Cane used for sugar			Total area in cane	Average extraction of sugar	
			Area harvested	Average yield per acre	Production		Per cent of cane	Per short ton of cane
Island of Hawaii:	*Days*	*Short tons*	*Acres*	*Short tons*	*Short tons*	*Acres*	*Per cent*	*Pounds*
1922	198	223,000	55,000	37	2,010,000	106,000	11.09	222
1923	164	186,000	52,000	32	1,681,000	105,000	11.08	222
1924	201	228,000	49,000	41	1,996,000	106,000	11.42	228
Island of Kauai:								
1922	200	94,000	23,000	36	842,000	43,000	11.22	224
1923	171	93,000	21,000	37	782,000	42,000	11.82	236
1924	170	121,000	20,000	49	986,000	42,000	12.27	245
Island of Maui:								
1922	159	124,000	19,000	50	971,000	38,000	12.76	255
1923	136	112,000	17,000	50	874,000	43,000	12.81	256
1924	166	155,000	19,000	62	1,170,000	39,000	13.25	265
Island of Oahu:								
1922	243	151,000	27,000	48	1,265,000	42,000	11.92	238
1923	200	146,000	24,000	52	1,223,000	44,000	11.93	239
1924	211	187,000	23,000	66	1,509,000	45,000	12.39	248
Territory of Hawaii:								
1913	169	546,524	114,600	39	4,476,000	.....	12.21	244
1914	183	612,000	112,700	43	4,900,000	.....	12.49	250
1915	195	646,000	113,200	46	5,185,000	239,800	12.46	249
1916	180	592,763	115,419	42	4,859,424	246,332	12.20	244
1917	190	644,663	123,900	42	5,220,000	245,100	12.35	247
1918	184	576,700	119,800	41	4,855,000	276,800	11.88	238
1919	178	600,312	119,700	40	4,744,000	239,900	12.65	253
1920	175	555,727	114,100	39	4,473,000	247,900	12.42	248
Average 1914–1920	184	604,024	116,974	42	4,890,918	[1] 249,305	12.35	247
1921	202	521,579	113,100	41	4,657,000	236,500	11.20	224
1922	199	592,000	124,000	41	5,088,000	229,000	11.64	233
1923	167	537,000	114,000	40	4,560,000	235,000	11.77	235
1924	192	691,000	111,000	51	5,661,000	232,000	12.21	244

Division of Crop and Livestock Estimates.

[1] 1915–1920 average

TABLE 380.—*Sugar: Production in the United States and its possessions, 1866–1924*

Year beginning July	Beet sugar (chiefly refined)	Cane sugar (chiefly raw)					Total
		Louisiana	Other States	Porto Rico [1]	Hawaii [2]	Philippine Islands [3]	
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1866	[4] 448	21,450	3,750	76,416	----------	61,818	163,882
1867	[4] 448	20,700	5,060	82,807	----------	82,971	191,986
1868	[4] 448	47,526	2,875	91,280	----------	77,076	219,205
1869	[4] 448	40,353	3,168	114,363	----------	87,600	245,932
1870	[4] 448	84,439	4,713	115,700	----------	97,961	308,261
1871	[4] 448	73,453	4,723	100,306	----------	106,989	285,919
1872	560	62,673	4,743	98,156	----------	93,929	260,061
1873	784	51,621	2,699	80,366	----------	111,742	247,212
1874	[4] 112	67,253	3,868	80,783	12,541	141,220	305,777
1875	[4] 112	81,708	4,532	78,418	13,036	143,903	321,709
1876	[4] 112	95,337	4,344	69,821	12,788	135,578	317,980
1877	[4] 112	73,551	5,970	94,469	19,216	134,508	327,826
1878	224	119,739	5,701	85,580	24,510	145,350	381,104
1879	1,344	85,853	3,583	63,904	31,792	199,728	386,204
1880	[4] 560	136,491	6,160	69,121	46,894	230,169	489,395
1881	[4] 560	79,938	5,600	89,674	57,089	165,813	398,674
1882	[4] 560	151,533	7,840	86,948	57,910	216,973	521,764
1883	599	143,856	7,616	110,505	71,622	134,623	468,821
1884	1,067	105,701	7,280	78,400	85,676	225,117	503,241
1885	672	143,313	8,064	71,680	108,080	203,861	535,670
1886	896	90,562	5,079	96,320	106,400	189,325	488,582
1887	286	176,928	11,024	67,200	112,000	177,458	544,896
1888	2,084	162,263	10,115	69,440	134,400	251,844	630,146
1889	2,467	146,062	4,580	61,600	134,400	159,660	508,769
1890	3,874	241,745	6,840	56,000	140,000	152,359	600,818
1891	6,002	180,250	5,040	78,400	129,470	278,663	677,825
1892	13,542	243,628	5,600	56,000	156,800	288,279	763,849
1893	22,596	297,737	7,676	67,200	153,092	232,197	780,498
1894	22,503	355,414	9,283	58,800	147,502	376,405	969,907
1895	32,726	266,248	5,570	56,000	225,828	257,600	843,972
1896	42,040	315,850	6,238	64,960	251,124	226,240	906,452
1897	45,246	347,701	6,425	60,480	229,413	199,360	888,625
1898	36,368	278,497	5,897	60,285	282,808	104,160	768,015
1899	81,729	159,583	1,691	39,200	289,544	81,976	653,723
1900	86,082	308,648	3,238	81,536	360,036	61,873	901,413
1901	184,606	360,277	4,048	103,152	355,611	75,011	1,082,705
1902	218,406	368,734	4,169	100,576	437,991	123,108	1,252,984
1903	240,604	255,894	22,176	138,096	367,475	82,855	1,107,100
1904	242,113	398,195	16,800	151,088	426,248	125,271	1,359,715
1905	312,921	377,162	13,440	214,480	429,213	138,645	1,485,861
1906	483,612	257,600	14,560	206,864	440,017	132,602	1,535,259
1907	463,628	380,800	13,440	230,095	521,123	167,242	1,776,325
1908	425,884	397,600	16,800	277,093	535,156	123,876	1,776,408
1909	512,469	320,526	11,200	346,786	517,090	140,783	1,848,854
1910	510,172	342,720	12,320	349,840	566,821	164,658	1,946,531
1911	599,500	352,874	8,000	371,076	595,038	205,046	2,131,534
1912	692,556	153,573	9,000	398,004	546,524	345,077	2,144,734
1913	733,401	292,698	7,840	351,666	612,000	408,339	2,406,944
Av. 1909–1913	609,620	292,478	9,672	363,474	567,495	252,781	2,095,519
1914	722,054	242,700	3,920	346,490	646,000	421,192	2,382,355
1915	874,220	137,500	1,120	483,590	592,763	412,274	2,501,467
1916	820,657	303,900	7,000	503,081	644,663	425,266	2,704,567
1917	765,207	243,600	2,240	453,794	576,700	474,745	2,516,286
1918	760,950	280,900	3,500	406,002	600,312	453,346	2,505,010
1919	726,451	121,000	1,125	485,071	555,727	466,912	2,356,286
1920	1,089,021	169,127	6,987	489,818	521,579	608,499	2,885,031
Av. 1914–1920	822,651	214,104	3,699	452,549	591,106	466,033	2,550,143
1921	1,020,489	324,431	3,270	408,325	592,000	533,189	2,881,704
1922	675,000	295,095	640	379,172	537,000	475,325	2,362,232
1923	881,000	162,023	2,800	447,587	691,000	531,212	2,715,622
1924	1,085,000	105,000	3,000	519,000	----------	533,000	----------

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Beet sugar production preceding 1897 and for 1898 through 1900 from Willett & Gray "Weekly Statistical Sugar Trade Journal" annual reports; 1897, 1901 and subsequently from United States Department of Agriculture. Cane sugar production previous to 1903 from Bouchereau's annual "Louisiana Sugar Report"; 1903 through 1910 from Willett & Gray; 1911 and subsequently from United States Department of Agriculture. Porto Rico production previous to 1885 from Rueb & Co.; 1885 through 1899 from Willett & Gray; 1900 through 1906 are shipments to the Continental United States. Hawaii from Rueb & Co., previous to 1885; 1885 through 1900 from Willett & Gray; 1901 and subsequently from Hawaiian Sugar Planters Association.

[1] 1900–1906 shipments from Porto Rico to the United States.

[2] Statistics for Hawaii 1874–1880 represent exports.

[3] Exports 1866–1911, production 1912 and subsequently.

[4] Estimated average production.

TABLE 381.—*Sugar: Production, trade, and consumption of continental United States, 1866–1924* [1]

Year beginning July	Production	Brought from insular possessions [2]	Net imports from foreign countries [3]	Domestic exports [4]	Consumption [5]	
					Total	Per capita
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*Pounds*
1866	51,296		836,844	8,130	880,010	24.4
1867	52,416		1,105,078	2,218	1,155,276	31.4
1868	101,697		1,230,005	3,168	1,328,534	35.4
1869	87,939		1,196,774	4,428	1,280,285	33.5
1870	179,201		1,267,111	3,841	1,442,471	36.8
1871	157,248		1,497,065	4,478	1,649,835	40.8
1872	135,953		1,544,378	10,083	1,670,248	40.2
1873	110,208		1,681,988	10,133	1,782,063	41.7
1874	142,466		1,786,310	24,152	1,904,624	43.4
1875	172,705		1,478,111	51,864	1,598,952	35.5
1876	199,586		1,651,435	39,751	1,811,270	39.2
1877	159,265		1,531,422	44,093	1,646,594	34.8
1878	251,328		1,823,977	72,353	2,002,952	41.3
1879	181,560		1,818,803	30,142	1,970,221	39.7
1880	286,423		1,937,137	22,253	2,201,307	43.2
1881	172,195		1,984,821	13,814	2,143,202	41.1
1882	319,866		2,135,869	28,542	2,427,133	45.4
1883	304,143		2,747,007	76,123	2,975,027	48.0
1884	228,098		2,712,461	252,740	2,687,819	54.3
1885	304,098		2,678,475	164,429	2,818,144	49.2
1886	193,074		3,123,007	190,805	3,125,276	53.4
1887	376,475		2,674,531	34,646	3,016,360	50.4
1888	348,925		2,756,711	14,259	3,091,377	50.6
1889	306,219		2,913,741	27,225	3,192,735	51.2
1890	504,918		3,478,960	108,433	3,875,445	60.8
1891	382,584		3,551,945	14,850	3,919,679	60.3
1892	525,589		3,757,959	20,746	4,262,752	64.3
1893	656,018		4,296,338	15,468	4,936,888	73.0
1894	774,399		3,556,805	9,529	4,321,675	62.7
1895	609,987		3,894,998	9,403	4,494,682	64.0
1896	728,257		4,878,440	8,305	5,598,392	78.3
1897	796,744		2,676,502	6,508	3,468,738	47.6
1898	641,525		3,973,152	9,865	4,604,812	62.1
1899	486,007		4,013,683	22,515	4,477,175	59.3
1900	795,936	832,776	3,965,050	8,532	5,585,230	72.6
1901	1,097,862	915,794	3,014,342	9,126	5,018,872	63.9
1902	1,182,616	1,019,742	4,193,568	14,214	6,381,712	79.6
1903	1,037,348	1,057,294	3,619,966	19,644	5,694,964	69.6
1904	1,314,216	1,182,038	3,600,842	21,498	6,075,598	72.8
1905	1,407,946	1,226,520	3,904,594	26,532	6,511,628	76.6
1906	1,511,544	1,254,330	4,358,318	29,696	7,094,496	81.9
1907	1,715,736	1,585,184	3,327,498	34,010	6,594,408	74.7
1908	1,680,568	1,594,964	4,103,126	89,226	7,289,432	81.1
1909	1,765,260	1,855,504	3,869,508	144,764	7,345,508	80.3
1910	1,806,950	1,887,402	3,690,558	73,195	7,311,715	78.6
1911	2,010,673	2,375,326	3,064,848	100,760	7,950,087	84.2
1912	1,814,141	2,053,944	4,532,852	61,926	8,339,011	87.0
1913	2,177,888	1,872,752	4,926,504	74,381	8,902,763	91.6
Average 1909–1913	1,914,982	2,008,986	4,136,854	91,005	7,969,817	84.3
1914	2,045,656	2,196,028	5,059,926	605,283	8,696,927	88.2
1915	2,156,813	2,204,114	5,378,134	1,765,728	7,973,333	79.7
1916	2,386,213	2,407,876	5,055,968	1,353,505	8,496,552	83.7
1917	2,136,875	1,951,308	4,689,632	610,858	8,167,017	79.4
1918	2,204,842	2,147,888	5,599,924	1,137,133	8,815,521	84.5
1919	1,806,120	1,951,470	7,625,910	1,553,005	9,830,495	93.0
1920	2,698,623	2,152,684	6,456,558	638,178	10,664,687	99.6
Average 1914–1920	2,204,396	2,144,575	5,695,150	1,094,813	8,949,219	86.9
1921	2,849,463	2,681,754	7,881,554	2,170,698	11,242,043	103.6
1922	2,042,720	2,470,098	8,136,411	824,393	11,824,836	107.5
1923	2,223,796	2,549,246	6,873,943	305,767	11,341,218	101.8
1924	2,316,924					

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See Table 380 for source of production figures. Trade figures, Bureau of Foreign and Domestic Commerce.

[1] Predominately raw except beet sugar production and domestic exports which are chiefly refined; 1909 to date production and domestic exports converted to raw.

[2] From Hawaii, Porto Rico, and Philippine Islands (Virgin Islands included, 1917 and subsequently).

[3] Cuba included. Philippine Islands excluded 1909 and subsequently.

[4] Shipments to Hawaii and Porto Rico included.

[5] Consumption for all purposes. No account taken of stocks at beginning or end of year.

TABLE 382.—*Sugar: Quantity and per cent of total consumption supplied the United States by Cuba, 1866–1923*

Year beginning July	Quantity	Per cent of United States consumption	Year beginning July	Quantity	Per cent of United States consumption
	1,000 pounds	*Per cent*		*1,000 pounds*	*Per cent*
1866	642,191	73.0	1896	577,790	10.3
1867	861,149	74.5	1897	440,225	12.7
1868	904,764	68.1	1898	663,544	14.4
1869	801,637	62.6	1899	705,456	15.8
1870	759,995	52.7	1900	1,099,404	19.7
1871	877,166	53.2	1901	984,217	19.6
1872	940,069	56.3	1902	2,396,498	37.6
1873	1,223,665	68.7	1903	2,819,558	40.5
1874	1,090,654	57.3	1904	2,057,684	35.9
1875	1,008,415	63.1	1905	2,781,901	42.7
1876	926,164	51.1	1906	3,236,466	45.6
1877	904,731	54.9	1907	2,309,189	35.0
1878	1,275,339	63.7	1908	2,862,260	39.3
1879	1,087,332	55.2	1909	3,509,658	48.2
1880	1,056,905	48.0	1910	3,347,606	46.2
1881	1,107,580	51.7	1911	3,186,634	40.5
1882	1,130,794	47.0	1912	4,311,782	52.3
1883	1,191,234	40.0	1913	4,926,606	56.0
1884	1,115,046	41.5	Average, 1909–1913	3,856,457	48.7
1885	1,210,504	43.0	1914	4,784,888	55.4
1886	1,394,716	44.6	1915	5,150,852	64.7
1887	1,209,175	40.1	1916	4,669,097	55.1
1888	1,032,086	33.4	1917	4,560,750	58.3
1889	1,041,076	32.6	1918	5,488,711	62.5
1890	1,430,566	36.9	1919	6,005,710	70.3
1891	1,983,540	50.6	1920	4,925,631	46.7
1892	1,843,652	43.3	Average, 1914–1920	5,212,234	58.7
1893	2,127,502	43.1	1921	7,720,255	68.7
1894	1,845,763	42.7	1922	8,041,592	68.0
1895	1,093,171	24.3	1923	6,515,263	57.4

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TABLE 383.—*Sugar beets: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average 1909–1913	1921	1922	1923	Preliminary, 1924	Average 1909–1913	1921	1922	1923	Preliminary, 1924
NORTH AMERICA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Canada	17	28	21	22	36	9.4	9.6	9.0	9.8	9.2
United States [1]	485	815	530	657	842	10.0	9.5	9.8	10.7	8.9
Total North America	502	843	551	679	878					
EUROPE										
England and Wales	[2] 4	8	8	17	23		9.1	7.8	6.9	
Sweden	78	120	41	106	102	13.3	13.6	12.3	10.8	10.0
Denmark	[3] 80	86	60	78	95	10.9	11.1	10.5	10.8	11.0
Netherlands	144	182	138	167	176	13.7	16.4	14.5	11.4	14.6
Belgium	[2] 146	143	149	179	199	12.3	11.3	12.6	12.5	10.7
France	[3] 612	298	323	402	449	10.7	7.6	11.2	10.1	12.6
Spain	114	103	138	153	443	8.3	7.9	9.5	10.1	4.1
Italy	[3] 130	159	203	233	247	15.3	12.1	12.2	13.3	16.1
Switzerland	[2] 2	3	3	3	3	18.3	15.7	12.3	11.7	16.7
Germany	[3] 1,075	962	1,031	948	975	13.7	9.1	11.5	10.1	11.2
Austria	[3] 57	19	28	32	[3] 45	9.8	5.4	6.8	8.3	10.7
Czechoslovakia	[3] 716	544	519	574	748	11.5	8.3	11.1	11.6	11.5
Hungary	[3] 131	103	103	120	102	11.5	5.8	7.6	7.4	9.5
Yugoslavia	[3] 35	41	48	70	[3] 136	10.9	5.1	7.2	5.9	7.1
Bulgaria	[3] 7	30	24	31	32	8.1	4.3	9.8	5.5	5.8
Rumania	[3 6] 72	57	54	92	133	9.3	6.8	6.8	9.0	7.7
Poland	[3] 431	197	270	337	404	10.7	6.3	10.9	8.4	8.8
Finland	(7)	3	3	2	2		5.3	4.0	2.5	
Russia	[3] 1,484	499	437	600	853	7.2			4.8	3.7
Total Europe	5,318	3,557	3,580	4,142	5,227					
World total	5,820	4,400	4,131	4,821	6,105					

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

[1] Principal producing States.
[2] Two-year average.
[3] Estimate for present boundaries.
[4] One year only, 1912–13. According to statistics of the German sugar association, the 1912–13 acreage was higher than on any other year with the exception of 1914–15.
[5] Unofficial estimate.
[6] Four-year average.
[7] No sugar beets grown for sugar previous to 1918.

TABLE 384.—*Sugar beets: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand short tons—i. e., 000 omitted]

Country	Average 1909–1913	1921	1922	1923	Preliminary 1924
NORTH AMERICA					
Canada	160	268	190	216	333
United States [1]	4,860	7,782	5,183	7,006	7,478
Total North America	5,020	8,050	5,373	7,222	7,811
EUROPE					
England and Wales		73	62	117	
Sweden	1,036	1,636	503	1,148	1,019
Denmark	[2] 871	957	631	844	[3] 1,047
Netherlands	1,977	2,985	2,004	1,896	2,563
Belgium	[2] 1,793	1,613	1,873	2,245	2,132
France	[2] 6,544	2,271	3,626	4,060	5,664
Spain	949	809	1,316	1,552	1,829
Italy	[2] 1,983	1,930	2,486	2,976	3,968
Switzerland	26	47	37	35	50
Germany	[2 4] 14,679	8,796	11,896	9,586	10,919
Austria	[3] 561	103	191	267	[3] 482
Czechoslovakia	[2] 8,238	4,493	5,776	6,641	8,613
Hungary	[3] 1,513	598	784	952	1,540
Yugoslavia	[2] 381	208	345	411	[3] 970
Bulgaria	[2] 57	129	236	169	185
Rumania	[3 5] 668	388	365	830	1,019
Poland	[3] 4,611	1,244	2,945	2,838	3,539
Finland		16	12	5	[6] 5
Russia	[3] 10,636			2,875	[3] 3,142
Total Europe, comparable with 1909–13, and with 1924	56,523			39,330	48,686
Total all countries, comparable with 1909–13, and with 1924	61,543			46,552	56,497
Estimated world total	61,573	37,846	41,961	46,669	56,647

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

[1] Principal producing States.
[2] Estimate for present boundaries.
[3] Unofficial estimate.
[4] One year only, 1912–13. According to statistics of the German sugar association the 1912–13 production of beets was higher than any other year with the exception of 1913–14.
[5] Four-year average.
[6] Estimate based on acreage.

TABLE 385.—*Sugar: Production in specified countries, average 1909–1913, annual 1921–1924*

BEET SUGAR IN TERMS OF RAW SUGAR

Country	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	Preliminary, 1924–25
NORTH AMERICA	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Canada [1]	11,160	27,822	15,743	20,749	[2] 34,000
United States [1]	641,705	1,074,000	711,000	927,000	1,142,000
Total North America	652,865	1,101,822	726,743	947,749	1,176,000
EUROPE					
England	(3)	[2] 8,960	[2] 7,840	[2] 14,874	[2] 24,000
Sweden	153,739	258,788	79,186	164,723	[2] 158,000
Denmark	[4] 127,091	155,755	98,953	114,529	[2] 154,000
Netherlands [1]	246,341	411,534	276,276	250,844	[2] 364,000
Belgium	[4] 278,837	315,372	292,538	[2] 330,822	[2] 413,000
France [1]	[4] 807,887	326,319	522,265	523,913	802,000
Spain	115,727	79,649	176,407	[2] 187,000	[2] 281,000
Italy	[4] 208,675	[1] 233,943	[1] 299,519	[1] 343,600	[1 2] 398,000
Switzerland	3,784	6,559	6,757	6,393	[2] 7,000
Germany	[4 5] 2,304,268	1,433,742	1,603,933	1,264,219	[2] 1,700,000
Austria	[4] 79,528	17,609	26,963	52,099	[2] 73,000
Czechoslovakia	[4] 1,221,274	730,745	811,297	1,103,457	[2] 1,502,000
Hungary	[4] 175,783	67,096	90,259	135,157	[2] 220,000
Yugoslavia	[4] 41,459	27,227	36,927	44,790	102,000
Bulgaria	[4] 4,376	14,042	19,821	31,487	[2] 45,000
Rumania	[4 6] 88,245	33,069	46,011	79,962	[2] 101,000
Poland	[4] 702,626	199,800	347,344	456,805	[2] 496,000
Finland	(7)	[2] 2,028	[2] 1,562	[2] 518	[2] 1,000
Russia [1]	[4] 1,557,114	65,000	225,751	[2] 418,000	[2] 507,000
Total Europe	8,116,754	4,387,237	4,969,609	5,524,092	7,348,000
World total beet sugar	8,769,619	5,489,059	5,696,352	6,471,841	8,524,000

CANE SUGAR (RAW)

NORTH AND CENTRAL AMERICA					
United States	310,837	327,700	[8] 295,100	[8] 152,000	[8] 105,000
Hawaii	567,495	592,000	537,000	[2] 694,000	[2] 661,000
Porto Rico	363,474	408,335	[2] 379,071	[2] 447,570	[2] 522,000
Virgin Islands	6,613	5,600	[2] 1,948	[2] 2,612	[2] 3,000
Central America:					
Costa Rica	2,791	[2] 5,600	[2] 5,600	[2] 6,700	----------
Guatemala	8,998	27,383	[2] 27,378	[2] 23,352	[2] 27,000
Nicaragua	3,742	14,881	12,401	[2] 11,023	----------
Salvador	[9] 18,084	[2] 33,600	[2] 33,600	[2] 39,200	----------
Panama	(3)	[2] 3,028	[2] 4,500	[2] 4,500	----------
Mexico	163,388	[2] 140,797	[2] 164,616	[2] 186,964	[2] 185,000
West Indies:					
British—					
Antigua	12,919	10,793	[2] 14,159	[2] 8,803	[2] 14,600
Barbadoes	27,788	[2] 64,000	[2] 77,800	[2] 49,000	[2] 59,000
Jamaica	23,856	36,267	36,507	[2] 37,443	[2] 47,700
St. Christopher	13,252	10,806	[2] 12,025	[2] 11,420	[2] 14,600
Trinidad and Tobago	51,275	67,142	[2] 46,613	[2] 58,290	[2] 56,000
Cuba	2,287,052	4,532,904	4,086,781	4,538,853	[2] 5,175,000
Dominican Republic	104,664	205,974	206,273	237,809	[2] 269,000
Haiti	(3)	11,352	[2] 12,283	[2] 6,500	[2] 7,800
French:					
Guadeloupe	40,810	35,737	[2] 28,048	[2] 30,854	[2] 38,000
Martinique	42,782	22,400	[2] 22,064	[2] 19,000	[2] 25,800
Total North and Central America comparable with 1909–10 to 1913–14	4,052,820	6,556,299	6,003,767	6,575,893	----------
Total North and Central America comparable with 1924–25	4,028,203	6,499,190	5,947,666	6,514,470	7,210,500

[1] Refined sugar in terms of raw.
[2] Unofficial estimates.
[3] Too small to report.
[4] Estimate for present boundaries.
[5] One year only, 1912–13. According to statistics of the German Sugar Association the 1912–13 sugar production was greater than any other year.
[6] Four-year average.
[7] No sugar was produced prior to 1918.
[8] Louisiana only.
[9] One year only.

TABLE 385.—*Sugar: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

CANE SUGAR (RAW)—Continued

Country	Average 1909–10 to 1913–14	1921–22	1922–23	1923–24	Preliminary, 1924–25
EUROPE AND ASIA	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Spain	17,059	[1] 15,462	[2] 15,588	[2] 8,816	[2] 8,000
India	2,649,480	2,932,000	3,409,000	8,658,000	[2] 3,248,000
Formosa	192,299	368,046	391,736	[1] 502,584	[1] 515,200
Japan	75,718	110,960	88,147		
Java	1,485,236	1,906,019	2,027,516	1,983,726	[2] 2,209,000
Philippine Islands	294,380	533,189	475,325	[2] 588,000	
Total Europe and Asia comparable with 1909–10 to 1913–14	4,714,172	5,865,616	6,407,306	6,741,126	
Total Europe and Asia comparable with 1921–25	4,419,792	5,332,427	5,931,981	6,153,126	5,981,100
SOUTH AMERICA					
Argentina	198,853	210,869	238,603	282,476	[2] 270,000
Brazil	[1] 332,813	550,995	667,200	[2] 476,000	[2] 560,000
Guiana—					
British	[1] 112,312	113,263	101,649	100,756	[2] 105,000
Dutch	13,235	12,242	13,146	11,964	[2] 11,400
Paraguay	1,363	[2] 2,653	[2] 1,927	[2] 3,400	
Peru	202,518	341,718	351,390	343,922	[2] 336,000
Total South America comparable with 1909–10 to 1913–14	856,094	1,231,710	1,373,915	1,218,518	
Total South America comparable with 1924–25	854,731	1,229,057	1,371,988	1,215,118	1,282,400
AFRICA					
Egypt	67,127	122,039	105,856	79,786	[2] 123,000
Mauritius	233,671	224,660	254,840	222,169	261,000
Union of South Africa	88,165	148,499	157,960	196,000	[2] 170,000
Portuguese East Africa	26,460	37,008	55,829	[2] 67,000	[2] 78,000
Reunion	41,653	42,516	42,551	49,428	[2] 48,700
Total Africa	457,076	574,812	617,036	614,383	680,700
OCEANIA					
Australia	216,331	336,804	341,359	315,860	[2] 414,000
Fiji	84,629	84,129	51,277	65,000	78,000
Total Oceania	300,960	420,133	392,636	380,800	492,000
World total cane sugar comparable with 1909–10 to 1913–14	10,381,122	14,648,570	14,794,660	15,530,720	
World total cane sugar comparable with 1924–25	10,060,762	14,055,619	14,261,307	14,877,897	15,646,700
Estimated world total cane sugar	10,387,671	14,654,615	14,799,882	15,537,295	16,312,775
World total beet and cane sugar comparable with 1909–10 to 1913–14	19,150,741	20,137,629	20,491,012	22,002,561	
World total beet and cane sugar comparable with 1924–25	18,830,381	19,544,678	19,957,659	21,349,738	24,170,700
Estimated world total beet and cane sugar	19,157,290	20,143,674	20,496,234	22,009,136	24,836,775

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Figures are for the crop years 1909–10 to 1924–25 for the countries in which the sugar season begins in the autumn months and is completed during the following calendar year, except in case of cane-sugar-producing countries where the season begins in May or June and is completed in the same calendar year.

[1] Three-year average. [2] Unofficial estimates.

TABLE 386.—*Sugar, raw, cane and beet: World production, 1895–1924*

Year [1]	Production in countries reporting all years 1895–1923	Production as reported	Estimated world totals (preliminary)	Three chief producing countries		
				Cuba	India	Java
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1895–96	7,211,438	7,619,883	10,105,883	252,248	----------	628,021
1896–97	7,894,621	8,255,405	10,761,405	237,497	----------	575,263
1897–98	8,077,178	8,436,725	10,942,925	342,208	----------	623,223
1898–99	8,190,919	10,793,709	11,002,309	375,948	2,325,382	785,638
1899–1900	8,840,680	11,203,891	11,409,131	336,082	2,083,206	821,387
1900–1	9,918,015	12,921,042	12,962,882	712,159	2,549,958	819,943
1901–2	11,313,799	14,017,184	14,123,384	952,203	2,265,173	891,236
1902–3	10,346,777	12,991,634	13,066,234	1,118,738	2,135,598	982,781
1903–4	10,590,317	13,228,731	13,307,431	1,165,055	2,096,624	1,022,836
1904–5	10,104,951	13,066,932	13,143,732	1,302,849	2,429,000	1,159,866
1905–6	12,588,145	15,202,891	15,227,691	1,320,199	1,932,560	1,146,037
1906–7	12,567,736	15,789,808	15,815,608	1,598,994	2,469,936	1,092,053
1907–8	12,121,445	15,189,827	15,218,527	1,077,393	2,292,528	1,215,530
1908–9	12,953,119	15,846,662	15,876,462	1,694,965	2,097,648	1,274,306
1909–10	13,261,726	16,730,318	16,730,318	2,020,871	2,480,700	1,360,353
1910–11	14,931,316	18,680,900	18,680,900	1,661,465	2,587,100	1,392,842
1911–12	13,882,217	17,765,546	17,784,046	2,123,502	2,744,900	1,626,751
1912–13	16,201,290	20,117,285	20,128,785	2,719,961	2,861,500	1,467,901
1913–14	16,933,352	20,793,711	20,812,861	2,909,460	2,573,200	1,578,332
1914–15	16,618,454	20,613,043	20,627,143	2,921,984	2,736,000	1,502,852
1915–16	14,503,234	18,887,512	18,900,512	3,398,385	2,949,000	1,480,725
1916–17	13,892,686	18,508,744	18,544,544	3,421,597	3,093,000	1,785,293
1917–18	14,868,380	20,172,700	20,196,700	3,889,966	3,846,000	2,055,839
1918–19	14,133,339	18,279,267	18,310,067	4,490,902	2,762,000	1,988,002
1919–20	13,162,918	17,841,625	17,866,925	4,183,676	3,404,000	1,540,666
1920–21	14,710,032	19,198,455	19,245,755	4,406,413	2,825,000	1,747,594
1921–22	15,470,310	20,143,474	20,148,674	4,532,904	2,932,000	1,906,019
1922–23	15,430,705	20,496,234	20,496,234	4,086,781	3,409,000	2,027,516
1923–24	16,361,342	22,002,561	22,009,136	4,538,853	3,658,000	1,983,726
1924–25	19,364,500	24,170,700	24,836,775	5,175,000	3,248,000	2,209,000

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[1] Figures are for the crop years 1895–96 to 1924–25 for the countries in which the sugar season begins in the autumn months and is completed during the following calendar year, except in the case of cane sugar producing countries where the season begins in May or June and is completed in the same calendar year.

TABLE 387.—*Sugar: International trade, calendar years, average 1909–1913, annual 1921–1923*

Country	Average 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Austria-Hungary	3,942	848,830						
Barbados	[1] 233	25,829		29,508				
Belgium	7,892	154,476	16,392	195,886	104,286	177,594	66,980	164,814
Brazil	[1] 117	38,284	1	189,699		277,903		168,845
British Guiana	[1] 6,112	106,196	254	121,262		101,440		93,122
Cuba	656	2,009,899	2,457	3,205,265	294	5,581,371		[2] 3,860,640
Czechoslovakia			2,792	491,383	36	350,366	58	519,523
Dominican Republic	[3] 766	92,351	983	202,396	284	189,195	164	186,946
Dutch East Indies	3,562	1,412,555	2,230	1,848,708	2,941	1,582,691	[4] 134	[4] 2,014,452
Egypt	43,020	8,086	9,058	75,345	160	19,675	5,022	49,903
Fiji	[5] 386	78,817	117	81,339	138	80,339		[6]
Germany	3,486	873,161	26,209	[6] 12,370	206,999	13,915	5,824	19,513
Hungary			3,208	2,687	9,545	28	930	49,716
Jamaica	395	14,494		30,057		56,735		27,700
Mauritius	[1] 2	226,255	(7)	252,674	80	322,692	181	246,704
Netherlands	82,721	200,490	51,824	178,481	152,559	219,477	162,528	232,844
Peru	726	146,736	27	263,842	22	302,447	16	311,201
Philippine Islands	3,950	179,432	2,764	319,530	2,692	399,112	4,985	299,807
Poland					12,636	65,344	1,571	104,871
Russia	3,744	293,514						
Trinidad and Tobago	522	43,755	583	51,687	746	54,191		
Union of South Africa	29,694	675	12,643	08,962	17,913	36,100	2,972	32,274
Venezuela	[5] 285	2,181	9	15,193	18	10,714	[5] 7	[5] 12,905
PRINCIPAL IMPORTING COUNTRIES								
Algeria	37,908		35,412	1,181	42,852	1,657	42,859	
Anglo-Egyptian Sudan	13,764		7,418		11,197		8,609	
Argentina	51,690	72	61,342	7	81,148	2	27,089	1
Australia [9]	76,233	268	7,715	39				
Austria			88,833	505	110,029	27	89,220	226
British India	715,990	26,611	655,233	27,058	516,995	17,988	559,541	22,221
Canada	297,893	820	384,871	44,396	600,135	159,949	432,791	60,974
Chile	84,965	90	73,344	204	104,303	78	82,769	
China	343,622	14,933	514,660	21,129	510,987	15,018	407,269	24,207
Denmark	21,814	22,536	5,244	10,179	21,621	654	62,785	259
Finland	50,077		61,011		66,075		54,528	
France	186,198	206,897	402,113	114,101	644,806	169,602	538,078	135,971
Greece	11,718		49,881		43,542		38,813	
Hongkong					376,870	350,468	336,667	356,748
Italy	9,249	302	106,504	20	38,603	10	39,698	2,339
Japan	176,942	60,204	339,321	54,506	437,434	94,276	[8] 133,896	[8] 43,746
Morocco	61,402		62,101		83,009			
New Zealand	62,962	[1] 13,478	71,098	499	74,413	296	72,139	380
Norway	52,326		35,353		78,448		64,269	
Persia	109,352	[1] 557	48,458	32				
Spain	45	63	52,099	1,975	41,337	35	812	8
Sweden	1,672	1	7,544	4	7,170	1	27,605	
Switzerland	118,201		85,143	11	91,349	2	109,910	36
United Kingdom	1,853,605	32,603	1,432,356	7,988	2,121,591	32,712	1,710,946	58,579
United States	2,122,517	39,684	2,963,750	466,896	4,860,810	918,861	3,854,668	222,458
Yugoslavia			34,812		29,690			
Other countries	472,704	296,936	211,722	101,148	110,047	41,899	40,273	36,333
Total	7,125,060	7,472,071	7,948,889	8,488,152	11,615,810	11,644,366	8,986,606	9,360,266

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The following kinds and grades have been included under the head of sugar: Brown, white candied, caramel, chancaca (Peru), crystal cube, maple, muscovado, panela. The following have been excluded: "Candy" (meaning confectionery), confectionery, glucose, grape sugar, jaggery, molasses, and sirups.

[1] Four-year average.
[2] Lamborn & Co.
[3] One year only.
[4] Java and Madura only.
[5] Three-year average.
[6] Eight months, May-December.
[7] Less than half a ton.
[8] Six months.
[9] Year beginning July 1.

TABLE 388.—*Sugar, raw (96° centrifugal): Average wholesale price per pound, New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1890	5.5	5.5	5.4	5.4	5.3	5.3	5.3	5.6	5.9	5.8	5.3	5.2	5.5
1891	5.3	5.6	5.6	3.5	3.2	3.4	3.4	3.4	3.5	3.3	3.5	3.4	3.9
1892	3.5	3.4	3.3	3.1	3.1	3.1	3.1	3.2	3.6	3.5	3.4	3.4	3.3
1893	3.5	3.4	3.4	3.8	4.1	4.4	4.2	3.6	3.7	3.9	3.2	2.9	3.7
1894	2.9	3.2	3.1	2.8	2.8	3.1	3.1	3.5	3.8	3.6	3.5	3.2	3.2
1895	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3	3.3	3.6	3.4	3.6	3.3
1896	3.8	4.0	4.2	4.3	4.1	3.7	3.4	3.4	3.1	3.1	3.3	3.2	3.6
1897	3.2	3.2	3.2	3.3	3.3	3.5	3.6	3.8	3.9	3.8	3.8	4.0	3.6
1898	4.1	4.2	4.1	4.2	4.2	4.3	4.1	4.2	4.3	4.2	4.4	4.4	4.2
1899	4.3	4.3	4.4	4.6	4.7	4.6	4.5	4.5	4.4	4.3	4.3	4.2	4.4
1900	4.3	4.5	4.4	4.4	4.5	4.6	4.8	4.9	5.0	4.8	4.4	4.4	4.6
1901	4.3	4.2	4.0	4.1	4.3	4.2	4.2	4.0	3.8	3.8	3.7	3.7	4.0
1902	3.6	3.6	3.5	3.5	3.5	3.4	3.3	3.4	3.5	3.6	3.7	3.9	3.5
1903	3.8	3.7	3.7	3.6	3.7	3.6	3.6	3.8	3.9	3.9	3.8	3.6	3.7
1904	3.4	3.4	3.5	3.6	3.8	3.9	3.9	4.2	4.3	4.3	4.5	4.8	4.0
1905	5.1	5.0	4.9	4.8	4.5	4.3	4.1	4.1	3.8	3.6	3.5	3.6	4.3
1906	3.6	3.4	3.5	3.5	3.4	3.5	3.7	3.9	4.1	4.0	3.8	3.8	3.7
1907	3.5	3.4	3.5	3.7	3.9	3.8	3.9	3.9	3.9	3.9	3.8	3.8	3.8
1908	3.9	3.7	4.1	4.4	4.3	4.3	4.3	4.0	4.0	4.0	3.9	3.8	4.1
1909	3.7	3.6	3.8	3.9	3.9	3.9	3.9	4.1	4.2	4.3	4.4	4.2	4.0
1910	4.1	4.2	4.4	4.3	4.3	4.2	4.3	4.4	4.3	3.9	3.9	4.0	4.2
1911	3.6	3.5	3.8	3.9	3.9	3.9	4.3	4.9	5.9	5.9	5.1	4.8	4.5
1912	4.4	4.6	4.5	4.1	4.0	3.9	3.9	4.1	4.3	4.1	4.0	4.0	4.2
1913	3.5	3.5	3.5	3.4	3.3	3.3	3.6	3.7	3.7	3.5	3.6	3.4	3.5
Average 1909–1913	3.9	3.9	4.0	3.9	3.9	3.8	4.0	4.2	4.5	4.3	4.2	4.1	4.1
1914	3.3	3.4	3.0	3.0	3.2	3.3	3.3	5.7	5.8	4.4	3.9	3.9	3.8
1915	4.1	4.7	4.8	4.8	4.8	4.9	4.9	4.8	4.3	4.1	4.8	4.9	4.7
1916	4.6	4.9	5.6	6.2	6.4	6.3	6.3	5.6	5.6	6.3	6.2	5.3	5.8
1917	5.2	5.2	5.5	6.2	6.1	6.0	6.6	7.3	7.0	6.9	6.9	6.3	6.3
1918	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	7.0	7.3	7.3	7.3	6.4
1919	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	10.2	7.5
1920	13.0	11.4	11.9	17.7	20.8	19.7	17.6	13.4	10.7	8.3	6.8	5.3	13.0
Average 1914–1920	6.2	6.1	6.3	7.3	7.8	7.6	7.4	7.2	6.8	6.4	6.2	6.2	6.8
1921	5.4	5.3	6.1	5.4	4.9	4.2	4.4	4.7	4.3	4.2	4.1	3.7	4.7
1922	3.6	3.8	3.9	4.0	4.1	4.6	5.2	5.2	4.8	5.4	5.6	5.7	4.7
1923	5.3	6.2	7.3	7.8	7.9	7.4	6.9	6.1	7.0	7.6	7.3	7.3	7.0
1924	6.7	7.2	6.9	6.4	5.6	5.1	5.1	5.4	6.0	6.0	5.8	5.3	6.0

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 389.—*Sugar, granulated: Average retail price per pound, United States, 1913–1924*

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1913	5.8	5.5	5.4	5.4	5.4	5.3	5.5	5.6	5.7	5.5	5.4	5.4	5.5
1914	5.2	5.2	5.1	5.0	5.0	5.1	5.2	7.9	8.0	7.2	6.2	6.1	5.9
1915	6.0	6.5	6.6	6.7	6.8	6.9	7.0	6.7	6.5	6.1	6.6	6.8	6.6
1916	6.7	6.9	7.5	8.0	8.6	8.7	8.8	8.5	7.7	8.2	8.6	8.3	8.0
1917	8.0	8.1	8.8	9.6	10.1	9.4	9.2	10.0	9.9	9.8	9.6	9.5	9.3
1918	9.5	10.6	9.2	9.1	9.1	9.1	9.2	9.3	9.6	10.6	10.8	10.8	9.7
1919	10.8	10.7	10.6	10.6	10.6	10.6	10.9	11.1	11.0	11.4	12.5	14.5	11.3
1920	17.8	18.8	18.7	20.2	25.4	26.7	26.5	22.9	18.3	13.9	12.8	10.5	19.4
Av. 1914–1920	9.1	9.5	9.5	9.9	10.8	10.9	11.0	10.9	10.1	9.6	9.6	9.5	10.0
1921	9.7	8.9	9.7	9.7	8.4	7.8	7.1	7.5	7.3	6.9	6.7	6.5	8.0
1922	6.2	6.4	6.5	6.7	6.6	7.1	7.6	8.1	7.9	7.9	8.1	8.3	7.3
1923	8.3	8.7	10.2	10.6	11.2	11.1	10.5	9.6	9.6	10.6	10.3	10.4	10.1
1924	10.2	10.3	10.4	9.9	9.2	8.3	8.4	8.2	8.6	8.8	8.8	8.8	9.2

Division of Statistical and Historical Research.
Compiled from Bureau of Labor Statistics reports.

TABLE 390.—*Sugar, granulated: Average wholesale price per pound, New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1890	6.3	6.2	6.1	6.0	6.0	6.3	6.1	6.1	6.5	6.4	6.0	5.8	6.2
1891	5.9	6.3	6.3	4.5	4.3	4.1	4.3	4.2	4.3	4.3	4.1	4.1	4.7
1892	4.0	3.9	4.2	4.2	4.2	4.3	4.2	4.3	4.9	4.7	4.7	4.6	4.4
1893	4.6	4.6	4.5	4.9	5.1	5.2	5.3	5.1	5.1	5.1	4.5	4.2	4.8
1894	4.0	4.1	4.1	4.0	3.9	3.9	4.1	4.5	4.6	4.4	4.0	3.8	4.1
1895	3.7	3.7	3.8	3.9	4.3	4.4	4.4	4.3	4.3	4.4	4.3	4.4	4.2
1896	4.6	4.7	4.8	5.1	5.0	4.7	4.4	4.5	4.5	4.0	4.1	4.1	4.5
1897	4.0	4.1	4.1	4.3	4.3	4.4	4.6	4.7	4.8	4.8	4.7	4.8	4.5
1898	4.9	4.9	4.9	5.0	5.1	5.1	5.1	5.1	5.2	4.7	4.9	4.8	5.0
1899	4.7	4.7	4.8	4.9	5.1	5.2	5.2	5.1	4.9	4.8	4.8	4.8	4.9
1900	4.8	5.0	4.9	4.9	5.0	5.5	5.8	5.9	5.9	5.5	5.4	5.3	5.3
1901	5.3	5.2	5.1	5.1	5.3	5.2	5.2	5.1	5.0	4.8	4.7	4.6	5.0
1902	4.5	4.5	4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.6	4.5
1903	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.8	4.8	4.6	4.5	4.4	4.6
1904	4.3	4.3	4.4	4.4	4.7	4.8	4.9	5.0	5.0	4.8	5.2	5.5	4.8
1905	5.8	5.9	5.9	5.9	5.7	5.5	5.1	5.1	4.8	4.5	4.4	4.5	5.3
1906	4.4	4.3	4.4	4.4	4.4	4.4	4.6	4.7	4.7	4.6	4.6	4.6	4.5
1907	4.6	4.5	4.6	4.6	4.8	4.9	4.8	4.7	4.6	4.6	4.6	4.6	4.7
1908	4.7	4.6	5.0	5.3	5.3	5.2	5.2	5.0	5.0	4.8	4.6	4.5	4.9
1909	4.5	4.4	4.6	4.8	4.8	4.7	4.7	4.8	4.9	4.9	5.0	4.9	4.8
1910	4.9	4.9	5.2	5.1	5.2	5.0	5.1	5.1	5.0	4.8	4.6	4.7	5.0
1911	4.7	4.6	4.7	4.7	4.8	4.9	5.1	5.7	6.6	6.6	6.1	5.6	5.3
1912	5.4	5.5	5.5	5.1	4.9	5.0	4.9	4.9	5.0	4.8	4.8	4.8	5.0
1913	4.5	4.2	4.2	4.1	4.1	4.1	4.5	4.6	4.5	4.2	4.2	4.1	4.3
Average 1909–1913	4.8	4.7	4.8	4.8	4.8	4.7	4.9	5.0	5.2	5.1	4.9	4.8	4.9
1914	3.9	3.9	3.8	3.7	4.0	4.2	4.2	6.5	6.8	5.9	4.9	4.8	4.7
1915	4.9	5.5	5.7	5.8	5.9	5.9	5.8	5.5	5.1	5.0	5.7	5.9	5.6
1916	5.7	6.0	6.6	7.1	7.5	7.4	7.5	7.0	6.4	7.1	7.4	6.9	6.9
1917	6.6	6.9	7.1	8.2	7.9	7.5	7.5	8.2	8.2	8.2	8.2	8.0	7.7
1918	7.4	7.3	7.3	7.3	7.3	7.3	7.4	7.4	8.5	8.8	8.8	8.8	7.8
1919	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	10.9	9.0
1920	15.4	15.0	13.7	[1]19.2	[1]22.5	[1]21.2	[1]19.1	16.7	14.3	10.8	9.6	8.1	.....
Average 1914–1920	7.5	7.6	7.6	.....	.....	.....	.....	8.6	8.3	7.8	7.6	7.6	.....
1921	7.6	7.1	7.8	7.3	6.3	5.7	5.5	5.8	5.6	5.2	5.2	5.0	6.2
1922	4.8	4.9	5.2	5.2	5.3	5.9	6.6	6.7	6.3	6.6	6.8	6.9	5.9
1923	6.7	7.3	8.6	9.2	9.4	9.2	8.5	7.6	8.2	9.0	8.7	8.8	8.4
1924	8.4	8.7	8.5	7.9	7.3	6.5	6.6	6.6	7.1	7.3	7.3	7.2	7.4

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

[1] No quotations. Prices shown estimated by Bureau of Labor Statistics by applying manufacturing differential to prices of raw sugar.

TABLE 391.—*Acreage of sugar cane and production of cane sirup, by States, 1921–1924*

State	Acreage of sugar cane [1]											
	Total				Harvested for sirup				Production of sirup			
	1921	1922	1923	1924 [2]	1921	1922	1923	1924 [2]	1921	1922	1923	1924 [2]
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*1,000 gals.*	*1,000 gals.*	*1,000 gals.*	*1,000 gals.*
South Carolina	8,700	9,600	9,600	9,600	8,200	8,900	8,800	7,700	1,107	1,288	1,100	962
Georgia	61,000	50,000	45,000	40,500	45,000	40,000	37,800	30,400	7,335	7,040	5,103	3,800
Florida	34,000	29,000	30,000	32,000	30,000	24,000	23,000	26,000	6,300	4,800	4,255	5,200
Alabama	71,000	79,000	70,300	70,300	60,000	69,000	62,000	36,000	8,760	11,937	9,904	3,816
Mississippi	39,200	37,000	33,300	30,000	33,700	32,000	29,600	11,100	7,582	7,040	5,565	610
Louisiana	294,500	319,600	331,700	316,000	18,900	23,100	22,700	38,000	6,454	6,490	4,981	6,384
Texas	18,000	18,800	17,000	18,000	12,000	14,200	13,000	13,300	3,192	2,485	2,118	1,091
Arkansas	3,000	3,900	3,500	3,500	2,400	3,100	3,000	1,900	437	531	594	135
Total	529,400	546,600	538,700	519,900	210,200	214,300	200,000	164,400	41,167	41,611	33,620	22,298

Division of Crop and Livestock Estimates.

[1] Sorghum, sometimes confused with sugar cane, is not included. [2] Preliminary.

TABLE 395.—*Maple sugar and sirup: Farm price, 15th of month, United States, 1917–1924*

Month	Sugar (cents per pound)								Sirup (dollars per gallon)							
	1917	1918	1919	1920	1921	1922	1923	1924	1917	1918	1919	1920	1921	1922	1923	1924
February	14.7	18.8	22.0	29.3	24.9	17.5	22.0	23.4	1.22	1.58	1.86	2.35	2.27	1.84	1.89	2.01
March	14.7	20.5	25.3	31.6	25.7	21.9	23.2	25.5	1.30	1.76	1.99	2.58	2.17	1.94	1.96	2.04
April	16.3	22.5	26.9	37.0	25.7	23.1	26.0	25.6	1.33	1.80	2.03	2.92	2.21	1.93	2.09	2.08
May	16.2	22.6	26.3	36.0	21.5	21.6	26.4	27.8	1.34	1.85	2.02	2.93	2.08	1.86	1.75	2.06
June	15.9	22.0	26.2	35.1	20.7	21.3	25.6	25.6	1.33	1.85	2.19	2.84	2.10	1.86	2.05	1.97

Division of Crop and Livestock Estimates.

CLOVER, TIMOTHY, AND ALFALFA SEED

TABLE 396.—*Clover seed: Acreage, production, and farm value, United States, 1916–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per bushel Nov. 15	Farm value
	1,000 acres	*Bushels*	*1,000 bushels*	*Dollars*	*1,000 dollars*
1916	939	1.8	1,706	9.18	15,661
1917	821	1.8	1,488	12.84	19,107
1918	820	1.5	1,197	19.80	23,705
1919	942	1.6	1,484	26.75	39,700
1920	1,082	1.8	1,944	11.95	23,227
1921	889	1.7	1,538	10.75	16,529
1922	1,170	1.7	1,955	9.38	18,332
1923	775	1.6	1,228	10.76	13,218
1924 [1]	747	1.3	977	13.68	13,362

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 397.—*Clover seed: Acreage, production, and farm value, by States, 1923 and 1924*

State	Acreage		Average yield per acre		Production		Average farm price per bushel Nov. 15		Farm value	
	1923	1924 [1]	1923	1924	1923	1924 [1]	1923	1924	1923	1924 [1]
	1,000 acres	*1,000 acres*	*Bushels*	*Bushels*	*1,000 bushels*	*1,000 bushels*	*Dollars*	*Dollars*	*1,000 dollars*	*1,000 dollars*
New York	11	8	2.1	2.7	23	22	13.90	14.00	320	308
Pennsylvania	14	17	1.1	1.5	15	26	12.70	14.00	190	364
Ohio	144	156	1.2	1.0	173	156	12.00	16.00	2,076	2,496
Indiana	35	61	.9	.8	32	49	12.16	14.80	387	725
Illinois	116	110	1.1	1.0	128	110	13.00	15.80	1,664	1,738
Michigan	105	96	1.4	1.2	147	108	11.10	14.00	1,632	1,512
Wisconsin	134	85	1.4	1.1	188	94	12.00	14.50	2,256	1,363
Minnesota	50	52	1.7	1.9	85	99	11.20	13.30	952	1,317
Iowa	57	66	1.2	.7	68	46	12.70	15.20	864	699
Missouri	16	23	1.6	1.4	26	32	12.90	13.00	335	416
Nebraska	7	11	1.6	1.2	11	13	12.00	13.00	132	169
Kansas	11	12	1.2	2.0	13	24	12.00	13.00	156	312
Kentucky	18	16	2.0	2.0	36	32	13.50	15.00	486	480
Tennessee	4	4	1.7	1.6	7	6	11.70	14.00	82	84
Mississippi	19	10	7.0	4.5	133	45	2.90	4.25	386	191
Louisiana	14	8	4.5	4.0	63	32	5.50	6.00	346	192
Idaho	15	14	4.0	5.5	60	77	11.90	12.00	714	924
Oregon	5	4	4.0	1.5	20	6	12.00	12.00	240	72
Total	775	747	1.6	1.3	1,228	977	10.76	13.68	13,218	13,362

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 398.—*Clover seed: Receipts and shipments, Chicago, 1910–1924*

[Thousand pounds.—i. e., 000 omitted]

RECEIPTS

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Total
1910	1,340	1,375	865	231	94	524	751	378	364	405	59	270	6,656
1911	519	198	176	95	331	337	357	307	213	194	343	574	3,644
1912	271	950	521	295	498	545	901	279	109	165	41	40	4,616
1913	188	225	939	1,446	1,035	418	837	412	210	836	429	1,180	8,155
1914	789	598	1,139	1,728	1,773	1,993	900	438	55	------	48	327	9,778
1915	2,190	1,921	1,953	1,205	980	1,236	1,123	974	294	------	53	138	12,067
1916	1,356	1,308	936	1,416	660	1,192	833	708	393	307	2	602	9,852
1917	1,346	945	1,149	587	1,079	1,688	797	217	298	108	22	135	8,371
1918	192	1,597	1,337	1,146	1,974	1,002	1,175	464	88	------	271	798	10,044
1919	1,539	1,816	1,941	1,606	2,849	2,557	2,239	884	7	200	195	213	16,037
1920	1,549	2,448	1,033	1,314	2,763	3,150	3,996	1,570	418	319	84	365	19,008
Average 1914–1920	1,280	1,519	1,363	1,285	1,724	1,831	1,580	764	222	133	96	368	12,167
1921	739	1,235	2,040	2,064	1,585	1,692	2,448	1,050	352	169	77	997	14,448
1922	1,308	1,209	1,479	1,214	1,044	629	1,825	845	348	100	8	271	10,430
1923	641	1,681	1,109	1,039	633	1,672	2,054	1,352	239	41	1	42	10,504
1924	300	863	2,078	1,723	------	------	------	------	------	------	------	------	------

SHIPMENTS

1910	165	183	244	224	480	682	504	252	185	52	12	118	3,101
1911	51	111	204	131	426	621	420	363	106	48	144	59	2,684
1912	141	309	862	372	502	835	1,525	707	90	78	33	65	5,519
1913	138	152	264	668	882	1,570	1,591	740	544	301	381	264	7,501
1914	309	124	484	1,665	1,197	1,583	1,290	792	188	13	69	104	7,818
1915	714	596	1,506	879	1,125	1,438	2,027	1,481	415	39	78	88	10,386
1916	279	602	1,021	962	1,065	1,696	2,086	1,606	583	157	309	429	10,795
1917	423	483	430	1,144	908	1,923	1,116	182	246	4	60	167	7,086
1918	191	527	1,447	787	984	1,139	1,109	653	18	94	25	136	7,110
1919	271	396	952	888	2,589	1,619	926	842	248	98	118	61	8,998
1920	107	589	691	769	1,554	2,997	3,104	1,694	370	167	239	528	12,809
Average 1914–1920	328	472	933	1,014	1,346	1,771	1,665	1,036	295	82	128	216	9,286
1921	371	781	691	1,236	1,728	2,167	2,416	1,036	818	147	133	230	11,748
1922	547	1,172	1,187	1,169	1,430	908	1,252	820	223	75	122	285	9,188
1923	530	514	705	670	1,370	1,075	1,477	1,502	346	230	177	224	8,820
1924	180	402	1,395	803	------	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

TABLE 399.—*Timothy seed: Receipts and shipments, Chicago, 1910–1924*

[Thousand pounds.—i. e., 000 omitted]

RECEIPTS

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1910	1,878	7,509	3,778	1,741	1,563	1,311	1,560	1,205	368	106	55	87	21,181
1911	4,451	5,829	4,011	2,649	1,120	792	879	868	557	388	242	158	21,944
1912	2,916	6,875	5,505	3,606	2,182	2,361	3,019	2,831	3,964	1,569	1,764	2,647	39,181
1913	3,601	5,947	4,232	3,421	2,131	2,191	1,763	4,393	1,977	828	1,446	2,410	34,340
1914	4,914	11,208	3,469	2,650	3,487	3,050	3,087	4,129	1,165	1,101	403	752	39,415
1915	1,201	9,894	5,578	4,039	2,416	1,431	2,203	2,167	1,019	1,039	704	296	31,987
1916	2,487	10,568	5,631	3,989	3,051	2,149	2,478	6,279	3,387	2,442	1,117	924	44,479
1917	3,810	6,535	5,172	2,966	1,915	2,006	2,242	2,554	1,434	1,250	392	677	30,943
1918	764	3,198	5,175	3,242	1,462	1,578	2,234	2,985	3,772	2,308	1,348	801	28,048
1919	7,450	13,191	6,124	2,582	1,643	3,186	3,381	3,118	1,338	1,093	641	1,135	44,882
1920	3,313	12,777	9,013	5,269	3,445	2,343	3,386	4,056	2,601	2,368	1,249	551	50,361
Average 1914–1920	3,420	9,622	5,737	3,534	2,489	2,249	2,716	3,613	2,099	1,670	836	744	38,729
1921	10,649	6,269	4,586	3,197	2,669	2,404	2,899	2,827	780	1,215	472	119	38,286
1922	8,985	9,600	4,516	2,048	1,050	570	1,352	1,697	1,243	398	355	84	31,898
1923	5,061	13,722	4,419	1,606	1,299	762	1,311	1,815	1,162	86	315	507	32,065
1924	3,698	12,714	4,707	3,876	1,654	------	------	------	------	------	------	------	------

TABLE 399.—*Timothy seed: Receipts and shipments, Chicago, 1910–1924*—Con.

SHIPMENTS

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1910	1,825	4,198	1,701	676	899	2,078	2,109	2,751	1,004	159	4	3	17,407
1911	2,452	5,038	2,035	2,051	688	482	958	1,356	761	360	54	158	16,393
1912	1,951	7,504	4,373	4,912	2,224	3,313	3,152	4,426	4,629	2,229	1,521	1,344	41,578
1913	1,774	3,735	3,285	1,896	1,893	2,065	2,021	3,977	1,955	888	786	2,592	26,867
1914	2,056	4,845	2,511	2,124	3,549	2,565	1,877	2,430	2,623	1,727	955	1,205	28,467
1915	1,372	5,344	5,283	3,796	2,485	1,892	2,326	4,203	2,715	1,212	162	395	31,185
1916	2,826	7,956	5,363	4,071	3,128	2,921	4,082	7,775	4,321	2,288	779	729	46,239
1917	2,605	3,887	2,816	1,511	1,291	1,720	2,049	5,160	1,459	147	509	427	23,581
1918	1,218	1,774	2,674	3,903	2,688	1,659	3,178	3,621	4,579	1,817	780	1,253	29,144
1919	2,340	6,301	3,142	1,964	2,588	4,007	3,737	3,404	1,852	2,497	735	1,057	33,624
1920	2,233	4,072	4,150	1,787	1,594	3,810	4,531	5,410	2,708	1,550	587	1,001	33,433
Average 1924–1920	2,003	4,883	3,706	2,737	2,475	2,653	3,111	4,572	2,894	1,605	644	867	32,239
1921	5,233	8,567	3,750	2,340	2,846	2,551	4,108	5,187	2,129	2,598	336	352	39,997
1922	3,896	6,303	4,580	3,943	1,895	2,106	2,451	3,291	2,221	1,394	353	217	32,650
1923	2,481	3,926	1,804	1,573	1,001	735	2,040	3,206	2,904	1,202	416	516	21,804
1924	1,040	7,546	4,726	1,295	1,383	------	------	------	------	------	------	------	------

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World.

TABLE 400.—*Forage plant seed: Imports into United States, 1912 to 1924*[1]

[Thousand lbs.—i. e. 000 omitted]—

Kind of seed	Year ended June 30												
	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Alfalfa	3,394	6,104	5,203	6,930	3,252	3,170	45	770	18,831	942	7,259	8,784	12,818
Canada blue grass	306	791	567	1,043	698	495	1,229	739	552	1,148	1,034	836	817
Kentucky blue grass	1	5	3	1	1	------	5	------	------	------	------	------	------
Awnless brome grass	6	75	139	7	(2)	1	------	------	169	9	14	------	------
Alsike clover	1,324	766	2,688	778	1,113	4,329	3,528	7,032	5,648	4,121	7,057	5,566	11,056
Crimson clover	3,407	5,377	8,534	11,690	4,504	5,776	1,603	1,484	10,053	5,566	3,443	2,262	7,745
Red clover	19,674	5,333	5,921	8,932	32,509	5,344	768	1,051	19,268	16,333	10,391	448	24,729
White clover	543	979	640	373	149	158	53	1	189	516	1,623	520	1,408
Biennial white sweet clover	23	33	42	194	(2)	195	71	941	2,215	3,133	------	------	4,039
Biennial yellow sweet clover	15	------	243	201	(2)	9	------	1	202	235	------	------	222
Clover mixtures	------	------	------	------	------	26	169	550	265	23	57	20	74
Grass mixtures	------	------	------	------	------	124	6	(2)	3	6	43	(2)	------
Spring vetch and oats mixtures	------	------	------	------	------	------	------	------	------	4	------	------	------
Meadow fescue	------	------	------	------	------	------	------	------	8	1	------	------	(2)
Broom-corn millet	3,376	1,194	1,520	1,305	1,102	786	1,584	------	225	152	1,496	5,360	595
Foxtail millet	276	291	523	338	118	260	9	138	146	434	302	65	184
Orchard grass	137	119	1,939	701	754	1,286	58	177	2,771	------	2,922	768	603
Rape	1,266	1,194	2,981	3,966	4,019	2,286	11,316	639	5,766	4,245	4,763	6,384	6,600
Redtop	------	------	------	------	------	------	------	------	7	(2)	2	11	(2)
Perennial rye grass	1,626	1,117	1,429	1,342	1,510	1,668	1,584	831	1,958	1,523	1,868	1,834	1,952
Italian rye grass	321	345	311	485	383	481	606	208	980	577	828	860	1,034
Timothy	378	40	23	18	119	4	22	155	37	391	95	32	(2)
Hairy vetch	646	1,948	2,477	466	68	296	231	257	1,220	1,387	1,941	1,599	3,215
Spring vetch	531	1,390	682	221	62	30	118	435	1,048	542	345	1,858	1,210

Hay, Feed, and Seed Division.

[1] Imports of all seeds up to and including the fiscal year 1913, also of perennial and Italian rye grass and hairy vetch up to and including 1917, and sweet clover for all years, are based on information furnished by U. S. Customs Service. All other figures represent imports of seed permitted entry under the seed importation act.

[2] Less than 500 pounds.

[3] Figures missing.

TABLE 401.—*Alfalfa seed: Farm price per bushel, 15th of month, United States, 1912–1924*

Year beginning July	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	Average
1912	$8.32	$8.58	$9.02	$7.87	$8.23	$7.86	$7.66	$8.15	$8.19	$8.36	$8.21	$8.08	$8.21
1913	8.20	7.96	7.42	6.96	6.36	6.60	6.55	6.48	6.60	6.77	6.77	6.83	6.96
1914	6.92	6.81	7.21	7.29	7.29	7.57	7.61	7.86	7.92	8.45	7.01	8.31	7.52
1915	8.51	8.30	7.94	8.37	8.65	8.88	8.84	9.20	10.02	10.39	10.70	10.10	9.16
1916	10.30	9.33	9.27	8.61	8.30	8.56	7.97	7.75	8.53	9.03	8.85	8.61	8.76
1917	8.71	8.69	9.04	9.04	9.43	9.58	10.14	9.90	10.60	10.53	10.09	10.13	9.66
1918	9.67	9.88	10.04	9.91	9.38	9.65	10.07	10.48	10.64	11.18	12.13	11.79	10.40
1919	10.88	11.34	12.34	14.90	15.23	16.68	16.60	19.57	21.43	21.80	22.40	20.42	16.97
1920	19.41	16.03	14.89	13.35	12.25	10.24	9.95	9.01	9.31	8.71	8.97	8.73	11.74
1921	7.89	8.51	8.53	8.33	8.09	7.63	7.39	8.45	7.50	9.00	8.89	8.48	8.22
1922	9.00	7.74	8.00	7.94	8.50	9.45	9.58	9.96	10.56	10.44	10.59	10.57	9.36
1923	10.25	10.38	9.20	10.75	10.21	10.19	10.43	10.51	11.17	11.41	11.67	11.39	10.63
1924	11.13	10.99	10.74	10.39	10.16	10.33	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 402.—*Clover seed: Farm price per bushel, 15th of month, United States, 1910–1924*

Year beginning Sept.	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Weighted av.
1910	$8.27	$8.13	$7.70	$7.94	$8.27	$8.37	$8.56	$8.79	$8.74	$8.80	$8.83	$9.65	$8.30
1911	10.19	10.33	10.37	10.62	10.89	12.22	12.89	12.91	12.53	11.69	10.64	9.80	11.25
1912	9.39	9.37	9.06	9.00	9.41	10.28	10.42	11.00	10.74	9.77	9.78	9.37	9.71
1913	7.31	7.00	7.33	7.70	7.99	8.07	8.17	8.06	7.87	7.96	8.12	8.76	7.75
Av. 1910–1913	8.79	8.71	8.62	8.82	9.14	9.74	10.01	10.19	9.97	9.56	9.34	9.40	9.25
1914	9.10	8.24	8.02	8.12	8.51	8.60	8.55	8.36	8.14	7.90	7.96	7.94	8.41
1915	8.49	9.70	9.67	10.01	10.27	10.47	10.76	10.58	9.98	9.47	9.15	9.12	9.98
1916	8.65	8.54	9.20	9.40	9.60	9.87	10.32	10.41	10.40	10.29	10.50	10.53	9.54
1917	10.89	11.92	12.91	13.53	14.48	16.46	17.49	17.86	16.56	15.88	14.71	15.20	14.48
1918	16.61	19.01	20.03	20.67	21.55	21.79	22.61	24.81	24.48	23.37	23.25	24.33	21.01
1919	25.38	26.47	26.53	27.03	28.06	31.21	31.88	32.23	29.84	26.21	25.52	19.97	28.34
1920	17.77	13.18	11.64	10.28	10.82	10.61	10.98	10.80	10.71	10.20	10.00	10.37	11.81
Av. 1914–1920	13.84	13.87	14.00	14.23	14.76	15.57	16.08	16.44	15.73	14.76	14.44	13.92	14.80
1921	10.25	10.21	10.09	10.38	10.69	11.88	13.00	13.13	12.84	11.60	11.00	9.88	11.14
1922	8.85	9.66	10.18	10.88	11.16	11.52	11.71	11.48	11.20	10.84	10.94	10.46	10.71
1923	11.07	12.20	12.18	12.22	12.51	12.67	13.04	13.09	13.07	12.72	12.42	12.09	12.38
1924	12.15	12.80	13.42	15.31	------	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 403.—*Timothy seed: Farm price per bushel, 15th of month, United States, 1910–1924*

Year beginning August	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Weighted av.
1910	------	$3.77	$4.03	$4.08	$4.11	$4.12	$4.51	$4.93	$5.17	$5.24	$5.24	$5.48	$4.28
1911	$6.52	6.65	6.91	6.90	6.72	6.99	7.26	7.33	7.27	7.16	6.68	5.96	6.87
1912	3.20	2.09	1.95	1.82	1.79	1.79	1.78	1.72	1.74	1.76	1.77	1.94	2.01
1913	2.01	2.13	2.02	2.08	2.10	2.07	2.12	2.30	2.28	2.38	2.23	2.32	2.13
Av. 1910–1913	3.91	3.66	3.72	3.72	3.68	3.74	3.92	4.07	4.12	4.14	3.98	3.92	3.82
1914	2.43	2.46	2.34	2.34	2.18	2.63	2.66	2.78	2.69	2.75	2.65	2.57	2.49
1915	2.56	2.62	2.72	2.91	2.86	3.05	3.19	3.28	3.51	3.33	3.26	3.08	2.89
1916	2.36	2.22	2.27	2.25	2.31	2.44	2.46	2.70	2.76	3.09	3.09	3.04	2.42
1917	3.23	3.31	3.61	3.25	3.37	3.57	3.78	3.84	3.74	3.84	3.56	3.67	3.50
1918	3.87	3.79	4.08	4.26	4.21	4.34	4.51	4.54	4.69	5.05	4.63	4.49	4.19
1919	4.58	4.55	4.78	4.67	4.98	5.35	5.62	5.61	5.63	5.61	5.46	5.44	4.98
1920	4.44	3.52	3.25	3.09	3.16	3.04	2.75	2.97	2.84	2.90	2.99	2.96	3.29
Av. 1914–1920	3.35	3.21	3.29	3.25	3.30	3.49	3.57	3.69	3.69	3.80	3.66	3.61	3.39
1921	2.71	2.31	2.70	2.41	2.57	2.70	2.82	2.95	3.11	3.21	2.81	2.53	2.64
1922	2.20	2.28	2.48	2.49	2.69	3.06	2.98	3.00	2.99	2.87	2.92	3.16	2.60
1923	2.63	3.01	3.12	3.15	3.19	3.37	3.56	3.60	3.54	3.48	3.44	3.23	3.19
1924	3.20	3.12	3.16	2.88	3.03	------	------	------	------	------	------	------	------

Division of Crop and Livestock Estimates.

TABLE 404.—*Field seeds: Average price per 100 pounds paid to growers for crop of 1919–1923*

ALFALFA SEED

State or State subdivision	1919	1920	1921	1922	1923	State or State subdivision	1919	1920	1921	1922	1923
Southern Arizona	$35.50	$17.00	$14.35	$15.50	$16.25	Southwestern Kansas	$26.60	$14.70	$11.35	$12.80	$15.00
California	30.00	15.90	14.00	14.75	17.00	Montana	26.00	17.00	17.85	21.05	19.25
Colorado	27.00	13.00	11.85	11.60	15.25	Nebraska	26.00	15.80	10.10	13.90	------
Southern Idaho	31.65	11.80	12.00	14.95	15.50	Eastern New Mexico	27.50	14.00	10.80	13.00	14.30
Northeastern Kansas	25.05	13.60	11.10	------	------	Western Oklahoma	22.30	12.85	11.20	13.30	15.25
Northwestern Kansas	26.75	14.25	10.65	12.10	15.50	Western Oregon	28.70	18.00	13.00	------	------
Southeastern Kansas	28.30	16.40	13.60	------	------	South Dakota	31.45	18.75	13.20	17.30	18.35
						Western Texas	23.50	20.65	14.75	13.10	14.50
						Northern Utah	33.50	16.00	11.75	15.50	16.00

ALSIKE CLOVER SEED

Southern Idaho	$40.15	$22.00	$14.50	$13.60	$13.50	Northwestern Ohio	$40.80	$22.30	$13.30	$12.90	$13.05
Northern Illinois	39.60	22.05	14.65	13.80	14.20	Western Oregon	40.45	23.50	13.65	15.20	13.25
Northern Indiana	41.70	21.75	14.80	14.55	12.85	Northeastern Wisconsin	40.25	18.95	14.30	11.80	12.45
Iowa	40.35	19.95	15.15	------	------	Southeastern Wisconsin	41.20	20.20	14.20	12.85	12.25
Southern Michigan	44.90	20.90	13.50	13.50	12.90						
Minnesota	39.25	19.25	13.65	12.95	12.30						
Western New York	39.20	21.10	14.50	------	------						

RED CLOVER SEED

Idaho	$45.60	$13.95	$15.10	$16.75	$18.25	Minnesota	$42.10	$16.75	$15.50	$17.10	$19.00
Northern Illinois	43.30	18.70	16.30	17.25	20.40	Missouri	39.25	15.85	16.05	15.55	18.35
Central Illinois	43.70	18.40	16.55	16.55	20.40	Nebraska	41.25	14.65	15.35	16.15	------
Northern Indiana	45.50	19.10	17.00	17.20	19.70	Northwestern Ohio	44.40	19.05	17.20	17.55	19.30
Central Indiana	45.50	18.50	16.55	16.15	19.70	Western Oregon	47.50	22.35	15.30	20.10	19.65
Southern Indiana	42.50	16.05	16.45	15.85	------	Washington	46.00	18.00	15.25	------	------
Northeastern Iowa	42.10	17.80	16.45	16.60	------	Northeastern Wisconsin	43.80	16.30	16.65	17.35	18.30
Southeastern Iowa	40.50	18.30	15.40	16.10	19.85	Southeastern Wisconsin	45.60	18.40	17.55	17.90	19.70
Southwestern Iowa	42.70	17.25	15.90	17.05	------	Southwestern Wisconsin	43.55	16.75	16.85	17.45	19.70
Kansas	40.50	15.65	15.30	16.30	------						
Southern Michigan	45.00	17.10	16.60	17.35	18.70						

SWEET CLOVER SEED

Colorado	$21.60	$9.90	$4.25	$4.55	$8.60	Nebraska	$25.00	$12.50	$6.50	------	------
Idaho	24.75	10.00	6.50	------	------	North Dakota	23.00	9.60	4.40	$7.35	$9.00
Illinois	24.00	16.30	10.15	7.10	9.70	Oklahoma	22.00	9.00	5.00	------	------
Kansas	23.50	8.15	5.10	7.75	9.10	South Dakota	21.00	9.50	5.00	7.00	9.70
Minnesota	21.00	8.00	4.50	6.85	9.15	Utah	26.00	8.50	3.00	------	10.00
Montana	23.25	11.50	5.00	7.00	9.15						

TIMOTHY SEED

Southern Idaho	$11.25	$5.25	$4.10	$4.45	$5.50	West central Minnesota	$9.90	$5.25	$4.75	$4.75	------
Northern Illinois	9.85	6.50	4.50	4.70	------	Northeastern Missouri	10.55	5.75	4.20	4.95	$6.05
Central Illinois	10.50	6.30	4.85	4.95	6.15	Northwestern Missouri	10.60	5.50	3.95	4.60	5.55
Southern Illinois	10.15	6.75	4.95	5.15	6.00	Southwestern Missouri	10.35	4.55	3.70	------	------
Indiana	10.75	6.25	4.70	5.15	5.50	Nebraska	9.60	5.50	5.50	------	------
Northeastern Iowa	10.10	5.40	4.20	4.70	6.30	North Dakota	9.25	5.80	5.20	4.55	------
Northwestern Iowa	9.76	5.90	4.15	4.50	------	Northeastern Ohio	11.05	6.65	4.85	4.95	6.55
Southeastern Iowa	10.60	6.65	4.50	4.60	5.95	Northwestern Ohio	10.70	5.85	4.70	5.00	6.55
Southwestern Iowa	10.65	5.50	4.10	4.55	5.90	Northeastern South Dakota	9.55	5.65	4.45	4.60	5.75
Kansas	10.60	5.25	5.60	------	------	Southeastern South Dakota	9.95	5.65	4.05	4.60	5.95
Northwestern Minnesota	9.56	5.10	4.35	4.55	------	Wisconsin	10.00	5.90	4.80	5.05	------
East central Minnesota	9.65	5.75	4.40	5.05	------						
Southern Minnesota	9.70	5.80	4.45	4.85	6.25						

Division of Statistical and Historical Research. Compiled from data of the Hay, Feed and Seed Division. Weighted average price based on reports received annually from seed shippers.

TABLE 405.—*Alfalfa seed: Average spot price per 100 pounds, Kansas City, 1910–1924*

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1910	(1)	(1)	$13.34	$12.88	$12.88	$12.88	$12.88	$12.88	$12.88	(1)	(1)	(1)	
1911	(1)	(1)	11.50	10.48	10.06	10.17	11.03	10.90	10.91	$10.46	$10.25	$10.41	
1912	$10.50	$10.27	9.84	9.64	10.00	10.00	9.90	9.81	9.88	10.09	10.25	11.71	$10.16
1913	10.00	9.57	8.25	8.12	7.70	7.75	8.00	8.00	8.00	8.42	9.35	9.50	8.56
1914	9.50	10.20	11.88	10.36	10.06	10.37	11.87	13.15	13.11	12.53	12.25	12.25	11.45
1915	(1)	14.17	14.98	15.69	15.57	16.08	17.40	16.23	17.25	17.25	17.25	17.25	
1916	17.81	17.58	12.63	11.23	10.50	10.66	10.62	11.00	11.00	11.18	11.80	12.00	12.33
1917	12.00	12.52	13.25	13.51	14.00	14.00	13.50	13.50	13.50	14.38	15.00	12.42	13.47
1918	12.90	13.91	13.02	13.12	13.45	13.31	13.58	13.75	13.75	13.04	14.27	14.21	13.53
1919	14.50	17.70	20.60	23.50	27.72	30.00	30.00	33.77	20.73	25.00	25.00	25.00	24.41
1920	25.00	25.00	14.70	14.67	12.50	14.00	15.00	14.62	13.25	13.75	13.25	12.75	15.72
Av., 1914–1920	15.28	15.87	14.36	14.38	14.82	15.49	16.00	16.57	14.66	15.30	15.55	15.13	15.31
1921	12.75	12.75	12.12	11.50	11.50	11.06	11.12	12.25	13.88	14.25	13.00	13.00	12.43
1922	(1)	13.12	14.50	14.25	16.00	17.50	17.85	17.35	16.00	16.10	15.90	15.00	
1923	(1)	(1)	14.75	14.65	17.10					22.50	25.00		
1924		21.00	19.25										

Division of Statistical and Historical Research. Compiled from daily Kansas City Price Current and the Seed World, average of daily prices.

[1] No quotations.

TABLE 406.—*Red clover seed, prime contract grade: Average spot price per 100 pounds, Chicago, 1910–1924*

Year beginning September	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average
1910	$16.13	$15.13	$14.45	$14.86	$15.04	$14.80	$15.25	$15.13	$15.81	$16.10	$15.75	$19.25	$15.64
1911	20.10	20.63	20.63	20.75	21.81	23.13	22.50	21.63	20.55	20.13	20.00	16.00	20.06
1912	17.56	18.38	18.05	18.88	19.90	19.88	19.25	21.38	18.40	16.00	15.50	14.70	18.16
1913	14.00	13.35	13.96	14.88	14.75	14.46	14.04	13.06	13.00	13.50	14.15	17.81	13.99
1914	17.19	15.08	15.00	15.59	15.84	15.29	14.39	13.80	13.50	13.50	13.50	15.19	14.82
1915	18.40	21.05	20.06	20.72	19.59	21.19	18.00	16.69	16.00	14.60	14.06	15.63	17.99
1916	14.85	16.00	17.50	17.91	18.19	19.38	18.81	17.90	18.33	18.39	19.06	20.33	18.06
1917	22.36	25.16	26.81	27.45	31.40	34.35	33.72	32.15	30.51	30.45			
1918	35.00	35.50	36.00	37.50	42.60	42.60	51.60	50.00	46.60	45.80	49.10	50.00	43.52
1919	50.00	53.10	51.20	52.00	54.22	55.73	54.22	44.96	35.00	35.00	35.00	29.85	45.86
1920	26.58	22.28	21.67	20.00	21.52	18.55	18.19	17.85	19.00	19.00	19.00	19.00	20.23
Av., 1914–1920	26.34	26.89	26.89	27.31	29.05	29.58	29.83	27.62	25.56	25.25			
1921	18.01	18.32	18.50	18.50	20.84	22.49	24.52	22.00	21.77	19.38	18.00	16.22	19.88
1922	16.42	19.40	20.22	20.12	20.45	20.50	19.65	18.00	16.90	17.46	17.50	17.52	18.68
1923	20.08	22.15	21.00	20.62	20.86	21.20	19.46	17.96	17.83	17.58	18.83	20.00	19.80
1924	22.20	26.72	29.44	31.08									

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World, average of daily prices.

TABLE 407.—*Alsike clover seed: Average spot price per bushel, Toledo, 1914–1924*

Year beginning September	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average
1914						$8.96	$8.59	$8.17	$8.05	[1]$7.90	$8.52	$9.13	
1915	$9.59	$10.27	$10.35	$10.33	$10.26	10.07	9.40	9.15	9.10	9.48	9.53	9.88	9.78
1916	9.83	10.26	10.72	11.10	11.30	11.62	11.51	11.56	11.50	11.40	11.62	11.74	11.18
1917	12.57	13.34	14.35	14.46	15.31		15.59	15.31	15.22	12.37			
1918		18.17		19.66	18.70	16.92	20.09	25.41			24.28	25.00	
1919	25.30	28.72	29.97	31.47	34.57	35.17	35.71	[1]30.89	24.37	25.52	23.95	19.24	28.75
1920	16.84	17.35	17.70	16.96	16.00	15.36	14.98	13.98	13.50	12.43	10.82	10.71	14.71
1921	10.62	10.72	10.64	11.05	11.64	12.37	11.92	11.46	11.27	11.71	10.88	9.81	11.17
1922	10.11	10.50	10.76	10.91	10.76	10.54	10.50	10.50	10.42	10.25	10.16	10.48	10.49
1923	10.52	10.18	9.67	9.43	9.30	8.65	8.95	9.15	9.73	10.17	10.78	10.35	9.74
1924	11.31	12.48	12.72	12.86									

Division of Statistical and Historical Research. Compiled from the Seed World, average of daily prices.

[1] Price based on very few sales.

TABLE 408.—*Timothy seed, prime contract grade. Average spot price per 100 pounds, Chicago, 1910–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1910	$6.36	$9.45	$9.32	$9.64	$9.97	$10.41	$11.40	$12.03	$12.00	$12.00	$11.55	$13.50	$10.64
1911	14.31	15.20	15.81	16.00	16.45	16.25	16.25	15.60	14.50	13.70	11.63	10.25	14.66
1912	6.13	4.81	4.44	4.05	4.13	4.13	3.88	3.76	3.88	4.16	4.69	5.28	4.44
1913	5.59	5.58	5.51	5.41	5.55	5.53	5.46	5.19	5.30	5.47	5.63	5.87	5.51
1914	6.31	6.34	5.64	5.48	6.61	7.89	7.45	7.35	8.84	6.88	7.25	7.40	6.95
1915	8.19	9.19	8.35	8.46	8.73	8.70	8.75	8.55	8.50	8.94	9.20	8.75	8.69
1916	7.00	4.99	5.43	5.50	5.74	5.55	5.55	5.78	6.81	8.20	8.14	8.01	6.39
1917	8.25	8.44	8.56	7.82	7.63	8.25	8.94	8.55	8.25	8.41	7.81	8.88	8.32
1918	8.90	10.00	10.00	10.30	11.00	11.00	10.00	10.50	11.00	12.00	12.00	12.00	10.72
1919	11.75	11.50	11.25	11.50	12.25	13.62	14.30	13.07	11.76	12.00	12.08	11.85	12.24
1920	8.89	7.50	6.71	6.69	6.13	5.78	5.05	4.65	5.04	5.30	5.27	5.07	6.01
Av., 1914–1920	8.47	8.28	7.99	7.96	8.30	8.68	8.58	8.35	8.60	8.82	8.81	8.85	8.47
1921	4.50	4.30	4.85	5.31	5.53	5.94	6.00	5.69	5.22	5.19	4.67	4.50	5.14
1922	4.59	4.96	5.89	6.26	6.25	6.25	6.19	5.81	5.50	5.70	6.13	6.04	5.80
1923	5.91	7.19	7.45	7.24	7.25	8.71	9.44	9.38	8.93	8.73	8.75	8.75	8.14
1924	7.82	6.84	6.28	6.44	6.66								

Division of Statistical and Historical Research. Compiled from Chicago Board of Trade and the Seed World, average of daily prices.

TABLE 409.—*Alfalfa seed: Price per bushel paid by farmers, 15th of month, United States, 1912–1924*

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
1912						$10.25	$10.07	$10.07	$10.52	$9.84	$9.73	$9.49
1913	$8.25	$9.60	$9.78	$9.99	$9.75	9.73	9.41	10.06	8.96	8.73	7.65	7.25
1914	8.30	7.98	8.01	8.17	8.38	8.31	8.29	7.79	8.85	8.97	8.45	8.81
1915	8.79	9.29	9.58	9.50	9.62	9.61	9.61	9.14	9.60	10.00	9.71	9.75
1916	10.27	11.04	12.21	12.54	12.10	12.10	11.67	11.51	11.30	10.67	10.00	10.31
1917	9.72	9.98	10.34	10.32	10.52	10.79	10.87	10.52	10.72	11.00	10.94	11.16
1918	11.84	12.00	12.24	12.34	12.35	12.04	11.70	13.06	12.43	11.82	11.68	12.00
1919	12.48	12.70	13.12	13.65	14.32	14.24	14.51	14.11	15.47	16.57	17.51	20.27
1920	21.25	22.66	24.64	25.22	25.08	24.22	23.70	21.05	21.19	18.32	16.87	12.99
1921	10.91	12.74	12.47	11.62	11.43	11.84	10.70	11.00	11.14	10.51	10.14	10.38
1922	10.33	10.76	11.37	11.72	11.45	11.24	11.38	10.38	10.67	10.94	11.19	11.69
1923	11.99	12.42	12.50	12.85	13.19	12.64	12.17	12.05	12.15	12.86	12.81	12.44
1924	12.75	12.74	13.21	13.49	13.37	13.34	12.98	13.01	13.10	12.77	11.68	12.63

Division of Crop and Livestock Estimates.

TABLE 410.—*Clover seed: Price per bushel paid by farmers, 15th of month, United States, 1912–1924*

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
1912						$13.49	$12.82	$11.78	$11.61	$11.28	$11.23	$11.10
1913	$11.39	$11.62	$12.30	$12.90	$12.90	12.47	12.12	11.94	10.22	9.32	9.13	9.43
1914	9.82	9.77	9.45	9.84	9.77	9.86	9.79	10.39	10.76	10.32	10.06	10.04
1915	10.34	10.32	10.33	10.08	9.99	9.89	10.05	9.79	10.18	11.14	10.25	11.56
1916	11.98	12.22	12.58	12.59	12.14	11.71	11.20	11.27	10.90	10.61	10.87	11.10
1917	11.29	11.67	12.07	12.28	12.30	12.23	12.36	12.38	12.64	13.26	14.26	14.99
1918	16.45	18.90	20.13	20.35	19.71	19.15	18.71	17.84	19.42	20.84	21.25	23.10
1919	24.25	25.04	25.72	28.24	28.07	27.87	27.22	27.82	28.73	28.82	29.63	31.04
1920	32.09	35.00	35.64	35.73	34.28	32.05	31.38	27.64	23.31	18.94	16.13	14.66
1921	14.02	13.62	13.52	13.56	13.48	13.38	13.17	13.55	13.00	12.84	12.89	12.82
1922	13.44	14.10	15.39	15.40	15.12	14.48	14.04	13.20	12.11	12.64	12.85	13.32
1923	13.76	14.06	14.12	14.02	13.94	13.66	13.55	13.41	13.84	14.38	13.40	14.30
1924	13.49	15.08	15.36	15.37	15.25	14.92	14.73	14.67	14.46	15.05	16.14	16.83

Division of Crop and Livestock Estimates.

TABLE 411.—*Timothy seed: Price per bushel paid by farmers, 15th of month, United States, 1912–1924*

Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
1912						$7.37	$6.59	$3.89	$3.06	$2.84	$2.67	$2.47
1913	$2.51	$2.47	$2.33	$2.43	$2.40	2.44	2.57	2.76	2.84	2.85	2.87	2.84
1914	2.90	2.94	2.97	2.95	2.97	2.98	2.99	3.17	3.25	3.19	3.11	3.05
1915	3.42	3.56	3.60	3.57	3.46	3.48	3.49	3.48	3.59	3.74	3.69	3.73
1916	3.80	3.96	3.98	4.03	4.04	4.01	3.99	3.50	3.08	3.01	3.05	3.11
1917	3.17	3.22	3.24	3.27	3.60	3.81	3.93	3.98	4.12	4.14	4.12	4.20
1918	4.49	4.55	4.67	4.58	4.55	4.56	4.55	4.71	4.98	5.10	5.20	5.23
1919	5.43	5.45	5.50	5.56	5.73	5.68	5.79	5.96	5.92	6.05	6.06	6.24
1920	6.43	6.87	6.94	7.03	6.91	6.88	6.83	6.01	5.41	4.84	4.70	4.54
1921	4.40	4.27	4.05	4.08	4.02	4.10	3.91	3.65	3.41	3.48	3.52	3.63
1922	3.83	4.04	4.00	4.03	4.04	3.88	3.79	3.56	3.34	3.48	3.69	3.74
1923	3.93	3.94	3.97	3.95	3.99	4.03	4.03	3.61	3.93	4.13	4.24	4.14
1924	4.23	4.30	4.44	4.40	4.36	4.32	4.17	4.18	4.16	4.02	3.95	4.15

Division of Crop and Livestock Estimates.

TOBACCO

TABLE 412.—*Tobacco: Acreage, production, value, exports, etc., United States, 1909–1924*

Year	Acreage	Average yield per acre	Production	Average farm price per pound Dec. 1	Farm value Dec. 1	Value per acre[1]	Domestic exports of unmanufactured, fiscal year beginning July 1	Imports of unmanufactured, fiscal year beginning July 1
	Acres	*Pounds*	*Pounds*	*Cents*	*Dollars*	*Dollars*	*Pounds*	*Pounds*
1909	*1,295,000*	814.8	1,055,133,000	10.1	106,374,000	82.14	357,196,074	46,853,389
1910	1,366,000	807.7	1,103,415,000	9.3	102,142,000	74.77	355,327,072	48,203,288
1911	1,013,000	893.7	905,109,000	9.4	85,210,000	84.12	379,845,320	54,740,380
1912	1,226,000	785.5	962,855,000	10.8	104,063,000	84.88	418,796,906	67,977,118
1913	1,216,000	784.3	953,734,000	12.8	122,481,000	100.72	449,749,962	61,174,751
Av. 1909–1913	1,223,000	814.3	996,049,000	10.4	104,054,000	85.07	392,183,071	55,789,785
1914	1,224,000	845.7	1,034,679,000	9.8	101,411,000	82.85	348,346,091	45,764,728
1915	1,370,000	775.4	1,062,237,000	9.1	96,281,000	70.28	443,293,156	48,013,335
1916	1,413,000	816.0	1,153,278,000	14.7	169,672,000	120.08	411,598,860	46,136,347
1917	1,518,000	823.1	1,249,276,000	24.0	300,449,000	197.92	289,170,686	79,367,563
1918	1,647,000	873.7	1,439,071,000	28.0	402,264,000	244.23	629,287,761	83,951,103
1919	1,951,000	751.1	1,465,481,000	39.0	570,868,000	292.60	648,037,655	94,005,182
1920	1,960,000	807.3	1,582,225,000	21.2	335,675,000	171.26	506,526,449	58,923,217
Av. 1914–1920	1,583,000	810.8	1,283,750,000	22.0	282,374,000	178.35	468,037,237	65,165,925
1921	1,427,000	749.6	1,069,693,000	19.9	212,728,000	149.07	463,388,521	65,225,437
1922	1,695,000	735.6	1,246,837,000	23.2	289,248,000	170.65	454,364,150	75,785,715
1923	1,877,000	807.2	1,515,110,000	19.9	301,096,000	160.41	597,630,437	54,341,010
1924[2]	1,720,000	722.5	1,242,623,000	20.6	256,346,000	149.04	----------	----------

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Based upon farm price Dec. 1. [2] Preliminary.

TABLE 413.—*Tobacco: Acreage, production, and total farm value, by States, 1922–1924*

State	Acreage			Production			Total value basis Dec. 1 price		
	1922	1923	1924 [1]	1922	1923	1924 [1]	1922	1923	1924 [1]
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Massachusetts	9	9	9	9,612	12,690	11,790	3,033	5,558	3,160
Connecticut	28	29	28	29,260	40,252	36,820	11,792	18,717	11,893
New York	2	2	2	2,220	2,256	2,350	821	450	524
Pennsylvania	43	45	46	56,760	58,950	59,800	9,082	10,670	9,389
Maryland	26	27	28	20,020	21,384	21,420	3,504	6,009	5,762
Virginia	209	204	214	156,750	150,960	139,100	37,620	29,588	29,767
West Virginia	9	9	8	7,425	7,740	6,400	1,634	1,703	1,372
North Carolina	505	585	497	252,500	409,500	278,320	76,508	94,594	71,807
South Carolina	85	102	94	54,400	74,460	41,360	12,512	14,147	7,031
Georgia	11	17	41	5,940	11,237	31,201	1,544	3,483	8,299
Florida	3	4	7	3,300	4,292	5,600	1,551	2,185	2,106
Ohio	46	47	46	41,400	42,770	29,900	7,866	6,159	5,801
Indiana	18	22	21	16,200	19,778	18,417	2,754	2,769	3,057
Wisconsin	40	44	39	45,600	48,092	36,660	9,120	5,290	4,766
Missouri	5	6	6	4,500	6,600	6,000	1,305	1,848	1,500
Kentucky	525	578	503	446,250	494,190	419,585	87,019	82,036	71,757
Tennessee	130	146	130	94,250	109,500	97,500	20,735	15,658	18,135
Louisiana	1	1	1	450	465	400	248	232	220
United States	1,695	1,877	1,720	1,246,837	1,515,110	1,242,623	289,248	301,096	256,346

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 414.—*Tobacco: Acreage, yield, and production, by types and districts, 1923 and 1924*

Type and State	Acreage		Yield		Production	
	1923	1924 [1]	1923	1924	1923	1924 [1]
	Acres	*Acres*	*Lbs.*	*Lbs.*	*Pounds*	*Pounds*
Cigar types:						
Massachusetts	9,000	9,000	1,410	1,310	12,690,000	11,790,000
Connecticut	29,000	28,000	1,388	1,315	40,252,000	36,820,000
New York	2,000	2,000	1,125	1,175	2,250,000	2,350,000
Pennsylvania	45,000	46,000	1,310	1,300	58,950,000	59,800,000
Ohio	27,600	30,600	925	550	25,530,000	16,830,000
Indiana	500	500	800	950	400,000	475,000
Wisconsin	44,000	39,000	1,093	940	48,092,000	36,660,000
Georgia	1,800	1,700	1,000	874	1,800,000	1,486,000
Florida	3,800	3,500	1,073	980	4,160,000	3,430,000
Total cigar type	162,700	160,300	1,193	1,058	194,124,000	169,641,000
Chewing, smoking, snuff, and export:						
Burley—						
Virginia	2,000	2,800	1,100	1,125	2,200,000	3,150,000
West Virginia	8,500	7,500	860	800	7,310,000	6,000,000
Ohio	17,600	14,200	862	865	15,170,000	12,290,000
Indiana	14,900	14,000	880	850	13,110,000	11,900,000
Missouri	6,000	6,000	1,100	1,000	6,600,000	6,000,000
Kentucky	296,000	290,000	880	845	260,480,000	245,050,000
Tennessee	24,600	31,000	880	850	21,648,000	26,350,000
Total burley	369,600	365,500	883	850	326,518,000	310,740,000
Paducah—						
Kentucky	78,500	56,000	810	785	63,585,000	43,960,000
Tennessee	25,000	18,000	760	725	19,000,000	13,050,000
Total Paducah	103,500	74,000	796	768	82,585,000	57,010,000

[1] **Preliminary.**

TABLE 414.—*Tobacco: Average, yield, and production, by types and districts, 1923 and 1924*—Continued.

Type and State	Acreage		Yield		Production	
	1923	1924[2]	1923	1924	1923	1924
	Acres	*Acres*	*Lbs.*	*Lbs.*	*Pounds*	*Pounds*
Chewing, smoking, snuff, and export—Continued.						
Henderson—						
Kentucky	83,500	65,000	880	850	73,480,000	55,250,000
One Sucker—						
Indiana	6,600	6,500	950	930	6,268,000	6,042,000
Kentucky	39,500	21,000	815	800	32,195,000	16,800,000
Tennessee	16,600	12,000	760	650	12,616,000	7,800,000
Total One Sucker	62,700	39,500	823	775	51,079,000	30,642,000
Clarksville and Hopkinsville—						
Kentucky	77,500	69,000	800	825	62,000,000	56,925,000
Tennessee	77,000	66,000	700	740	53,900,000	48,840,000
Total Clarksville and Hopkinsville	154,500	135,000	750	783	115,900,000	105,765,000
Virginia sun cured	7,600	7,200	735	725	5,586,000	5,220,000
Virginia dark	52,400	56,000	835	735	43,754,000	41,160,000
Old Belt—						
Virginia	142,000	148,000	700	605	99,420,000	89,570,000
North Carolina	270,000	231,000	641	570	173,200,000	131,670,000
Total Old Belt	412,000	379,000	662	584	272,620,000	221,240,000
New Belt—						
North Carolina	315,000	266,000	750	551	236,300,000	146,630,000
South Carolina	102,000	94,000	730	440	74,460,000	41,360,000
Georgia	14,700	38,800	625	760	9,187,000	29,500,000
Florida	200	3,500	660	620	132,000	2,170,000
Total New Belt	431,900	402,300	740	546	320,079,000	219,660,000
Total flue cured (Old and New Belt)	843,900	781,300	702	564	592,699,000	440,920,000
Maryland and Eastern Ohio Export—						
Maryland	27,000	28,000	792	765	21,384,000	21,420,000
Ohio	1,800	1,200	1,150	650	2,070,000	780,000
West Virginia	400	400	860	800	344,000	320,000
Total export	29,200	29,600	815	761	23,798,000	22,520,000
Other—						
Georgia	500	500	500	430	250,000	215,000
Tennessee	2,800	3,000	684	487	2,336,000	1,460,000
Kentucky	3,000	2,000	818	800	2,450,000	1,600,000
Louisiana	1,000	1,000	465	400	465,000	400,000
West Virginia	100	100	860	800	86,000	80,000
Total other	7,400	6,600	755	569	5,587,000	3,755,000
Total chewing, smoking, snuff, and export	1,714,300	1,559,700	770.5	687.9	1,320,986,000	1,072,982,000
Total, all types	1,877,000	1,720,000	807.2	722.5	1,515,110,000	1,242,623,000

Division of Crop and Livestock Estimates.

TABLE 415.—*Tobacco: Yield per acre, by States, 1909–1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Massachusetts	1,600	1,730	1,650	1,700	1,550	1,646	1,750	1,100	1,660
Connecticut	1,650	1,730	1,625	1,700	1,550	1,651	1,770	1,350	1,630
New York	1,175	1,250	1,330	1,300	1,020	1,215	1,300	1,200	1,230
Pennsylvania	985	1,500	1,420	1,450	1,200	1,311	1,450	1,350	1,360
Maryland	710	690	735	660	740	707	800	740	770
Virginia	775	780	800	600	770	745	650	750	680
West Virginia	875	640	750	760	680	741	820	870	900
North Carolina	600	600	710	620	670	640	650	620	550
South Carolina	800	630	810	700	760	740	730	580	520
Georgia	700	680	900	830	1,000	822	1,000	880	1,180
Florida	710	680	940	840	1,000	834	1,000	910	1,210
Ohio	925	810	925	920	750	866	900	900	950
Indiana	950	880	910	800	750	858	900	840	930
Wisconsin	1,180	1,050	1,250	1,290	1,180	1,190	1,180	900	1,270
Missouri	885	1,050	800	1,000	650	877	1,200	900	950
Kentucky	835	810	880	780	760	813	910	810	900
Tennessee	730	760	810	660	720	736	820	750	800
Louisiana	550	550	450	300	450	460	400	420	450
United States	814.8	807.7	893.7	785.5	784.3	817.2	845.7	775.4	816.0

State	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Massachusetts	1,400	1,500	1,540	1,550	1,500	1,370	1,068	1,410	1,310
Connecticut	1,400	1,500	1,565	1,480	1,528	1,454	1,045	1,388	1,315
New York	1,250	1,250	1,290	1,260	1,257	1,250	1,110	1,125	1,175
Pennsylvania	1,400	1,420	1,320	1,510	1,401	1,460	1,320	1,310	1,200
Maryland	790	830	675	875	783	715	770	792	765
Virginia	700	770	530	730	687	550	750	740	650
West Virginia	800	720	700	800	801	750	825	860	800
North Carolina	630	705	616	694	638	561	500	700	560
South Carolina	710	720	722	650	662	630	640	730	440
Georgia	1,000	800	530	600	856	564	540	661	761
Florida	1,100	960	950	1,050	1,026	900	1,100	1,073	800
Ohio	960	980	860	960	930	920	900	910	650
Indiana	950	930	800	900	893	875	900	899	877
Wisconsin	1,000	1,330	1,270	1,248	1,171	1,281	1,140	1,093	940
Missouri	940	900	1,000	1,000	984	925	900	1,100	1,000
Kentucky	900	960	800	850	876	846	850	855	834
Tennessee	810	800	810	730	789	750	725	750	750
Louisiana	350	420	434	500	425	450	450	465	400
United States	823.1	873.7	751.1	807.3	813.2	749.6	735.6	807.2	722.5

Division of Crop and Livestock Estimates.

TABLE 416.—*Tobacco: Percentage reduction from full yield per acre, from stated causes, as reported by crop correspondents, 1909–1923*

Year	Adverse weather conditions								Plant disease	Insect pests	Animal pests	Defective seed	Other and unknown causes	Total
	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic [1]						
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	5.5	6.8	1.1	0.7	0.8	0.1	0.2	15.3	0.7	2.6	.....	(2)	1.0	19.6
1910	4.8	6.8	1.2	.4	.3	(2)	.1	14.4	.7	2.8	.....	0.1	2.6	20.6
1911	16.7	.9	.....	.8	.1	.6	.....	19.5	.3	1.0	.....	.2	1.7	22.6
1912	7.6	4.8	.8	.5	1.0	.2	.2	15.3	.7	2.8	.....	.1	2.2	21.2
1913	15.3	.7	.4	1.2	1.2	.3	.6	20.0	.2	3.0	.....	(2)	1.8	25.0
1914	18.1	.2	.1	.4	.6	.3	.1	20.1	(2)	2.7	.....	.1	1.9	24.8
1915	3.9	8.2	.9	1.2	.8	.1	.9	16.3	.6	4.0	.....	.1	2.5	23.5
1916	3.5	5.5	1.3	1.3	1.0	.1	.8	14.0	.3	2.9	.....	(2)	1.2	18.4
1917	3.3	2.2	.5	3.3	1.2	.1	.2	11.1	.2	2.1	.....	.1	1.7	15.2
1918	8.6	.4	.2	.7	1.1	.2	.2	11.4	.3	2.1	.....	.1	.3	14.2
1919	8.9	7.9	.6	.2	1.1	.1	.2	19.2	.6	2.8	.....	(2)	.4	23.0
1920	2.3	7.0	.6	.7	1.0	(2)	.1	11.7	5.5	2.6	.....	(2)	1.2	21.0
1921	18.9	2.2	.1	.4	.7	.4	.2	22.9	1.6	3.2	.....	(2)	.5	28.2
1922	7.0	4.5	.3	.4	1.4	.1	.2	14.3	1.7	2.5	.....	(2)	.2	18.7
1923	4.1	3.9	.4	1.6	.5	.1	.3	10.9	2.5	2.7	.....	.1	.7	16.9

Division of Crop and Livestock Estimates.

[1] Includes all other climatic. [2] Less than 0.05 per cent.

TABLE 417.—*Tobacco: Acreage and yield per acre in specified countries, average 1909–1913, annual 1921–1924*

Country	Acreage					Yield per acre				
	Average, 1909–1913	1921	1922	1923	1924, preliminary	Average, 1909–1913	1921	1922	1923	1924, preliminary
NORTHERN HEMISPHERE										
NORTH AMERICA	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
United States	1,223	1,427	1,695	1,877	1,720	814	750	736	807	722
Porto Rico	[1] 19	35	50	24	.....	570	706	449	553	.....
EUROPE										
France	[2] 41	32	38	41	32	1,307	1,643	1,618	1,353	1,683
Italy	[2] 20	48	55	76	91	1,148	899	918	908	.....
Germany	[2] 32	23	28	15	.....	2,004	2,267	1,657	2,095	.....
Hungary	[2] 93	49	44	38	.....	1,203	831	782	783	.....
Yugoslavia	[2] 35	36	31	40	.....	943	724	668	716	.....
Greece	[2 3] 76	73	114	124	.....	[3] 776	705	580	1,477	.....
Bulgaria	[2] 36	58	54	132	72	651	619	729	668	778
Rumania	[1 2] 53	52	49	44	78	[1] 909	531	577	485	.....
AFRICA										
Algeria	25	54	42	51	53	937	919	638	828	666
ASIA										
India	1,057	1,348	.....	.....	.....	.....	.....	.....	.....	.....
Japanese Empire:										
Japan	72	92	97	96	93	1,302	1,466	1,581	1,464	1,422
Chosen	51	41	30	.....	.....	500	739	775	.....	.....
Philippine Islands	184	225	148	160	.....	422	517	446	452	.....

Division of Statistical and Historical Research. Official sources and International Institute of Agriculture unless otherwise stated.

[1] Four-year average. [2] Estimates for present boundaries. [3] One year only.

TABLE 418.—*Tobacco: Production in specified countries, average 1909–1913, annual 1921–1924*

[Thousand pounds—i e., 000 omitted]

Country	Average 1909–1913	1921	1922	1923	1924, preliminary
NORTHERN HEMISPHERE					
NORTH AMERICA					
Canada [1]	[2] 15,066	13,249	25,948	21,297	
United States	996,087	1,069,693	1,246,837	1,515,110	1,242,623
Mexico	[3] 26,455	17,637	23,085		
Guatemala	256	143	386	154	
Cuba	73,666	40,299	30,399		
Dominican Republic	[4] 25,417	14,990	15,000	[5] 20,000	[5] 28,000
Porto Rico	[3] 10,828	24,712	22,450	13,280	
Jamaica	[4] 490				
EUROPE					
Sweden	1,744	1,440	1,164	1,510	
Denmark [6]	[7] 258	2			
Belgium	[7] 20,767	10,190	7,333	9,502	11,310
France	[7] 53,598	52,578	61,495	55,464	53,859
Italy	[7] 22,964	43,145	50,485	69,000	
Switzerland	[8] 1,374	816	790	790	
Germany	[7] 64,116	52,149	46,387	31,421	[5] 44,092
Austria	[7] [8] 590				
Czechoslovakia	[7] 9,467	2,621	4,548	6,160	12,600
Hungary	[7] 111,883	40,705	34,430	29,760	
Yugoslavia	[7] 33,013	26,046	20,700	28,660	
Greece	[7] 58,987	51,485	66,138	183,110	
Bulgaria	[7] 23,435	35,923	39,380	88,190	56,000
Rumania	[7] 48,174	27,589	28,286	21,360	
Poland	[7] 8,725	2,015			
Russia	[7] 199,203				[5] 25,300
AFRICA					
Algeria	23,421	49,626	26,808	42,240	[5] 35,274
Tunis	265	1,069	722	990	860
ASIA					
British India	[3] [8] 450,000				
British North Borneo		1,160	1,208	1,281	
Ceylon			10,009	10,009	
Japanese Empire:					
Japan	93,717	134,899	153,364	140,550	132,280
Chosen	25,510	30,308	23,244		
Formosa	1,120	4,270	3,760	3,610	
Russia (Asiatic)	30,939				
Philippine Islands	65,005	116,401	65,977	72,320	
SOUTHERN HEMISPHERE					
SOUTH AMERICA					
Chile	4,496	7,081			
Brazil		175,744	156,307		
Uruguay	2,045	329	441	550	
Paraguay	17,844	21,322	24,672		
Argentina	12,635	38,283	17,730	23,340	
AFRICA					
Union of South Africa	14,961	9,813	8,400		
Rhodesia	[8] 1,992	3,182	2,811	3,600	
Nyasaland	3,017	6,736	6,499	3,920	

[1] Ontario and Quebec.
[2] Two-year average.
[3] One year only.
[4] Three-year average.
[5] Commercial estimate.
[6] No tobacco has been grown in Denmark since 1922.
[7] Estimates for present boundaries.
[8] Four-year average.

TABLE 418.—*Tobacco: Production in specified countries, average 1909–1913, annual 1921–1924*—Continued

Country	Average 1909–1921	1921	1922	1923	1924 preliminary
OCEANIA					
Dutch East Indies:					
Java and Madura	94,302	83,042	62,630		
Sumatra (East Coast)	46,278	[5] 27,793	35,413	[5] 36,300	[5] 37,700
Australia	2,135	1,086			
Fiji	42	184	58		
Total comparable with 1909–1913	2,696,284				
Total of countries reporting for all years	1,35[illegible]68	1,451,531	1,637,287	1,945,927	1,654,598

Division of Statistical and Historical Research, official sources and International Institute of Agriculture unless otherwise stated.

For each year is shown the production during the calendar year in the Northern Hemisphere and the succeeding harvest in the Southern Hemisphere.

[5] Commercial estimate.

TABLE 419.—*Tobacco: Farm price per pound, December 1, by States, 1909–1924, and value per acre, 1924*

State	1909	1910	1911	1912	1913	Av. 1909–1913	1914	1915	1916	1917	1918	1919	1920	Av. 1914–1920	1921	1922	1923	1924	Value per acre 1924[1]
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Dolls.*
Mass	14.0	15.0	20.0	23.9	21.0	18.8	17.7	14.5	25.0	38.4	40.0	46.3	40.6	31.8	36.0	37.8	43.8	26.8	351.08
Conn	16.5	16.5	20.5	24.1	21.0	19.7	18.5	17.0	27.0	38.4	44.0	46.3	35.0	32.3	41.0	40.3	46.5	32.3	424.74
N. Y	8.0	8.5	10.4	12.6	12.2	10.3	12.0	9.5	13.0	22.0	18.0	22.5	27.0	17.7	19.3	37.0	20.0	22.3	262.02
Pa	9.0	9.3	9.5	8.5	7.5	8.8	8.5	9.2	14.2	21.0	14.0	17.0	20.0	14.8	14.4	16.0	18.1	15.7	204.10
Md	8.3	7.7	7.5	8.0	9.3	8.2	8.0	8.5	16.0	20.0	30.0	30.0	29.0	29.2	19.0	17.5	28.1	26.9	205.78
Va	8.5	9.0	9.6	12.0	13.9	10.6	9.0	9.4	14.6	26.5	27.0	47.4	24.0	22.6	20.5	24.0	19.6	21.4	139.10
W. Va	13.2	10.3	8.0	11.0	12.0	10.9	11.0	10.0	15.0	30.0	36.6	50.0	25.0	25.4	24.0	22.0	22.0	21.4	171.20
N. C	9.5	10.6	11.6	16.0	18.5	13.2	11.5	11.2	20.0	31.5	35.1	53.6	25.3	26.9	26.0	30.3	23.1	25.8	144.48
S. C	7.3	8.6	12.6	10.9	13.8	10.6	9.7	7.0	14.0	23.1	31.1	22.8	15.0	17.5	11.0	23.0	19.0	17.0	74.80
Ga	34.0	20.0	28.0	30.0	31.0	28.6	25.0	23.0	27.0	57.0	46.0	21.5	37.0	33.8	25.0	26.0	31.0	26.6	202.43
Fla	34.0	23.0	28.0	30.0	31.0	29.2	30.0	23.0	30.0	57.0	46.0	54.5	48.0	41.2	40.0	47.0	50.9	37.6	300.80
Ohio	10.5	8.5	7.6	9.1	11.4	9.4	8.8	9.0	13.0	25.0	19.5	33.7	13.0	17.4	15.0	19.0	14.4	19.4	126.10
Ind	11.0	9.5	7.8	9.0	11.0	9.7	9.0	7.3	13.0	24.0	20.7	35.2	14.0	17.6	15.0	17.0	14.0	16.6	145.58
Wis	9.2	7.5	10.0	11.0	12.0	9.9	11.0	6.0	12.5	17.5	22.0	22.2	25.9	16.7	12.5	20.0	11.0	13.0	122.20
Mo	13.0	12.0	12.0	12.0	12.7	12.3	13.0	12.0	15.0	21.2	25.0	36.0	33.0	22.2	20.0	29.0	28.0	25.0	250.00
Ky	10.6	8.7	7.7	8.7	10.0	9.1	8.4	7.8	12.7	22.7	26.3	38.2	15.0	18.7	15.5	19.5	16.6	17.1	142.61
Tenn	7.8	8.4	8.5	7.1	8.4	8.0	7.5	6.3	10.1	17.0	21.4	25.1	20.0	15.3	20.0	22.0	14.3	18.6	139.50
La	37.0	25.0	31.0	30.0	25.0	29.6	35.0	30.0	28.0	35.0	66.0	65.0	40.0	42.6	55.0	55.0	50.0	55.0	220.00
U. S	10.1	9.3	9.4	10.8	12.8	10.5	9.8	9.1	14.7	24.0	28.0	39.0	21.2	20.8	19.9	23.2	19.9	20.6	149.04

Division of Crop and Livestock Estimates.

[1] Based on farm price December 1.

TABLE 420.—*Tobacco (unmanufactured): International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Algeria	4,776	11,681	6,781	21,896	8,506	33,549	8,599	17,516
Brazil	620	59,991	2,024	71,718	2,321	97,434		80,547
British India	6,538	28,874	7,284	30,987	8,053	26,890	9,205	37,891
Bulgaria	[1]	4,310						
Ceylon		4,093	3	2,411	4	4,335		
Cuba	141	38,035	[1]	26,912	[1]	34,998		
Dominican Republic		22,395		20,221		16,602		35,976
Dutch East Indies	8,074	163,823	491	100,250	617	113,076	[2] 1,037	[2] 82,945
Greece	12,024	18,113	443	57,750	128	81,036	57	47,104
Hungary					5,430	7,560	2,814	5,738
Paraguay		11,361						
Persia	797	3,874	172	2,206				
Philippine Islands	45	26,018	342	49,270	181	35,433	132	55,736
Russia	1,084	23,283						
United States	52,768	381,127	52,994	522,756	77,767	441,856	57,674	497,347
PRINCIPAL IMPORTING COUNTRIES								
Aden	11,619	7,739						
Argentina	14,988	41	19,800	127	22,180	50	28,183	517
Australia [3]	13,740	[1]	17,104					
Austria			24,108	422	31,556	854	30,101	81
Austria-Hungary	49,984	23,192						
Belgium	22,094	33	36,142	220	33,924	613	42,964	843
Canada	17,891	433	19,925	884	14,454	1,735	13,966	1,837
China	15,113	25,487	29,504	26,891	33,871	26,269	42,042	29,697
Czechoslovakia			25,825		57,702	[1]	32,539	23
Denmark	8,774	100	5,977	[1]	9,570	43	12,804	
Egypt	19,005		17,394	13	16,459	6	15,845	
Finland	9,597		2,984		4,297		5,995	
France	63,914	26	85,027	2,599	128,453	1,717	65,021	775
Germany	168,437	116	238,992	[4] 961	175,323	989	146,579	633
Italy	47,732	3,008	63,417		49,333	2	41,304	869
Netherlands	57,218	3,786	64,322	5,009	49,643	4,667	62,847	5,395
Norway	3,994		4,750		5,236		5,673	
Poland					23,030	491	26,263	753
Portugal	6,565	279						
Spain	51,026		42,766		27,058		71,200	
Sweden	9,772	1	8,783	394	9,509	2,160		
Switzerland	17,949	47	5,792		10,641	11	22,986	
United Kingdom	117,956	4,603	211,500	5,273	173,722	7,104	159,248	11,336
Other countries	32,604	62,740	35,565	10,656	11,212	8,310	475	9,374
Total	846,929	928,609	1,030,211	959,826	990,180	947,790	905,553	922,933

Division of Statistical and Historical Research. Official sources.
Tobacco comprises leaf, stems, and strippings, but not snuff.

[1] Less than 500.
[2] Java and Madura.
[3] Year beginning July 1.
[4] Eight months, May–December.

TABLE 421.—*Tobacco, leaf (Maryland), good to fine red: Average price per 100 pounds, Baltimore, Md., 1907–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1907	$10.00	$10.00	$10.00	$10.00	$10.00	$10.25	$10.50	$10.50	$10.50	$10.50	$10.50	$10.50	$10.27
1908	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	11.50	11.50	11.50	11.50	10.83
1909	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
1910	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
1911	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
1912	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	13.00	13.00	13.00	11.88
1913	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
1914	13.00	13.00	13.00	13.00	13.00	13.38	13.50	13.50	12.00	11.50	11.50	11.50	12.66
1915	11.50	11.50	11.50	11.50	11.50	11.50	11.50	12.50	12.50	12.50	12.50	12.50	11.92
1916	12.50	12.50	12.50	12.50	13.25	13.80	16.25	17.50	19.70	20.50	20.50	20.50	16.00
1917	20.50	19.88	20.17	22.50	22.62	23.00	23.50	25.30	26.50	26.50	26.50	26.50	23.62
1918	26.50	26.50	26.85	28.88	32.30	37.88	43.62	45.25	44.56	41.62	39.00	39.00	36.00
1919	39.00	39.00	39.00	39.00	34.80	34.00	35.75	38.20	41.31	42.00	42.00	44.50	39.05
1920	44.50	44.50	44.50	44.00	42.00	42.00	42.00	42.75	45.00	45.40	47.00	47.00	44.22
1921	43.75	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	35.50	38.00	38.00	35.60
1922	38.00	38.00	38.00	38.00	38.00	38.33	39.00	39.00	39.00	39.00	39.00	39.00	38.53
1923	39.00	39.00	39.00	34.25	35.00	35.00	35.00	35.00	36.25	40.00	40.00	46.00	37.79
1924	46.00	46.00	44.62	43.00	43.00	44.19	56.12	57.50	52.83	50.50	50.50	50.50	48.73

Division of Statistical and Historical Research.
Compiled from Baltimore Daily Price Current. Average of ranges of quotations published weekly or semiweekly.

TABLE 422.—*Tobacco, leaf, good: Average price per 100 pounds, Hopkinsville, Ky., 1907–1924*

Year	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Av.
1906–07	$10.25	$10.25	$10.25	$11.00	$10.12	$11.25	$12.75	$12.00	$12.25	$12.00	$13.00	$11.25	$11.36
1907–08	.....	.....	.....	16.00	.....	15.00	15.00	14.00	15.00	14.25	12.25	10.50	.....
1908–09	[1] 10.50	10.25	10.62	9.75	.....	10.75	9.25	10.00	10.25	[2] 11.00	.....	.....	.....
1909–10	.....	.....	.....	.....	13.00	14.00	13.75	14.00	14.00	.....	.....	.....	.....
1910–11	.....	.....	.....	13.00	12.50	13.25	13.25	13.50	13.75	14.00	14.00	12.75	.....
1911–12	12.50	12.00	11.75	13.00	13.00	13.00	13.00	13.00	13.00	12.00	11.50	11.75	12.46
1912–13	11.75	11.75	11.50	11.75	11.75	11.25	11.25	11.25	12.75	13.00	13.00	13.00	12.00
1913–14	13.00	13.00	11.50	11.75	12.25	12.25	13.00	13.00	13.00	[3] 13.00	13.00	13.00	12.65
1914–15	13.00	[4] 13.00	13.00	11.50	11.25	10.00	10.00	10.00	10.25	10.25	.....	.....	.....
1915–16	.....	.....	8.00	8.50	8.00	9.00	[5] 9.50	10.25	.....	.....	.....	.....	.....
1916–17	.....	11.25	13.00	13.50	13.00	12.00	12.00	12.75	12.50	.....	.....	.....	.....
1917–18	.....	15.50	16.25	16.50	17.00	18.25	18.00	16.50	18.50	20.50	19.50	[6] 18.50	.....
1918–19	.....	23.00	23.00	26.00	27.00	27.00	[7] 27.00	.....	.....	.....	.....	.....	.....
1919–20	.....	33.75	34.00	34.00	34.00	33.00	33.00	33.00	34.75	.....	.....	.....	.....
1920–21	.....	.....	25.00	26.25	28.00	32.50	32.50	[8] 30.00	.....	.....	.....	.....	.....
1921–22	.....	30.00	27.50	27.50	27.50	27.50	.....	.....	.....	.....	.....	.....	.....
1922–23	.....	27.50	28.25	30.50	32.25	.....	31.00	.....	.....	.....	.....	.....	.....
1923–24	.....	27.50	27.50	27.50	27.50	27.50	27.50	27.50	.....	.....	.....	.....	.....

Division of Statistical and Historical Research.
Compiled from Western Tobacco Journal. Average of range of quotations first published in the month.

[1] Based on quotations of Oct. 31.
[2] Based on quotations of July 31.
[3] Based on quotations of July 25.
[4] Based on quotations of Nov. 28.
[5] Based on quotations of Apr. 28.
[6] Based on quotations of Sept. 28.
[7] Based on quotations of Apr. 26.
[8] Based on quotations of May 27.

TABLE 423.—*Tobacco, Burley, dark red, good leaf: Average price per 100 pounds, Louisville, Ky., 1907–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1907	$10.50	$11.38	$10.70	$11.12	$12.12	$12.70	$12.62	$13.50	$13.50	$13.38	$13.75	$13.75	$12.42
1908	12.50	13.00	13.50	13.50	13.50	14.38	15.75	16.40	16.25	16.55	17.12	18.50	15.08
1909	18.25	18.00	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.60
1910	15.94	15.50	15.50	15.50	15.59	15.88	16.50	16.50	16.50	15.75	14.12	14.12	15.62
1911	12.19	11.25	11.25	11.25	11.25	11.25	11.25	11.38	11.05	11.12	11.44	11.65	11.36
1912	10.00	10.25	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.50	12.25	11.00
1913	11.00	11.00	11.00	11.00	11.60	12.75	13.00	13.60	14.38	14.50	14.50	15.25	12.80
1914	15.00	15.00	14.00	14.00	14.00	14.00	14.75	15.00	15.00	15.00	15.00	15.00	14.65
1915	13.00	13.00	13.00	13.00	13.00	13.00	14.50	14.50	14.50	14.50	14.50	14.50	13.75
1916	14.50	14.50	14.50	14.90	15.50	15.50	15.50	15.50	15.50	15.50	15.50	16.25	15.26
1917	17.50	19.00	19.00	19.00	19.00	19.30	21.12	23.00	23.50	23.50	31.00	32.20	22.26
1918	------	------	------	30.25	31.00	37.60	42.00	42.00	42.00	42.00	42.00	42.00	------
1919	39.50	42.00	46.50	33.50	29.50	23.50	23.50	23.50	24.25	29.00	33.50	39.00	32.27
1920	39.00	37.50	36.00	34.00	32.50	32.50	32.50	32.50	32.50	32.50	32.50	32.50	33.88
1921	19.50	22.50	22.50	22.50	22.50	23.75	27.50	27.50	27.50	27.50	27.50	27.50	24.85
1922	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
1923	30.50	30.50	30.50	30.50	30.50	29.00	28.00	28.00	28.00	28.00	28.00	28.00	29.12
1924	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50

Division of Statistical and Historical Research.

Compiled from Western Tobacco Journal. Prices shown are averages of range of quotations published weekly, and are for the crop of the preceding year. The entire crop is not disposed of within the 12 months shown, the quotations running for 21 months on the 1909 crop and for 9 months only on the 1917 crop, while the period during which quotations are published on crops of other years varies from 15 to 20 months.

TABLE 424.—*Tobacco, Bright, fillers, medium: Average price per 100 pounds, Richmond, Va., 1907–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1907	$11.70	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00	$11.98
1908	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
1909	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.50	11.50	11.50	11.88
1910	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
1911	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
1912	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
1913	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	12.30	11.57
1914	12.50	12.50	12.50	12.50	12.12	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.18
1915	12.00	12.00	12.00	11.10	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.92
1916	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	11.12	11.75	11.75	10.76
1917	11.75	11.75	11.75	11.75	11.75	11.75	13.06	17.00	18.12	21.25	21.25	21.25	15.20
1918	21.25	21.81	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	24.50	32.50	24.00
1919	32.50	32.50	32.50	30.00	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	28.96
1920	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	19.25	16.50	25.90
1921	15.00	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.62
1922	13.50	13.50	13.50	13.50	13.38	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.20
1923	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
1924	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00

Division of Statistical and Historical Research.

Compiled from Richmond Grain Exchange Price Current. Average of range of quotations published on Thursday of each week.

COFFEE

TABLE 425.—*Coffee: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Brazil		1, 672, 282		1, 636, 119		1, 676, 331		1, 913, 505
British India	[1] 605	27, 780	2, 366	30, 070	5, 595	19, 459	5, 486	22, 424
Colombia		104, 398		[2] 310, 205				
Costa Rica		27, 515		29, 406		41, 043		[3] 24, 394
Dutch East Indies	4, 227	54, 149	1, 961	96, 323	4, 921	126, 457	[4] 206	[4] 47, 692
Guatemala		85, 951		[2] 95, 199		[2] 95, 192		
Haiti		61, 943		45, 690				
Jamaica		8, 263		[2] 7, 233		[2] 7, 081		
Nicaragua	[5] 138	19, 033		[2] 29, 938		19, 563		
Salvador	[6] 1, 593	62, 830	(7)	62, 418	(7)	94, 972		
Venezuela		111, 326		121, 965		114, 832		[8] 62, 522
PRINCIPAL IMPORTING COUNTRIES								
Argentina	28, 125		40, 758		46, 434		45, 140	
Austria			11, 909	302	9, 801	185	11, 880	13
Austria-Hungary	128, 304	8						
Belgium	111, 738	33, 627	105, 366	21, 538	84, 904	2, 440	90, 366	1, 199
British Malaya	[2] 7, 524	[2] 7, 137	20, 278	15, 121	[2] 26, 379	[2] 22, 160		
Canada	13, 378	55	19, 876	10	21, 303	21	20, 818	27
Cuba	24, 906	4	29, 862	2	19, 209	(7)		
Czechoslovakia			25, 592	(7)	23, 973		30, 905	
Denmark	33, 102	152	43, 724	380	51, 069	216	49, 070	118
Egypt	15, 654		20, 722	226	21, 838	37	22, 461	26
Finland	28, 624		27, 913		30, 524		31, 459	
France	245, 752	41	339, 590	1, 158	386, 293	685	379, 576	820
Germany	399, 965	1, 757	228, 699	[8] 211	81, 162	172	85, 414	109
Hungary			[2] 5, 709	[2] 13	7, 136	[2] 197	2, 632	
Italy	58, 278	458	105, 594	13	104, 195	5	105, 963	10
Netherlands	283, 633	189, 288	136, 567	66, 568	129, 148	55, 944	115, 563	46, 951
Norway	29, 309		29, 981		30, 651		38, 110	
Russia	26, 073							
Spain	29, 317	9	48, 219	56	41, 235	17	53, 773	7
Sweden	74, 486	24	88, 767	926	77, 874	162	92, 845	
Switzerland	25, 029	62	31, 583	48	29, 259	43	28, 272	60
Union of South Africa	26, 458	36	29, 906	64	29, 924	17	32, 934	12
United Kingdom	28, 581	241	165	63	88, 828	59	[9] 32, 697	156
United States	907, 899	[10] 44, 251	1, 340, 980	34, 573	1, 246, 061	26, 750	1, 409, 755	26, 367
Other countries	82, 156	95, 727	135, 850	60, 908	104, 351	79, 004	68, 016	14, 181
Total	2, 614, 854	2, 608, 347	2, 871, 877	2, 666, 746	2, 711, 067	2, 383, 044	2, 688, 037	2, 160, 593

Division of Statistical and Historical Research. Compiled from official sources except where otherwise noted.

The item coffee comprises unhulled and hulled, ground or otherwise prepared, but imitation or "surrogate" coffee and chicory are excluded.

[1] Four-year average.
[2] International Institute of Agriculture.
[3] Six months.
[4] Java and Madura only.
[5] Three-year average.
[6] One year only.
[7] Less than 500 pounds.
[8] Eight months, May–December.
[9] Reexports in excess of imports.
[10] Chiefly from Porto Rico.

TABLE 426.—*Coffee, Rio, No. 7: Average wholesale price per pound, New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1890	16.8	17.0	18.0	18.7	17.6	18.1	17.6	17.9	18.8	18.9	18.0	17.9	17.9
1891	17.4	17.5	18.4	18.5	18.6	18.2	17.5	17.5	16.2	14.1	12.9	13.6	16.7
1892	13.0	13.9	15.0	14.2	12.8	12.9	12.9	13.3	14.8	15.4	16.3	17.1	14.3
1893	17.1	18.1	18.0	17.4	15.5	17.0	16.5	16.2	16.6	18.2	18.3	17.8	17.2
1894	18.4	17.4	17.2	17.6	16.5	15.8	16.6	16.3	16.0	15.7	15.1	15.8	16.5
1895	15.6	16.2	16.8	16.5	16.0	15.9	15.6	16.2	16.1	15.9	15.7	14.4	15.9
1896	14.2	13.1	13.3	13.8	13.9	13.2	13.0	11.5	10.6	10.4	11.0	10.0	12.3
1897	10.2	9.8	9.6	8.0	8.0	7.6	7.4	7.4	6.9	7.1	6.8	6.4	7.9
1898	6.5	6.4	6.2	6.0	7.0	6.5	6.3	6.1	6.4	6.2	5.9	6.4	6.3
1899	6.8	6.8	6.2	6.1	6.3	6.2	6.1	5.8	5.6	5.5	6.1	6.9	6.2
1900	7.2	8.4	8.4	7.7	7.9	8.2	8.9	9.4	8.5	8.2	8.4	7.5	8.2
1901	7.2	7.0	7.6	6.8	6.2	6.2	6.0	5.6	5.6	5.8	6.4	7.1	6.5
1902	7.3	6.0	5.9	6.1	5.7	5.7	5.5	6.1	5.8	5.4	5.5	5.4	5.9
1903	5.4	5.4	5.8	5.4	5.2	5.2	5.4	5.2	5.2	5.8	6.4	6.5	5.6
1904	7.8	9.3	6.9	6.9	7.2	7.0	7.2	7.5	8.6	8.4	8.4	8.6	7.8
1905	9.0	8.7	7.9	7.8	7.9	7.9	7.8	8.6	8.9	8.7	8.3	8.3	8.3
1906	8.1	8.4	8.4	8.1	8.0	7.5	7.8	8.9	8.4	8.4	7.8	7.5	8.1
1907	7.1	6.9	7.2	7.0	6.8	6.5	6.3	6.5	6.3	6.4	6.0	5.9	6.6
1908	6.1	6.3	6.3	6.1	6.1	6.4	6.4	6.2	6.1	6.3	6.5	6.6	6.3
1909	7.1	7.7	8.2	8.2	8.3	8.1	7.4	7.5	7.3	7.3	8.3	8.6	7.8
1910	8.7	8.7	8.8	8.8	8.4	8.2	8.4	8.7	10.2	11.1	11.1	13.2	9.5
1911	13.4	13.1	12.6	12.3	12.4	12.3	13.3	13.2	13.4	14.2	15.8	14.9	13.4
1912	14.5	14.2	14.4	14.8	14.4	14.2	14.8	14.3	14.6	14.8	15.0	15.4	14.6
1913	13.9	13.5	12.5	11.9	11.4	11.1	9.8	9.6	9.2	10.2	10.8	9.6	11.1
Av. 1909–1913	11.5	11.4	11.3	11.2	11.0	10.8	10.7	10.7	10.9	11.5	12.2	12.3	11.3
1914	9.1	9.5	9.2	8.9	8.8	9.1	8.8	7.5	7.6	6.6	6.4	6.3	8.2
1915	7.2	8.2	7.8	8.1	7.8	7.0	7.4	7.4	6.8	6.8	7.5	7.6	7.5
1916	7.6	8.2	9.2	9.5	9.8	9.9	9.0	9.5	9.9	9.5	9.5	9.2	9.2
1917	9.8	10.0	9.8	9.5	10.1	10.4	9.5	9.1	9.1	8.5	7.9	7.6	9.3
1918	8.5	8.4	8.9	9.0	8.7	8.4	8.6	8.5	9.6	10.4	10.7	17.3	9.8
1919	15.5	15.4	16.0	17.0	19.3	21.1	23.0	21.5	16.6	16.5	17.0	15.2	17.8
1920	16.3	14.8	15.0	15.1	15.6	15.0	13.1	9.4	8.2	7.6	7.5	6.6	12.0
Av. 1914–1920	10.6	10.6	10.8	11.0	11.4	11.6	11.3	10.4	9.7	9.4	9.5	10.0	10.5
1921	6.7	6.7	6.4	6.0	6.2	6.7	6.5	7.0	7.9	8.1	8.8	9.3	7.2
1922	9.6	9.0	9.6	10.8	11.0	11.0	10.4	10.0	10.2	10.2	10.8	11.1	10.3
1923	11.9	13.0	13.0	11.5	11.6	11.7	10.9	10.7	10.7	11.1	11.0	10.9	11.5
1924	10.9	14.2	15.6	15.3	14.8	14.6	16.5	16.6	17.7	20.7	22.6	22.6	16.8

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TEA

TABLE 426–A.—*Tea: International trade, calendar years, average 1909–1913, annual 1921–1923.*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
British India	8,002	267,887	11,581	349,086	14,604	311,693	17,713	331,611
Ceylon	[1] 1	189,016	1	160,732	1	171,808	.....	[2] 182,388
China	18,890	197,997	6,387	57,358	13,656	76,463	129	99,492
Dutch East Indies	6,742	46,675	6,704	77,518	6,516	89,985	6,068	[3] 89,663
Formosa	68	23,640	[3] 89	[2] 17,931	[3] 73	[2] 11,271	.....	.....
Japan	590	35,823	996	15,863	[2] 1,469	29,148	.....	[2] 48,919
PRINCIPAL IMPORTING COUNTRIES								
Argentina	3,890	.....	3,167	.....	3,054	.....	3,772	.....
Australia [4]	35,442	(5)	43,402	.....	[2] 43,699	.....	[2 6] 44,513	.....
Austria	.....	.....	858	74	[2] 1,001	[2] 11	995	2
Austria-Hungary	3,424	3	.....	.....	.....	.....	.....	.....
British Malaya	[2] 11,983	[2] 5,318	7,652	1,338	[2] 9,810	[2] 3,686	.....	.....
Canada	37,927	.....	35,653	.....	40,050	.....	41,290	.....
Chile	3,505	.....	3,036	.....	1,613	.....	5,526	.....
Czechoslovakia	.....	.....	1,132	[2] 3	1,016	2	1,165	.....
Egypt	1,950	.....	3,938	172	4,503	157	6,602	239
France	2,806	61	2,462	195	2,740	113	2,985	237
French Indo-China	3,295	1,145	[3] 3,622	[2] 1,376	[2] 3,391	[2] 1,136	.....	.....
Germany	8,964	23	11,854	[7] 16	6,178	23	5,463	10
Hungary	.....	.....	[2] 528	.....	[2] 1,075	[2] 35	[2] 416	.....
Morocco	6,696	.....	6,011	.....	9,581	.....	.....	.....
Netherlands	11,383	45	26,697	43	26,226	31	35,468	15
New Zealand	7,542	.....	6,195	.....	8,708	.....	9,968	.....
Persia	9,446	125	7,426	786	.....	.....	.....	.....
Poland	.....	.....	[2] 3,917	[2] 56	4,409	253	5,313	127
Russia	157,704	866	[2] 1,387	.....	.....	.....	.....	.....
Union of South Africa	5,192	61	8,136	52	9,326	256	8,963	133
United Kingdom	293,045	.....	412,848	.....	377,039	.....	392,531	.....
United States	98,897	.....	76,487	.....	97,097	.....	105,138	.....
Other countries	31,268	7,237	21,901	915	20,249	1,588	17,306	316
Total	768,652	775,922	714,067	683,514	707,084	697,659	711,284	753,152

Division of Statistical and Historical Research. Official sources except where otherwise noted.
"Tea" includes tea leaves only, and excludes dust, sweepings, and yerba mate.

[1] Two-year average.
[2] International Institute of Agriculture.
[3] Java and Madura only.
[4] Year beginning July 1.
[5] Less than 500 pounds.
[6] Eleven months.
[7] Eight months, May-December.

TABLE 427.—*Tea, Formosa, fine: Average wholesale price per pound, New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1890	26.5	26.5	26.5	26.5	24.0	24.0	24.0	24.0	34.0	32.0	32.0	28.0	27.3
1891	28.0	29.0	29.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.2
1892	28.0	28.0	28.0	28.0	29.0	30.5	27.0	32.5	32.5	32.5	32.5	32.5	30.1
1893	32.5	29.0	29.0	29.0	29.0	29.0	29.0	28.0	28.0	28.0	28.0	28.0	28.9
1894	28.0	28.0	28.0	28.0	26.5	26.5	26.5	26.5	29.0	29.0	29.0	29.0	27.8
1895	29.0	29.0	29.0	29.0	29.0	29.0	25.0	25.0	25.0	25.0	25.0	25.0	27.0
1896	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	26.5	26.5	28.5	28.5	25.8
1897	28.5	28.5	28.0	28.0	28.0	28.5	25.0	28.5	28.5	28.5	28.5	27.5	28.0
1898	27.5	26.5	26.5	26.5	27.0	27.0	31.0	31.0	33.0	33.0	33.0	33.0	29.6
1899	29.5	32.5	32.5	32.5	31.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	31.2
1900	30.8	30.8	30.8	30.8	30.8	29.5	29.5	29.5	29.5	28.5	28.5	28.5	29.8
1901	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
1902	28.8	28.8	28.8	28.8	28.8	28.8	30.0	30.0	30.5	32.2	33.2	33.2	30.2
1903	23.0	23.0	23.0	23.0	23.0	22.5	22.0	22.0	21.5	20.5	26.0	26.0	23.0
1904	26.0	26.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	27.5	27.5	27.6
1905	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	25.5	25.5	25.5	24.5	26.8
1906	24.5	24.5	24.5	24.5	24.5	24.5	21.5	21.5	23.0	23.0	23.0	23.0	23.5
1907	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
1908	23.0	23.0	23.0	23.0	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	21.3
1909	24.0	18.5	18.5	23.5	25.0	25.0	25.0	24.0	24.0	24.0	24.0	24.0	23.3
1910	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
1911	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.5	24.5	24.5	24.5	24.2
1912	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
1913	24.5	24.5	24.5	24.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	24.8
Av. 1909–1913	24.2	23.1	23.1	24.1	24.5	24.5	24.5	24.4	24.4	24.4	24.4	24.4	24.2
1914	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	24.0	24.0	24.8
1915	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
1916	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
1917	24.0	24.0	24.0	24.0	26.3	28.3	36.5	36.5	36.5	36.5	35.5	35.5	30.6
1918	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	36.3	36.5	36.5	36.5	35.8
1919	36.5	36.5	35.3	34.0	34.3	35.0	35.0	35.0	35.0	35.0	36.1	36.5	35.4
1920	36.5	36.5	36.5	36.5	36.5	36.5	36.5	34.3	31.0	31.0	28.6	23.8	33.7
Av. 1914–1920	29.4	29.4	29.2	29.0	29.4	29.8	30.9	30.6	30.3	30.3	29.8	29.2	29.8
1921	24.5	24.5	24.5	24.1	22.4	22.0	22.0	22.0	22.3	23.0	28.0	29.0	24.0
1922	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.5	30.5	31.0	31.0	30.2
1923	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
1924	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.3	32.5	32.9	35.0	31.6

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

VEGETABLE OILS.

TABLE 428.—*Exports of vegetable oils from the United States, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Corn	Cotton-seed	Linseed	Cocoa butter or butterine	Cocoanut	Peanut	Soybean
1910	11,299	223,955	228				
1911	25,317	225,521	175				
1912	23,866	399,471	247				
1913	19,839	315,233	1,734				
1914	18,282	192,963	239				
1915	17,790	318,367	1,212				
1916	8,968	266,512	714				
1917	8,780	158,912	1,202				
1918	1,831	100,780	1,188				
1919	1,095	178,709	1,096				
1920	12,483	159,400	1,136	11,048	141,088	4,922	67,782
1921	6,919	283,268	561	3,171	6,639	1,595	5,118
1922	5,280	91,615	366	1,856	10,185	1,802	537
1923	5,224	64,292	414	957	12,993	188	2,495
1924	4,196	39,418	350	888	19,423	168	2,892

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

TABLE 429.—*Imports of vegetable oils into the United States, 1910–1924*

Year ended June 30—	Castor	Chinese nut	Cocoa butter or butterine	Cocoanut	Cotton-seed	Linseed	Olive	Palm	Palm kernel	Peanut	Rapeseed	Soybean
	1,000 gals.	*1,000 gals.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 gals.*	*1,000 gals.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 gals.*	*1,000 gals.*	*1,000 lbs.*
1910	7	[1] 5,760	3,370	48,346	(2)	(3)	4,545	92,772	(2)	(3)	[4] 1,083	(5)
1911	7	[1] 7,042	4,279	51,118	(2)	(3)	4,984	57,100	(2)	(3)	[4] 1,363	(3)
1912	8	4,768	6,075	46,371	1,513	737	5,473	47,159	25,393	896	1,183	28,021
1913	5	5,997	3,603	50,504	3,384	174	5,840	50,229	23,569	1,196	1,550	12,340
1914	189	4,932	2,839	74,386	17,293	192	6,981	58,040	34,328	1,337	1,464	16,360
1915	63	4,940	150	63,135	15,162	535	7,364	31,486	4,906	853	1,499	19,207
1916	253	4,968	400	66,008	17,181	50	8,109	40,497	6,761	1,475	2,561	98,120
1917	324	6,864	166	79,223	13,703	111	8,184	36,074	1,857	3,026	1,085	162,690
1918	1,175	4,816	(5)	259,195	14,291	51	2,652	27,405	19	8,289	3,056	336,825
1919	472	6,217	3	344,728	20,410	990	4,398	19,281	1,945	11,393	2,091	236,805
1920	271	10,614	42	271,540	24,165	4,550	7,029	50,165	54	22,064	1,230	195,774
1921	99	4,440	915	173,889	1,315	1,997	4,705	31,076	2,769	2,422	1,172	49,331
1922	46	7,410	7,123	230,236	(5)	22,494	11,112	39,159		384	1,352	8,283
1923	175	11,919	3,010	212,563	46	7,568	15,635	118,816		1,007	1,770	38,635
1924	34	10,786	1,169	181,230		2,379	12,297	86,784	1,101	2,008	2,068	17,631

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, Bureau of Foreign and Domestic Commerce.

[1] Includes peanut oil.
[2] Included in all other fixed or expressed.
[3] Included in Chinese nut oil.
[4] Includes hemp seed.
[5] Less than 500 pounds.

TABLE 432.—*Cattle on farms: Cumulative percentage changes, 1920–1924*[1]

Item	To Feb. 1	To Mar. 1	To Apr. 1	To May 1	To June 1	To July 1	To Aug. 1	To Sept. 1	To Oct. 1	To Nov. 1	To Dec. 1	To Jan. 1 of succeeding year
Increases:	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Births [2]—												
1920	2.9	6.4	12.0	18.7	25.5	30.1	32.8	35.0	37.4	39.9	42.2	44.6
1921	2.8	6.2	11.4	17.7	23.3	27.0	29.3	31.2	33.6	36.1	38.8	41.8
1922	3.0	7.0	12.5	18.6	23.6	26.9	29.5	31.7	34.1	36.7	39.0	41.9
1923	3.1	6.7	12.3	18.7	23.8	27.4	30.2	32.4	35.0	37.7	40.6	43.5
1924	2.8	6.2	10.9	16.6	21.9	25.3	27.8	30.0	32.6	.....	.....	.....
Brought on farms [2]—												
1920	2.6	4.9	7.3	9.4	11.2	12.9	14.4	16.7	20.6	26.4	29.5	31.4
1921	1.7	3.6	5.9	8.0	10.0	11.3	12.4	14.4	17.4	22.4	27.8	30.8
1922	1.9	4.1	6.1	9.4	11.6	13.5	15.2	17.3	21.0	27.2	29.8	32.8
1923	2.0	4.4	6.4	8.4	10.9	12.7	14.1	16.1	17.9	21.9	25.6	28.0
1924	1.4	2.8	4.1	5.2	6.3	7.1	7.9	8.9	10.4	.....	.....	.....
Total increase [2]—												
1920	5.5	11.3	19.3	28.1	36.7	43.0	47.2	51.7	58.0	66.3	71.7	76.0
1921	4.5	9.8	17.3	25.7	33.3	38.3	41.7	45.6	51.0	58.5	66.6	72.6
1922	4.9	11.1	18.6	28.0	35.2	40.4	44.7	49.0	55.1	63.9	68.8	74.7
1923	5.1	11.1	18.7	27.1	34.7	40.1	44.3	48.5	52.9	59.6	66.2	71.5
1924	4.2	9.0	15.0	21.8	28.2	32.4	35.7	38.9	43.0	.....	.....	.....
Decreases:												
Moved off—												
1920	4.6	9.3	14.9	20.4	25.5	30.9	35.0	40.4	47.8	55.1	61.0	65.8
1921	3.5	7.3	12.4	17.0	21.8	26.3	30.2	35.0	40.2	47.5	55.0	59.4
1922	3.6	7.3	12.3	17.4	22.7	27.5	31.9	37.2	43.5	51.8	58.3	63.1
1923	4.0	8.0	12.6	17.8	22.7	27.2	31.5	36.3	40.0	47.2	53.6	58.7
1924	3.5	6.7	10.1	13.7	17.5	20.8	23.6	26.9	32.1	.....	.....	.....
Slaughtered on farms—												
1920	0.6	1.0	1.4	1.8	2.1	2.6	2.9	3.3	3.9	4.5	5.3	6.3
1921	0.6	1.2	1.6	1.9	2.2	2.5	2.9	3.2	3.6	4.1	4.9	5.9
1922	0.7	1.2	1.7	1.9	2.2	2.5	2.8	3.2	3.6	4.2	4.7	5.6
1923	0.8	1.3	1.8	2.1	2.5	2.8	3.1	3.5	3.9	4.6	5.1	5.7
1924	0.7	1.1	1.5	1.7	1.9	2.1	2.4	2.6	2.9	.....	.....	.....
Died—												
1920	0.7	1.5	2.6	3.8	4.6	5.0	5.2	5.7	6.0	6.4	6.8	7.2
1921	0.5	1.1	1.6	2.2	2.6	3.0	3.3	3.6	3.9	4.3	4.7	5.2
1922	0.5	1.1	1.9	2.7	3.2	3.6	4.0	4.4	4.8	5.1	5.5	5.9
1923	0.5	1.3	2.4	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.2	6.8
1924	0.7	1.4	2.3	2.9	3.4	3.7	4.0	4.4	4.7	.....	.....	.....
Total decreases—												
1920	5.9	11.8	18.9	26.0	32.2	38.5	43.1	49.4	57.7	66.0	73.1	79.3
1921	4.6	9.6	15.6	21.1	26.6	31.8	36.4	41.8	47.7	55.9	64.6	70.5
1922	4.8	9.6	15.9	22.0	28.1	33.6	38.7	44.8	51.9	61.1	68.5	74.6
1923	5.3	10.6	16.8	23.1	28.8	34.0	39.0	44.6	49.1	57.4	64.9	71.2
1924	4.9	9.2	13.9	18.3	22.8	26.6	30.0	33.9	39.7	.....	.....	.....
Net change:												
1920	−0.4	−0.5	+0.4	+2.1	+4.5	+4.5	+4.1	+2.3	+0.3	+0.3	−1.4	−3.3
1921	−0.1	+0.2	+1.7	+4.6	+6.7	+6.5	+5.3	+3.8	+3.3	+2.6	+2.0	+2.1
1922	+0.1	+1.5	+2.7	+6.0	+7.1	+6.8	+6.0	+4.2	+3.2	+2.8	+0.3	+0.1
1923	−0.2	+0.5	+1.9	+4.0	+5.9	+6.1	+5.3	+3.9	+3.8	+2.2	+1.3	+0.3
1924	−0.7	−0.2	+1.1	+3.5	+5.4	+5.8	+5.7	+5.0	+3.3	.....	.....	.....
On hand compared with Jan. 1:												
1920	99.6	99.5	100.4	102.1	104.5	104.5	104.1	102.3	100.3	100.3	98.6	96.7
1921	99.9	100.2	101.7	104.6	106.7	106.5	105.3	103.8	103.3	102.6	102.0	102.1
1922	100.1	101.5	102.7	106.0	107.1	106.8	106.0	104.2	103.2	102.8	100.3	100.1
1923	99.8	100.5	101.9	104.0	105.9	106.1	105.3	103.9	103.8	102.2	101.3	100.3
1924	99.3	99.8	101.1	103.5	105.4	105.8	105.7	105.0	103.3	.....	.....	.....

Division of Crop and Livestock Estimates. Based on reports of about 7 500 farmers reporting monthly for their own farms.

[1] Number on hand, Jan. 1, each year = 100 per cent.
[2] Corrective factor 0.96 applied to births and brought on farms figures prior to Jan., 1924.

TABLE 433.—*Cattle: Number and value on farms in the United States January 1, 1910–1925*

Jan. 1—	Milk cows			Other cattle		
	Number	Price per head Jan. 1	Farm value Jan. 1	Number	Price per head Jan. 1	Farm value Jan. 1
		Dollars	*Dollars*		*Dollars*	*Dollars*
1910, Apr. 15	*20,625,000*	35.29	727,802,000	*41,178,000*	19.07	785,261,000
1911	20,823,000	39.97	832,269,000	39,679,000	20.54	815,184,000
1912	20,699,000	39.39	815,414,000	37,260,000	21.20	790,064,000
1913	20,497,000	45.02	922,783,000	36,030,000	26.36	949,645,000
1914	20,737,000	53.94	1,118,487,000	35,855,000	31.13	1,116,333,000
1915	21,262,000	55.33	1,176,338,000	37,067,000	33.38	1,237,376,000
1916	22,108,000	53.92	1,191,955,000	39,812,000	33.53	1,334,928,000
1917	22,894,000	59.63	1,365,251,000	41,689,000	35.92	1,497,621,000
1918	23,310,000	70.54	1,644,231,000	44,112,000	40.88	1,803,482,000
1919	23,475,000	78.20	1,835,770,000	45,085,000	44.22	1,993,442,000
1920	23,722,000	85.86	2,036,750,000	43,398,000	43.21	1,875,043,000
AV. 1914–1920	22,501,000	65.83	1,481,255,000	41,003,000	37.83	1,551,175,000
1921	23,594,000	64.22	1,515,249,000	41,993,000	31.36	1,316,727,000
1922	24,082,000	50.98	1,227,703,000	41,977,000	23.79	998,772,000
1923	24,437,000	50.83	1,242,113,000	42,803,000	25.57	1,094,469,000
1924	24,786,000	52.16	1,292,736,000	41,720,000	25.06	1,045,523,000
1925 [1]	25,319,000	50.50	1,278,714,000	39,609,000	24.49	970,117,000

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Preliminary.

TABLE 434.—*Cattle: Yearly losses per 1,000 from disease and exposure, 1890–1924*

Year ended Apr. 30	From disease	From exposure	Year ended Apr. 30	From disease	From exposure	Year ended Apr. 30	From disease	From exposure	Year ended Apr. 30	From disease	From exposure
1890	13.0	23.0	1899	20.3	22.1	1908	18.9	12.0	1917	19.4	14.6
1891	14.3	15.3	1900	19.9	13.7	1909	19.2	14.8	1918	18.2	13.3
1892	12.8	13.0	1901	22.3	11.5	1910	21.0	17.6	1919	17.4	15.9
1893	16.6	17.3	1902	21.3	18.2	1911	19.7	13.3	1920	19.5	18.5
1894	19.0	12.5	1903	23.9	23.7	1912	21.6	21.5	1921	17.0	9.2
1895	21.4	20.7	1904	23.6	20.2	1913	20.5	14.1	1922	17.8	13.1
1896	19.3	11.3	1905	20.6	23.3	1914	19.8	10.9	1923	16.7	13.1
1897	19.4	16.0	1906	20.1	14.9	1915			1924	17.8	12.7
1898	19.7	13.0	1907	19.9	13.7	1916	19.5	10.7			

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending April 30.

TABLE 435.—*Cattle and calves: Receipts and shipments at principal markets and at all markets, 1900–1924*

[Thousands—i. e., 000 omitted]

RECEIPTS.

Year	Chicago	Denver	East St. Louis	Fort Worth	Kansas City	Omaha	St. Joseph	St. Paul	Sioux City	Total	All other markets reporting	Total all markets reporting
1900	2,865	240	698	(1)	2,083	828	390	221	300	7,625	(2)	(2)
1901	3,213	227	892	(1)	2,127	818	439	190	309	8,215	(2)	(2)
1902	3,193	324	1,113	132	2,279	1,011	517	306	405	9,280	(2)	(2)
1903	3,704	286	1,140	447	2,137	1,071	625	303	379	10,092	(2)	(2)
1904	3,527	265	1,074	643	2,163	944	587	389	331	9,923	(2)	(2)
1905	3,791	294	1,124	812	2,423	1,026	547	489	403	10,909	(2)	(2)
1906	3,742	329	1,121	838	2,556	1,079	606	487	385	11,143	(2)	(2)
1907	3,727	307	1,133	1,022	2,670	1,159	616	520	410	11,564	(2)	(2)
1908	3,461	420	1,145	1,069	2,458	1,037	584	463	385	11,022	(2)	(2)
1909	3,340	426	1,241	1,197	2,660	1,125	592	497	426	11,504	(2)	(2)
1910	3,553	399	1,208	1,071	2,507	1,224	565	604	439	11,570	(2)	(2)
1911	3,453	298	1,072	884	2,370	1,174	513	539	487	10,790	(2)	(2)
1912	3,158	416	1,200	1,039	2,147	1,017	494	524	431	10,426	(2)	(2)
1913	2,888	499	1,100	1,185	2,319	962	450	532	394	10,329	(2)	(2)
1914	2,601	443	1,041	1,176	1,957	939	356	585	368	9,466	(2)	(2)
1915	2,685	424	992	944	1,963	1,218	441	856	534	10,057	4,496	14,553
1916	3,250	601	1,200	1,081	2,331	1,434	480	941	602	11,920	5,756	17,676
1917	3,820	653	1,405	1,960	2,902	1,720	670	1,197	707	15,034	8,032	23,066
1918	4,448	726	1,509	1,665	3,320	1,993	870	1,430	818	16,781	8,514	25,295
1919	4,253	824	1,473	1,267	3,085	1,975	750	1,491	814	15,932	8,691	24,623
1920	3,849	617	1,254	1,134	2,500	1,603	643	1,373	752	13,725	8,472	22,197
1921	3,540	482	1,077	984	2,469	1,435	558	985	620	12,150	7,637	19,787
1922	3,934	656	1,400	1,084	2,983	1,744	655	1,387	747	14,590	8,627	23,217
1923	3,918	620	1,399	1,258	3,208	1,793	709	1,349	759	15,013	8,198	23,211
1924	3,997	630	1,385	1,392	3,043	1,863	720	1,323	836	15,189	8,506	23,695

SHIPMENTS.

1900	949	(2)	166	(2)	(2)	274	92	154	187	1,822	(2)	(2)
1901	1,051	(2)	224	(2)	(2)	239	82	126	189	1,911	(2)	(2)
1902	937	(2)	316	(2)	(2)	365	112	230	283	2,243	(2)	(2)
1903	1,296	(2)	318	(2)	(2)	301	174	212	279	2,580	(2)	(2)
1904	1,350	(2)	308	(2)	(2)	261	140	275	230	2,564	(2)	(2)
1905	1,437	(2)	359	(2)	(2)	315	133	352	237	2,833	(2)	(2)
1906	1,376	(2)	365	(2)	(2)	303	143	353	210	2,750	(2)	(2)
1907	1,477	(2)	371	(2)	(2)	362	150	379	227	2,966	(2)	(2)
1908	1,387	(2)	347	(2)	(2)	330	178	302	213	2,757	(2)	(2)
1909	1,297	(2)	374	(2)	(2)	374	185	322	232	2,784	(2)	(2)
1910	1,347	(2)	370	(2)	(2)	425	161	369	213	2,885	(2)	(2)
1911	1,245	(2)	309	(2)	(2)	446	157	318	249	2,724	(2)	(2)
1912	994	(2)	315	(2)	(2)	418	158	293	240	2,418	(2)	(2)
1913	1,001	(2)	344	(2)	(2)	432	157	322	228	2,484	(2)	(2)
1914	824	(2)	306	(2)	(2)	394	124	328	197	2,173	(2)	(2)
1915	392	359	269	506	1,032	536	175	523	289	4,081	1,771	5,852
1916	726	512	313	511	1,028	591	149	556	369	4,755	2,198	6,953
1917	867	521	317	838	1,202	723	211	723	410	5,812	3,661	9,473
1918	1,025	544	370	562	1,422	855	299	896	432	6,405	3,906	10,311
1919	1,221	642	454	475	1,467	840	220	935	459	6,713	4,044	10,757
1920	1,247	471	510	544	1,269	689	234	634	410	5,948	3,883	9,831
1921	1,163	360	611	412	1,244	635	188	391	346	5,350	3,250	8,600
1922	1,137	532	871	467	1,534	829	251	609	447	6,677	3,988	10,665
1923	1,105	490	855	463	1,599	794	265	496	417	6,484	3,576	10,060
1924	1,107	471	841	420	1,440	759	250	396	435	6,119	3,572	9,691

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from the Fourteenth Annual Report of Bureau of Animal Industry; 1907 to 1914, from Merchants Exchange Annual Report); subsequent figures from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Not in operation.

[2] Figures not available prior to 1915.

TABLE 436.—*Cattle and calves: Receipts at all public stockyards, 1915–1924*

[Thousands—i. e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1915[1]	1,029	768	1,017	987	1,111	1,113	1,039	1,246	1,531	1,818	1,724	1,170	14,553
1916[1]	1,202	1,055	1,201	1,151	1,385	1,319	1,154	1,584	1,779	2,409	1,977	1,460	17,676
1917	1,696	1,302	1,330	1,539	1,961	1,759	1,729	1,814	2,357	3,054	2,626	1,899	23,066
1918	1,727	1,498	1,713	2,046	1,863	1,815	2,128	2,024	2,826	2,865	2,648	2,142	25,295
1919	2,119	1,455	1,517	1,767	1,836	1,588	2,016	2,039	2,396	3,008	2,702	2,182	24,623
1920	1,881	1,480	1,663	1,557	1,778	1,879	1,671	1,962	2,294	2,209	2,428	1,395	22,197
1921	1,644	1,190	1,566	1,494	1,542	1,580	1,343	1,867	1,906	2,310	1,928	1,417	19,787
1922	1,628	1,417	1,622	1,470	1,878	1,759	1,709	2,149	2,397	2,936	2,427	1,825	23,217
1923	1,877	1,427	1,502	1,670	1,900	1,629	1,903	2,214	2,295	2,802	2,182	1,810	23,211
1924	1,888	1,457	1,556	1,751	1,890	1,673	1,798	1,934	2,566	2,736	2,363	2,083	23,695

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many of the markets.

TABLE 437.—*Cattle and calves: Receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1900–1924*

[Thousands—i.e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1900	496	420	460	445	532	436	491	646	688	786	615	461
1901	531	451	433	510	511	489	722	695	764	836	581	525
1902	568	471	477	472	408	495	628	737	994	941	721	686
1903	607	520	554	592	522	540	656	755	962	963	761	618
1904	631	568	594	545	524	619	352	668	827	970	826	585
1905	619	496	565	548	619	597	613	815	904	1,068	824	695
1906	715	576	555	574	660	591	687	733	833	1,057	827	691
1907	786	585	571	701	605	631	748	788	1,015	1,031	634	596
1908	695	555	592	496	496	571	605	796	950	913	775	657
1909	628	491	593	489	558	558	610	810	879	982	914	753
1910	641	515	590	498	553	630	662	915	995	1,040	834	617
1911	700	516	555	498	612	620	680	764	766	1,044	757	555
1912	660	486	502	515	484	462	516	667	868	1,010	674	676
1913	606	486	481	523	452	525	568	688	923	824	606	588
Av. 1909–1913	647	499	544	505	532	559	607	769	886	980	757	638
1914	526	446	482	446	405	473	457	566	785	813	558	581
1915	518	377	523	465	461	474	462	611	730	834	798	605
1916	606	534	558	452	558	530	535	807	861	1,146	915	716
1917	807	567	533	600	708	701	773	808	1,029	1,309	1,148	864
1918	763	709	779	881	688	705	967	911	1,347	1,320	1,167	1,032
1919	998	682	646	706	668	641	881	926	1,131	1,362	1,169	976
1920	847	642	698	532	642	696	669	868	1,032	932	1,029	618
Av. 1914–1920	724	565	603	583	590	603	678	785	988	1,102	969	770
1921	744	520	679	608	625	675	542	863	866	1,019	795	585
1922	717	617	682	577	748	750	719	981	1,096	1,338	1,045	789
1923	833	641	652	720	793	692	856	1,082	1,116	1,263	892	780
1924	826	641	675	722	784	717	791	857	1,204	1,222	939	908

Division of Statistical and Historical Research. Figures prior to 1915 compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 438.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*

[Thousands—i. e., 000 omitted]

RECEIPTS

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Albany, N. Y.		42	107	46	39	36	23	21	14	13
Amarillo, Tex.	116	133	352	272	185	147	113	140	115	130
Atlanta, Ga.			27	22	18	21	29	30	59	50
Augusta, Ga.			14	14	14	13	12	14	12	9
Baltimore, Md.	147	178	228	227	249	287	279	241	228	233
Boston, Mass.	43	90	91	104	98	75	61	77	67	101
Buffalo, N. Y.	362	477	531	668	749	677	609	637	589	550
Chattanooga, Tenn.		24	25	13	12	13	15	19	17	15
Cheyenne, Wyo.			40	47	47	23	9	9	22	15
Chicago, Ill.	2,685	3,250	3,820	4,448	4,253	3,849	3,540	3,934	3,918	3,997
Cincinnati, Ohio	281	352	453	455	460	441	454	446	426	442
Cleveland, Ohio	122	181	296	302	305	281	248	281	278	285
Dallas, Tex.		9	8	12	9	8	8	8	7	7
Dayton, Ohio	18	21	26	30	31	33	31	33	34	34
Denver, Colo.	424	601	653	728	824	617	482	656	620	630
Detroit, Mich.	122	200	263	252	227	234	201	253	268	283
East St. Louis, Ill.	992	1,200	1,408	1,509	1,473	1,254	1,077	1,400	1,399	1,385
El Paso, Tex.	225	130	190	212	203	152	170	149	103	142
Evansville, Ind.		23	35	45	38	45	35	44	39	36
Fort Wayne, Ind.									8	14
Fort Worth, Tex.	944	1,081	1,960	1,665	1,267	1,134	984	1,084	1,258	1,392
Fostoria, Ohio	9	12	12	10	11	14	11	15	12	11
Indianapolis, Ind.	352	405	501	504	515	597	483	509	528	560
Jacksonville, Fla.		3	9	40	16	7	6	5	7	5
Jersey City, N. J.	491	746	755	650	745	833	844	905	673	711
Kansas City, Mo.	1,963	2,331	2,902	3,320	3,085	2,500	2,469	2,983	3,208	3,043
Knoxville, Tenn.	14	17	20	19	21	21	18	24	22	25
Lafayette, Ind.	10	10	14	14	17	19	18	13	13	14
Lancaster, Pa.	115	144	258	304	239	287	205	234	229	223
Laredo, Tex.									15	12
Los Angeles, Calif.									183	252
Louisville, Ky.	142	202	221	218	246	245	246	283	255	231
Marion, Ohio				2	13	32	7	16	9	6
Memphis, Tenn.		2	5	4	6	19	8	13	22	19
Milwaukee, Wis.	224	244	295	370	398	444	439	504	512	532
Montgomery, Ala.			7	34	52	68	50	59	75	77
Moultrie, Ga.							4	5	5	7
Nashville, Tenn.		39	118	88	83	99	96	109	96	100
Newark, N. J.									41	46
New Orleans, La.		154	166	174	191	213	188	193	207	212
New York, N. Y.	352	322	276	385	402	316	301	258	216	218
North Salt Lake, Utah		12	42	54	67	49	57	88	74	99
Ogden, Utah			64	117	104	64	76	91	122	155
Oklahoma, Okla.	227	325	620	690	593	400	315	382	414	388
Omaha, Nebr.	1,218	1,434	1,720	1,903	1,975	1,603	1,435	1,744	1,793	1,863
Pasco, Wash.				3	6	8	3	6	2	5
Peoria, Ill.	13	20	25	32	27	36	43	40	38	46
Philadelphia, Pa.	136	180	192	194	201	226	227	264	179	192
Pittsburgh, Pa.	338	169	560	523	616	733	745	867	821	909
Portland, Oreg.	75	83	105	120	125	141	120	140	168	175
Pueblo, Colo.	130	130	186	205	217	178	79	199	151	108
Richmond, Va.	23	29	26	22	29	30	28	32	32	33
Roanoke, Va.									2	1
St. Joseph, Mo.	441	480	670	870	750	643	558	655	709	720
St. Paul, Minn.	856	941	1,197	1,430	1,491	1,373	985	1,387	1,349	1,328
San Antonio, Tex.	139	208	193	176	250	233	151	198	163	183
Seattle, Wash.		25	39	56	66	58	47	46	55	64
Sioux City, Iowa	534	602	707	818	814	752	620	747	759	836
Sioux Falls, S. Dak.			7	7	8	14	17	33	30	14
Spokane, Wash.	1	17	26	51	74	67	41	49	45	55

TABLE 438.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

RECEIPTS—Continued

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Springfield, Ohio									7	[1]
Toledo, Ohio	34	26	32	44	57	64	25	25	25	25
Washington, D. C.		15	16	18	23	27	28	29	32	33
Wichita, Kans.	153	220	371	394	311	242	285	407	417	389
Discontinued[2]	82	137	182	271	278	202	129	185	15	3
Total	14,553	17,676	23,066	25,295	24,623	22,197	19,787	23,218	23,211	23,695

LOCAL SLAUGHTER[3]

Albany, N. Y.			8	6	4	3	2	1	1	1
Amarillo, Tex.					1	1	1	[1]	[1]	
Atlanta, Ga.			15	11	11	15	18	19	33	29
Augusta, Ga.			10	8	9	8	8	11	9	7
Baltimore, Md.	92	112	122	126	145	170	156	157	158	165
Buffalo, N. Y.		197	212	205	202	190	167	192	189	199
Chattanooga, Tenn.				9	10	10	11	13	13	11
Chicago, Ill.	2,293	2,524	2,953	3,422	3,032	2,603	2,377	2,797	2,813	2,890
Cincinnati, Ohio	187	233	300	303	305	283	302	252	230	242
Cleveland, Ohio	111	164	223	223	244	228	228	253	256	256
Dallas, Tex.		9	8	12	9	8	8	8	7	7
Dayton, Ohio	17	18	23	26	25	26	27	29	30	36
Denver, Colo.	66	89	131	185	174	153	122	124	131	159
Detroit, Mich.		165	174	192	189	202	168	206	239	248
East St. Lotus, Ill.	723	888	1,087	1,140	1,019	744	466	530	544	544
El Paso, Tex.			10	19	24	21	24	20	26	30
Evansville, Ind.		13	15	15	16	24	21	23	22	21
Fort Wayne, Ind.									4	4
Fort Worth, Tex.	362	474	991	954	715	558	576	620	795	972
Fostoria, Ohio			2	3	2	3	1	1	1	1
Indianapolis, Ind.	175	208	270	268	245	257	230	238	247	269
Jacksonville, Fla.			6	39	16	6	3	3	4	4
Jersey City, N. J.	491	746	755	650	745	833	843	903	673	711
Kansas City, Mo.	935	1,301	1,677	1,915	1,617	1,264	1,200	1,407	1,559	1,552
Knoxville, Tenn.	11	13	10	9	9	11	10	13	12	13
Lafayette, Ind.		6	6	5	7	8	9	8	8	8
Lancaster, Pa.				28	45	55	37	48	47	45
Laredo, Tex.									2	3
Los Angeles, Calif.									173	242
Louisville, Ky.	54	70	76	74	87	87	81	89	98	93
Marion, Ohio				[1]	1	1	1	2	2	2
Memphis, Tenn.					1	[1]	5	8	11	11
Milwaukee, Wis.	179	214	263	321	334	390	402	458	471	494
Montgomery, Ala.					3	4	4	4	7	10
Moultrie, Ga.							1	2	2	4
Nashville, Tenn.		7	27	32	41	46	42	47	51	51
Newark, N. J.									37	43
New Orleans, La.		141	155	160	162	174	160	159	168	178
New York, N. Y.	352	322	276	385	400	315	300	257	215	217
North Salt Lake, Utah		1	11	23	19	14	25	14	16	36
Ogden, Utah			12	12	11	16	13	12	16	14
Oklahoma, Okla.	130	221	415	528	368	228	203	219	279	290
Omaha, Nebr.	683	843	996	1,138	1,136	914	797	916	997	1,104
Pasco, Wash.				[1]	[1]	[1]				[1]
Peoria, Ill.	10	14	14	26	18	18	21	20	17	18
Philadelphia, Pa.			183	186	196	221	225	261	172	189
Pittsburgh, Pa.	51	92	168	163	151	171	175	161	175	172
Portland, Oreg.	40	42	56	65	62	70	59	67	98	106
Pueblo, Colo.				[1]			1	[1]	1	1
Richmond, Va.	11	13	14	13	17	19	20	25	24	25

[1] Not over 500.
[2] Includes only those markets which have been totally discontinued.
[3] Compiled from reports of stock sold and driven out for local slaughter, made by stockyards to the Livestock, Meats, and Wool Division.

TABLE 438.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

LOCAL SLAUGHTER—Continued

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Roanoke, Va									(1)	(1)
St. Joseph, Mo	267	331	459	569	531	410	379	403	444	469
St. Paul, Minn	327	381	487	616	530	710	564	783	851	928
San Antonio, Tex			55	20	14	37	36	54	53	60
Seattle, Wash		25	39	56	64	56	46	45	55	62
Sioux City, Iowa	241	233	296	385	363	342	273	301	341	402
Sioux Falls, S. Dak			(1)	1	1	6	7	13	11	5
Spokane, Wash	(1)	3	14	36	36	35	23	26	28	28
Springfield, Ohio									2	3
Toledo, Ohio		12	11	13	13	18	14	12	13	13
Washington, D. C		15	12	15	20	25	27	28	31	32
Wichita, Kans	67	86	122	145	133	84	83	93	104	125
Discontinued[2]	54	68	106	119	101	99	85	80	14	2
Total	7,912	10,294	13,275	14,874	13,633	12,194	11,078	12,435	13,030	13,850

STOCKER AND FEEDER SHIPMENTS

Market	1916	1917	1918	1919	1920	1921	1922	1923	1924
Albany, N. Y		1	1	1	1	(1)	(1)	(1)	(1)
Amarillo, Tex	110	202	197	122	91	84	103	74	87
Atlanta, Ga			2	4	1	3	2	6	2
Augusta, Ga		1	3	3	2	3	2	2	2
Baltimore, Md	7	8	11	5	5	3	3	3	5
Buffalo, N. Y	26	25	31	39	14	8	7	4	12
Chattanooga, Tenn			2	2	2	4	4	3	4
Chicago, Ill	256	358	401	509	417	332	343	295	258
Cincinnati, Ohio	26	22	30	28	28	22	26	23	21
Cleveland, Ohio		3	4	6	3	6	5	4	5
Dayton, Ohio	2	(1)	1	(1)	(1)				
Denver, Colo	386	397	402	483	407	274	413	361	359
Detroit, Mich	9	8	6	17	16	14	14	11	10
East St. Louis, Ill	161	221	225	234	168	185	275	281	199
El Paso, Tex		159	178	151	115	102	84	40	59
Evansville, Ind		1	3	1	1	1	3	3	3
Fort Wayne, Ind								(1)	(1)
Fort Worth, Tex	312	437	393	327	278	172	225	169	158
Fostoria, Ohio	6	4	3	5	5	3	7	5	4
Indianapolis, Ind	45	46	56	50	48	41	44	44	48
Jacksonville, Fla	1	1	1	(1)	(1)		1	(1)	
Kansas City, Mo	893	948	1,053	1,036	778	788	1,151	1,162	998
Knoxville, Tenn	1	6	8	8	4	3	6	4	2
Lafayette, Ind	(1)	1	1	2	1	1	1	1	(1)
Lancaster, Pa			93	95	87	1		53	63
Laredo, Tex								10	6
Los Angeles, Calif								9	9
Louisville, Ky			24	36	31	37	42	32	22
Marion, Ohio			1	1	(1)	(1)	(1)	(1)	(1)
Memphis, Tenn	(1)			(1)	2	1	2	7	5
Milwaukee, Wis	5	9	11	16	15	12	13	16	14
Montgomery, Ala		(1)	6	9	28	10	9	7	10
Moultrie, Ga						(1)	(1)	(1)	(1)
Nashville, Tenn	6	3	3	11	14	12	15	9	10
Newark, N. J								3	3
New Orleans, La	8	5	6	18	17	16	21	21	11
North Salt Lake, Utah	2	25	23	25	16	12	15	11	9
Ogden, Utah		5	27	48	28	25	23	45	59
Oklahoma, Okla	88	172	155	136	106	80	80	70	46
Omaha, Nebr	533	561	526	656	451	443	621	586	467

[1] Not over 500.

[2] Includes only those markets which have been totally discontinued.

TABLE 438.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

STOCKER AND FEEDER SHIPMENT—Continued

Market	1916	1917	1918	1919	1920	1921	1922	1923	1924
Pasco, Wash			(1)		(1)				
Peoria, Ill	2	2	2	(1)	1	4	7	4	7
Portland, Oreg	12	18	18	21	26	9	12	10	10
Pueblo, Colo			79	7	5	4	16	45	41
Richmond, Va	1	1	1	2	2	2	2	3	2
Roanoke, Va								1	(1)
St. Joseph, Mo	95	127	116	124	103	103	176	170	142
St. Paul, Minn	358	357	337	416	316	270	439	348	272
San Antonio, Tex	59	43	53	138	96	26	83	66	63
Seattle, Wash		(1)	(1)	(1)		(1)	(1)	(1)	
Sioux City, Iowa	328	348	303	329	238	240	335	308	264
Sioux Falls, S. Dak		6	4	1	1	4	11	12	7
Spokane, Wash		9	12	28	23	7	12	8	13
Toledo, Ohio	1	2	5	4	5	4	4	4	4
Washington, D. C			(1)	1	(1)	(1)			
Wichita, Kans	107	192	188	116	104	132	203	198	171
Discontinued [2]	1	9	8	15	2	1	4	(1)	(1)
Total	3,847	4,803	5,013	5,286	4,102	3,504	4,864	4,553	3,966

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division.

[1] Not over 500.
[2] Includes only those markets which have been totally discontinued.

TABLE 439.—*Cattle and calves: Stocker and feeder shipments from public stockyards, 1916–1924*

[Thousands—i. e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1916 [1]	221	197	250	262	289	264	171	330	464	682	461	256	3,847
1917	260	213	249	306	401	353	262	330	588	768	729	344	4,803
1918	222	214	319	385	491	393	274	418	604	704	623	366	5,013
1919	364	264	277	391	442	272	236	397	611	839	723	470	5,286
1920	349	240	241	244	323	272	218	314	488	580	553	280	4,102
1921	205	166	236	238	214	209	122	355	395	622	497	245	3,504
1922	233	243	282	235	359	259	223	469	630	864	710	357	4,864
1923	281	210	199	233	300	234	223	480	631	785	624	353	4,553
1924	243	170	174	239	275	201	169	306	580	751	549	309	3,966

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1916 not obtainable from many markets.

TABLE 440.—*Cattle and calves: Slaughter in United States, by States, 1909, 1914, 1919, and 1921* [1]

CATTLE

State	1909				1914 [2]	1919 [3]			1921 [3]
	In wholesale slaughtering and meat-packing establishments	Retail slaughter	On farms and ranges	Total slaughter	In wholesale slaughtering and meat-packing establishments	In wholesale slaughtering and meat-packing establishments	On farms and ranges [4]	Total wholesale and farm slaughter [4]	In wholesale slaughtering and meat-packing establishments
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
California	341,617	276,666	36,319	654,602	315,762	395,524	46,737	442,261	442,750
Colorado	64,308	53,478	26,818	144,604	62,735	145,694	29,972	175,666	109,102
Illinois	2,181,199	195,588	38,466	2,415,253	1,864,982	2,887,414	71,732	2,959,146	1,898,692
Indiana	252,697	138,729	27,122	418,548	200,180	271,004	42,394	313,398	243,066
Iowa	252,821	160,688	73,454	486,963	219,359	437,055	67,705	504,760	383,750
Kansas	1,362,572	103,860	30,660	1,497,092	990,188	1,479,805	48,247	1,528,052	1,088,178
Michigan	50,157	165,527	43,619	259,303	62,035	106,975	117,219	224,194	87,497
Minnesota	125,852	109,844	79,226	314,922	166,903	299,462	111,276	410,738	286,453
Missouri	530,356	80,258	32,059	648,673	359,910	674,287	43,909	718,196	524,917
Nebraska	651,258	78,350	42,083	771,691	491,632	1,006,654	41,350	1,048,004	722,609
New Jersey	53,234	35,492	3,175	91,901	37,903	110,066	5,924	115,990	111,468
New York	668,447	163,533	68,793	900,773	636,389	661,518	117,746	779,264	517,963
Ohio	265,191	275,401	54,040	594,632	269,719	410,680	78,074	488,754	363,630
Pennsylvania	252,897	247,740	88,505	589,142	236,949	257,608	148,864	406,472	304,741
Texas	527,469	277,064	64,031	868,564	554,479	550,550	61,543	612,093	304,475
Washington	117,522	56,497	25,087	199,106	85,774	132,213	71,700	203,913	108,819
Wisconsin	73,049	144,160	51,040	268,249	70,900	123,316	101,973	225,289	133,048
All other States	344,214	1,519,047	624,143	2,487,404	523,243	868,686	698,216	1,566,902	631,527
Total	8,114,860	4,087,922	1,408,640	13,611,422	7,149,042	10,818,511	1,904,581	12,723,092	8,263,575

CALVES

California	81,344	96,520	50,538	228,402	31,834	86,980			115,460
Illinois	513,639	162,913	81,079	757,631	439,616	839,604			732,526
Indiana	60,578	84,792	21,731	167,101	61,500	65,557			59,440
Kansas	209,357	24,518	11,536	245,411	130,102	386,971			272,794
Maryland	23,137	70,337	2,110	95,584	26,278	60,530			66,504
Massachusetts	129,162	59,050	14,187	202,399	115,724	244,394			174,570
Michigan	27,284	133,174	61,896	222,354	24,505	74,242			43,092
Minnesota	55,991	108,126	80,493	244,610	79,589	288,623			392,290
Missouri	81,551	100,375	8,779	190,705	45,213	107,753			138,242
Nebraska	58,158	28,090	5,458	91,706	23,914	131,896			66,714
New Jersey	95,604	77,927	14,025	187,556	68,492	101,975			143,966
New York	377,121	237,694	212,962	827,777	378,197	572,955			681,399
Ohio	150,223	240,145	31,180	421,548	141,358	249,487			244,104
Pennsylvania	152,851	332,704	68,936	554,491	115,446	164,415			225,266
Texas	234,172	99,390	22,445	356,007	145,391	353,417			348,946
Wisconsin	129,207	289,694	93,167	512,068	101,936	293,248			358,125
All other States	125,349	734,199	351,078	1,210,626	89,909	313,628			251,412
Total	2,504,728	2,879,648	1,131,600	6,515,976	2,019,004	4,395,675			4,314,850

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Census.

[1] In addition there were 377,957 beeves and 243,360 calves slaughtered on a custom basis in 1914, and 553,339 beeves and 387,692 calves for 1919. No corresponding data for 1909 or 1921.

[2] No data collected by the Bureau of Census for 1914 or 1921 on farm or retail slaughter.

[3] No data obtainable for retail slaughter in 1919.

[4] Including calves.

TABLE 441.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*

[Thousands—i.e., 000 omitted]

Stockyard	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Baltimore, Md.:													
Receipts	19	15	17	17	18	15	16	25	25	25	24	17	233
Local slaughter	15	12	14	13	16	12	13	16	13	16	14	11	165
Stocker and feeder shipments	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1	1	2	1	(1)	5
Buffalo, N. Y.:													
Receipts	43	42	47	54	52	45	41	40	42	46	51	47	550
Local slaughter	16	15	17	21	17	15	13	15	17	19	18	16	199
Stocker and feeder shipments	(1)	(1)	----------	(1)	1	2	1	2	1	2	2	1	12
Chicago, Ill.:													
Receipts	360	296	308	316	329	291	318	280	324	398	369	408	3,997
Local slaughter	250	202	226	242	251	215	238	202	236	283	266	279	2,890
Stocker and feeder shipments	16	15	15	14	12	11	9	15	29	49	41	32	258
Cincinnati, Ohio:													
Receipts	32	27	29	33	38	33	37	38	43	54	43	35	442
Local slaughter	20	16	18	19	22	19	21	20	23	27	17	20	242
Stocker and feeder shipments	(1)	1	(1)	1	1	1	1	3	3	5	3	2	21
Cleveland, Ohio:													
Receipts	23	20	23	25	24	22	24	23	25	29	24	23	285
Local slaughter	22	19	22	22	22	19	21	21	22	25	21	20	256
Stocker and feeder shipments	(1)	(1)	(1)	----------	(1)	1	(1)	1	1	1	1	(1)	5
Denver, Colo.:													
Receipts	57	24	30	24	50	42	23	31	78	119	99	53	630
Local slaughter	12	10	11	12	13	11	14	12	15	19	15	15	159
Stocker and feeder shipments	36	12	14	10	32	30	8	13	32	79	68	25	359
Detroit, Mich.:													
Receipts	26	20	25	28	25	23	23	18	18	25	28	24	283
Local slaughter	22	18	22	25	23	21	21	17	16	21	23	19	248
Stocker and feeder shipments	(1)	(1)	(1)	(1)	1	1	1	1	1	2	2	1	10
East St. Louis, Ill.:													
Receipts	92	69	70	87	102	103	126	133	179	171	133	120	1,385
Local slaughter	39	28	33	40	41	41	47	42	67	65	51	50	544
Stocker and feeder shipments	11	8	5	7	10	11	14	20	32	36	30	15	199
Fort Worth, Tex.:													
Receipts	86	54	51	82	140	104	133	136	156	127	172	151	1,392
Local slaughter	72	42	33	45	66	62	94	91	119	112	128	108	972
Stocker and feeder shipments	7	6	5	16	25	8	7	11	15	13	25	20	158
Indianapolis, Ind.:													
Receipts	50	40	38	47	44	41	51	47	55	56	42	49	560
Local slaughter	26	22	20	24	22	20	24	21	24	25	19	22	269
Stocker and feeder shipments	2	1	1	2	1	5	4	6	9	8	5	4	48
Jersey City, N. J.:													
Receipts	64	50	53	76	59	51	49	70	58	66	53	62	711
Local slaughter	64	50	53	76	59	51	49	70	58	66	53	62	711

[1] Not over 500.

TABLE 441.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*—Continued

Stockyard	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Kansas City, Mo.:													
Receipts	210	146	149	173	201	192	220	303	480	423	300	246	3,043
Local slaughter	121	92	89	98	106	106	123	138	195	192	143	149	1,552
Stocker and feeder shipments	60	40	39	51	59	46	44	99	182	198	112	68	998
Los Angeles, Calif.:													
Receipts	19	14	17	13	21	20	18	19	27	29	28	27	252
Local slaughter	18	13	17	12	21	20	18	19	26	29	26	23	242
Stocker and feeder shipments	1	(1)	(1)							1	3	4	9
Milwaukee, Wis.:													
Receipts	50	48	51	64	53	38	32	20	31	49	44	52	532
Local slaughter	48	46	49	61	50	36	30	18	27	44	36	49	494
Stocker and feeder shipments	1	1	1	1	1	1	1	2	1	2	1	1	14
Oklahoma, Okla.:													
Receipts	28	20	20	24	25	25	33	37	47	50	46	33	388
Local slaughter	21	16	12	15	19	19	24	28	35	37	37	27	290
Stocker and feeder shipments	3	2	4	6	3	2	1	3	5	6	8	3	46
Omaha, Nebr.:													
Receipts	164	130	149	146	152	131	127	142	221	230	137	134	1,863
Local slaughter	104	78	90	88	98	85	89	85	96	116	85	92	1,104
Stocker and feeder shipments	36	26	25	24	18	13	12	37	91	114	45	26	467
Pittsburgh, Pa.:													
Receipts	76	63	60	57	68	62	79	94	89	83	92	86	909
Local slaughter	14	12	14	15	18	15	16	13	15	14	14	12	172
Portland, Oreg.:													
Receipts	15	11	13	10	13	19	11	17	20	17	15	14	175
Local slaughter	9	2	9	7	10	12	7	8	14	10	9	9	106
Stocker and feeder shipments	(1)	(1)	1	(1)	(1)	1	1	1	1	2	1	2	10
St. Joseph, Mo.:													
Receipts	63	49	51	50	53	43	50	64	92	92	58	55	720
Local slaughter	41	31	32	34	36	30	39	43	54	53	38	38	469
Stocker and feeder shipments	10	6	7	8	8	5	5	13	24	28	20	8	142
St. Paul, Minn.:													
Receipts	97	85	94	105	102	84	102	94	125	157	162	116	1,323
Local slaughter	75	69	71	81	80	68	74	58	67	95	94	96	928
Stocker and feeder shipments	13	10	14	16	15	11	20	28	42	47	41	15	272
Sioux City, Iowa:													
Receipts	67	64	64	66	63	59	61	60	102	99	61	70	836
Local slaughter	31	30	30	33	34	34	35	29	37	34	31	44	402
Stocker and feeder shipments	18	16	16	17	18	9	8	18	44	59	25	16	264
Wichita, Kans.:													
Receipts	32	19	23	33	26	20	20	30	44	49	56	37	389
Local slaughter	11	6	8	8	8	7	9	11	16	14	14	13	125
Stocker and feeder shipments	5	10	8	24	16	8	6	12	15	15	32	20	171

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.

TABLE 442.—*Feeding cattle: Monthly shipments from public stockyards, 1924*

Origin and destination	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
MARKET ORIGIN	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Chicago, Ill	14,812	15,653	15,587	13,474	10,644	10,419	10,427	12,807	27,315	45,158	40,016	29,568	245,880
Denver, Colo	31,109	9,189	8,826	9,642	33,596	22,017	7,004	14,551	35,393	85,120	66,218	23,428	346,093
Fort Worth, Tex	6,686	5,724	3,832	15,939	32,428	7,776	7,422	11,271	13,352	13,245	23,584	18,881	160,140
Indianapolis, Ind	2,581	1,397	1,494	1,803	1,484	3,786	4,257	5,967	8,809	7,531	5,039	4,517	48,665
Kansas City, Kans	60,309	36,467	35,162	48,434	56,864	38,528	37,258	71,637	164,011	197,468	101,722	63,013	900,873
Louisville, Ky	1,146	661	794	1,022	1,936	1,648	1,455	1,720	3,183	4,296	2,468	1,208	21,537
National Stockyards, Ill	7,793	6,060	3,800	5,082	3,497	8,338	8,115	14,066	21,494	26,577	16,912	14,464	136,196
Oklahoma, Okla	3,845	3,042	4,514	5,374	4,234	2,417	1,881	3,294	5,528	8,503	9,215	4,104	55,951
Omaha, Nebr	36,209	26,806	25,299	24,438	16,945	11,679	13,069	37,199	90,382	120,514	45,299	28,135	476,064
Sioux City, Iowa	17,550	14,759	13,980	14,413	15,526	7,406	7,727	17,314	43,657	56,501	25,046	14,756	248,635
South St. Joseph, Mo	5,295	2,987	3,089	4,950	5,289	3,345	2,353	7,540	13,628	22,176	10,119	3,965	84,736
South St. Paul, Minn	9,001	6,423	8,299	12,076	10,242	5,579	9,452	17,913	29,177	30,854	24,358	9,519	172,893
Wichita, Kans	15,414	10,433	8,316	23,829	15,427	7,631	5,852	11,874	15,078	27,132	32,250	19,486	192,722
All other inspected	10,188	9,178	8,525	8,882	12,112	11,764	12,043	13,665	19,292	31,214	27,911	20,497	185,271
Total	222,028	148,779	141,517	189,358	220,224	142,333	128,315	240,818	490,299	666,289	430,157	255,541	3,275,658
STATE DESTINATION													
Colorado	14,393	6,186	4,682	4,382	9,808	5,349	4,395	4,146	11,548	38,436	47,491	14,697	165,513
Illinois	24,326	17,124	15,636	14,735	13,799	15,445	20,721	37,647	102,596	95,664	49,072	32,052	438,817
Indiana	5,906	3,778	5,060	5,027	4,931	8,998	8,455	14,555	23,202	26,776	18,932	11,301	136,921
Iowa	37,358	27,760	24,696	28,250	25,139	16,153	22,743	54,701	137,399	130,747	38,878	26,216	570,040
Kansas	38,881	22,698	19,480	45,183	43,521	18,448	13,688	24,907	39,510	81,126	73,920	52,069	473,431
Kentucky	1,477	877	1,006	1,634	2,590	1,927	1,871	1,354	2,806	5,531	2,422	1,620	25,115
Michigan	949	1,100	1,780	2,886	2,646	2,734	4,465	3,282	5,326	7,499	7,981	6,181	46,829
Minnesota	1,156	689	1,217	1,167	1,509	850	1,478	2,403	5,496	7,252	5,284	2,167	30,668
Missouri	24,643	13,646	13,585	17,480	22,945	11,782	7,752	21,961	31,626	63,048	35,944	21,985	285,497
Nebraska	45,055	29,918	29,709	33,407	41,850	26,780	16,516	40,824	81,904	127,910	59,326	32,174	565,373
Ohio	4,101	3,383	4,168	4,931	11,082	5,595	6,044	6,027	8,858	12,752	15,331	7,545	89,817
Oklahoma	5,325	4,429	5,400	10,987	6,925	2,667	2,430	5,736	10,598	17,565	22,691	12,762	107,515
Pennsylvania	999	919	462	1,021	894	845	1,668	2,195	3,410	4,978	4,187	2,512	24,090
South Dakota	3,454	2,614	2,768	2,984	8,387	6,479	2,082	2,712	5,466	10,798	5,698	3,662	57,104
Texas	8,147	7,100	5,971	6,406	8,529	8,601	7,948	9,709	9,170	16,387	23,386	16,152	127,506
Wisconsin	587	866	1,548	3,066	3,165	1,571	449	993	1,294	3,139	4,031	2,238	22,947
All other	5,271	5,692	4,349	5,812	12,504	8,109	5,610	7,666	10,090	16,681	15,583	11,106	108,475
Total	222,028	148,779	141,517	189,358	220,224	142,333	128,315	240,818	490,299	666,289	430,157	255,541	3,275,658

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry Inspection records.

TABLE 441.—*Cattle and calves: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*—Continued

Stockyard	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Kansas City, Mo.:													
Receipts	210	146	149	173	201	192	220	303	480	423	300	246	3,043
Local slaughter	121	92	89	98	106	106	123	138	195	192	143	149	1,552
Stocker and feeder shipments	60	40	39	51	59	46	44	99	182	198	112	68	998
Los Angeles, Calif.:													
Receipts	19	14	17	13	21	20	18	19	27	29	28	27	252
Local slaughter	18	13	17	12	21	20	18	19	26	29	26	23	242
Stocker and feeder shipments	1	(1)	(1)							1	3	4	9
Milwaukee, Wis.:													
Receipts	50	48	51	64	53	38	32	20	31	49	44	52	532
Local slaughter	48	46	49	61	50	36	30	18	27	44	36	49	494
Stocker and feeder shipments	1	1	1	1	1	1	1	2	1	2	1	1	14
Oklahoma, Okla.:													
Receipts	28	20	20	24	25	25	33	37	47	50	46	33	388
Local slaughter	21	16	12	15	19	19	24	28	35	37	37	27	290
Stocker and feeder shipments	3	2	4	6	3	2	1	3	5	6	8	3	46
Omaha, Nebr.:													
Receipts	164	130	149	146	152	131	127	142	221	230	137	134	1,863
Local slaughter	104	78	90	88	98	85	89	85	96	116	83	92	1,104
Stocker and feeder shipments	36	26	25	24	18	13	12	37	91	114	45	26	467
Pittsburgh, Pa.:													
Receipts	76	63	60	57	68	62	79	94	89	83	92	86	909
Local slaughter	14	12	14	15	18	15	16	13	15	14	14	12	172
Portland, Oreg.:													
Receipts	15	11	13	10	13	19	11	17	20	17	15	14	175
Local slaughter	9	2	9	7	10	12	7	8	14	10	9	9	106
Stocker and feeder shipments	(1)	(1)	1	(1)	(1)	1	1	1	1	2	1	2	10
St. Joseph, Mo.:													
Receipts	63	49	51	50	53	43	50	64	92	92	58	55	720
Local slaughter	41	31	32	34	36	30	39	43	54	53	38	38	469
Stocker and feeder shipments	10	6	7	8	8	5	5	13	24	28	20	8	142
St. Paul, Minn.:													
Receipts	97	85	94	105	102	84	102	94	125	157	162	116	1,323
Local slaughter	75	69	71	81	80	68	74	58	67	95	94	96	928
Stocker and feeder shipments	13	10	14	16	15	11	20	28	42	47	41	15	272
Sioux City, Iowa:													
Receipts	67	64	64	66	63	59	61	60	102	99	61	70	836
Local slaughter	31	30	30	33	34	34	35	29	37	34	31	44	402
Stocker and feeder shipments	18	16	16	17	18	9	8	18	44	59	25	16	264
Wichita, Kans.:													
Receipts	32	19	23	33	26	20	20	30	44	49	56	37	389
Local slaughter	11	6	8	8	8	7	9	11	16	14	14	13	125
Stocker and feeder shipments	5	10	8	24	16	8	6	12	15	15	32	20	171

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.

TABLE 442.—*Feeding cattle: Monthly shipments from public stockyards, 1924*

Origin and destination	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
MARKET ORIGIN	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Chicago, Ill	14,812	15,653	15,587	13,474	10,644	10,419	10,427	12,807	27,315	45,158	40,016	29,568	245,880
Denver, Colo	31,109	9,189	8,826	9,642	33,596	22,017	7,004	14,551	35,393	85,129	66,218	23,428	346,093
Fort Worth, Tex	6,686	5,724	3,832	15,939	32,428	7,776	7,422	11,271	13,352	13,245	23,584	18,881	160,140
Indianapolis, Ind	2,581	1,397	1,494	1,803	1,484	3,786	4,257	5,967	8,809	7,531	5,039	4,517	48,665
Kansas City, Kans	60,309	36,467	35,162	48,434	56,864	38,528	37,258	71,637	164,011	187,468	101,722	63,013	900,873
Louisville, Ky	1,146	661	794	1,022	1,936	1,648	1,455	1,720	3,183	4,296	2,468	1,208	21,537
National Stockyards, Ill	7,793	6,060	3,800	5,082	3,497	8,338	8,115	14,066	21,494	26,577	16,912	14,464	136,198
Oklahoma, Okla	3,845	3,042	4,514	5,374	4,234	2,417	1,881	3,294	5,528	8,503	9,215	4,104	55,951
Omaha, Nebr	36,299	26,806	25,299	24,438	16,945	11,679	13,069	37,199	90,382	120,514	45,299	28,135	476,064
Sioux City, Iowa	17,550	14,759	13,980	14,413	15,526	7,406	7,727	17,314	43,657	56,501	25,046	14,756	248,635
South St. Joseph, Mo	5,295	2,987	3,089	4,950	5,289	3,345	2,353	7,540	13,628	22,176	10,119	3,965	84,736
South St. Paul, Minn	9,001	6,423	8,299	12,076	10,242	5,579	9,452	17,913	29,177	30,854	24,358	9,519	172,893
Wichita, Kans	15,414	10,433	8,316	23,829	15,427	7,631	5,852	11,874	15,078	27,132	32,250	19,486	192,722
All other inspected	10,188	9,178	8,525	8,882	12,112	11,764	12,043	13,665	19,292	31,214	27,911	20,497	185,271
Total	222,028	148,779	141,517	189,358	220,224	142,333	128,315	240,818	490,299	666,289	439,157	255,541	3,275,658
STATE DESTINATION													
Colorado	14,393	6,186	4,682	4,382	9,808	5,349	4,395	4,146	11,548	38,436	47,491	14,697	165,513
Illinois	24,326	17,124	15,636	14,735	13,799	15,445	20,721	37,647	102,596	95,664	49,072	32,052	438,817
Indiana	5,906	3,778	5,060	5,027	4,931	8,998	8,455	14,555	23,202	26,776	18,932	11,301	136,921
Iowa	37,358	27,760	24,696	28,250	25,139	16,153	22,743	54,761	137,399	130,747	38,878	26,216	570,040
Kansas	38,881	22,698	19,480	45,183	43,521	18,448	13,688	24,907	39,510	81,126	73,920	52,069	473,431
Kentucky	1,477	877	1,006	1,634	2,590	1,927	1,871	1,354	2,806	5,531	2,422	1,620	25,115
Michigan	949	1,100	1,780	2,886	2,646	2,734	4,465	3,282	5,326	7,499	7,981	6,181	46,829
Minnesota	1,156	689	1,217	1,167	1,509	850	1,478	2,403	5,496	7,252	5,284	2,167	30,668
Missouri	24,643	13,646	13,585	17,480	22,945	11,782	7,752	21,961	31,626	63,048	35,944	21,985	285,497
Nebraska	45,055	29,918	29,709	33,407	41,850	26,780	16,516	40,824	81,904	127,910	59,326	32,174	535,373
Ohio	4,101	3,383	4,168	4,931	11,082	5,595	6,044	6,027	8,858	12,752	15,331	7,545	89,817
Oklahoma	5,325	4,429	5,400	10,987	6,925	2,667	2,430	5,736	10,598	17,565	22,691	12,762	107,515
Pennsylvania	999	919	462	1,021	894	845	1,668	2,195	3,410	4,978	4,187	2,512	24,090
South Dakota	3,454	2,614	2,768	2,984	8,387	6,479	2,082	2,712	5,466	10,798	5,698	3,662	57,104
Texas	8,147	7,100	5,971	6,406	8,529	8,601	7,948	9,709	9,170	16,387	23,396	16,152	127,506
Wisconsin	587	866	1,548	3,066	3,165	1,571	449	993	1,294	3,139	4,031	2,238	22,947
All other	5,271	5,692	4,349	5,812	12,504	8,109	5,610	7,666	10,090	16,681	15,583	11,106	108,475
Total	222,028	148,779	141,517	189,358	220,224	142,333	128,315	240,818	490,299	666,289	430,157	255,541	3,275,658

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry Inspection records.

TABLE 443.—*Live cattle: United States exports and imports, 1910–1925*

EXPORTS

Year ended June 30—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
1910	10,025	10,479	15,494	13,749	13,399	22,354	16,558	15,067	11,306	4,212	1,940	4,847	139,430
1911	4,193	6,667	8,085	8,828	11,711	16,215	14,509	8,525	11,528	14,435	20,232	25,172	150,100
1912	16,821	12,709	9,867	9,950	8,540	11,799	11,825	6,177	6,673	5,376	3,189	2,580	105,506
1913	3,232	2,493	572	1,591	1,289	1,466	1,009	1,006	956	2,367	1,269	7,464	24,714
1914	3,058	967	1,654	4,074	1,372	1,040	411	433	1,014	1,816	689	1,848	18,376
1915	484	405	895	388	164	147	162	175	133	233	85	2,213	5,484
1916	6,615	2,837	1,908	431	520	944	877	428	1,171	1,243	978	3,335	21,287
1917	467	713	972	551	917	527	488	313	1,314	1,918	882	4,325	13,387
1918	374	1,077	837	890	704	6,887	669	508	1,245	1,457	1,108	2,457	18,213
1919	427	542	243	418	3,598	4,608	516	529	732	20,291	4,336	6,105	42,345
1920	3,884	10,419	6,500	9,486	2,894	4,167	3,056	2,687	3,247	11,494	11,873	13,332	83,039
1921	9,740	2,804	4,174	5,252	10,080	7,563	6,004	7,498	11,886	23,066	28,076	29,530	145,673
1922	20,345	20,662	14,541	11,108	12,536	11,281	10,275	10,219	11,107	9,563	10,871	12,773	155,281
1923	9,588	8,806	4,965	9,521	8,919	4,600	3,919	2,138	2,880	2,924	1,706	1,520	61,486
1924	2,394	5,709	3,378	4,629	2,946	3,051	1,049	2,076	1,529	1,370	2,703	1,927	32,761
1925	2,506	4,267											

IMPORTS

1910	2,724	5,707	7,199	7,789	32,464	19,475	7,440	4,283	5,815	36,125	56,336	10,581	195,938
1911	1,267	1,788	7,592	20,377	33,663	25,963	13,376	3,237	3,136	19,525	38,245	14,754	182,923
1912	8,826	10,294	18,204	39,222	44,927	38,722	21,262	8,038	14,822	31,793	59,229	23,078	318,417
1913	21,637	15,355	18,527	27,696	43,758	40,522	24,111	30,630	36,105	47,708	68,607	46,993	421,649
1914	38,937	47,014	64,605	130,639	123,118	78,470	90,694	72,558	54,786	65,772	58,647	43,128	868,368
1915	30,217	54,459	53,574	77,219	73,427	53,410	38,233	51,018	33,891	14,538	15,159	43,022	538,167
1916	58,379	49,985	57,050	82,276	83,037	25,901	9,762	8,662	9,409	17,285	23,992	13,447	439,185
1917	15,219	26,121	37,476	48,907	51,526	33,841	22,266	22,094	23,444	32,181	33,049	28,702	374,826
1918	18,780	20,881	39,244	49,061	37,359	20,449	9,286	11,924	14,603	22,563	22,112	27,457	293,719
1919	21,512	32,517	47,983	49,439	54,403	38,802	29,937	38,813	27,067	31,592	44,856	23,478	440,399
1920	32,863	40,830	68,094	103,624	108,159	93,082	26,971	24,590	16,766	19,874	16,094	24,381	575,328
1921	18,333	32,071	43,055	48,680	62,049	46,250	17,469	8,066	11,677	23,674	14,498	4,152	320,974
1922	5,057	10,948	18,814	28,662	37,955	13,899	2,876	2,482	2,431	6,139	12,030	10,240	151,533
1923	18,164	41,565	58,388	41,012	28,923	12,829	5,795	16,998	5,230	7,459	9,199	6,325	251,887
1924	6,064	9,604	19,947	18,383	17,586	15,770	9,921	6,028	10,239	12,538	17,183	11,473	154,736
1925	10,596	14,744	19,732	14,130	(1,632	5,094							

Division of Statistical and Historical Research.

TABLE 444.—*Farm price of cattle other than milk cows, by age groups, United States, January 1, 1894–1925*

Jan. 1—	Under 1 year old	1 and under 2 years	2 years and over	Jan. 1	Under 1 year old	1 and under 2 years	2 years and over
1894	$6.16	$10.56	$19.59	1910	$10.92	$17.89	$25.96
1895	5.91	9.94	18.69	1911	11.72	19.37	27.90
1896	6.72	11.49	20.97	1912	12.14	20.09	29.12
1897	7.47	12.51	21.69	1913	14.90	25.11	36.38
1898	10.02	16.17	26.85	1914	17.84	29.77	42.77
1899	11.15	17.78	29.10	1915	19.06	31.21	45.92
1900	12.35	19.35	31.89	1916	19.06	31.48	45.81
1901	11.18	17.92	27.57	1917	20.71	33.93	48.63
1902	10.05	16.56	26.41	1918	23.44	38.63	55.62
1903	10.59	17.54	24.69	1919	24.97	41.74	60.41
1904	9.44	15.66	21.74	1920	24.50	40.69	59.66
1905	8.91	14.57	20.05	1921	17.42	29.01	43.72
1906	9.04	15.13	21.40	1922	13.41	22.29	32.77
1907	10.00	16.30	22.93	1923	14.76	24.35	34.79
1908				1924	14.49	24.04	34.01
1909				1925	14.38	23.32	33.16

Division of Crop and Livestock Estimates.

TABLE 445.—*Cattle, live: Imports, exports, and prices, 1896–1924*

Year ended June 30—	Imports			Exports		
	Number	Value	Average import price	Number	Value	Average export price
		Dollars	*Dollars*		*Dollars*	*Dollars*
1896	217,826	1,509,856	6.93	372,461	34,560,672	92.79
1897	328,977	2,589,857	7.87	392,190	36,357,451	92.70
1898	291,589	2,913,223	9.99	439,255	37,827,500	86.12
1899	199,752	2,320,362	11.62	389,490	30,516,833	78.35
1900	181,006	2,257,694	12.47	397,286	30,635,153	77.11
1901	146,022	1,931,433	13.23	459,218	37,566,980	81.81
1902	96,027	1,608,722	16.75	392,884	29,902,212	76.11
1903	66,175	1,161,548	17.55	402,178	29,848,936	74.22
1904	16,056	310,737	19.35	593,409	42,256,291	71.21
1905	27,855	458,572	16.46	567,806	40,598,048	71.50
1906	29,019	548,430	18.90	584,239	42,081,170	72.03
1907	32,402	565,122	17.44	423,051	34,577,392	81.73
1908	92,356	1,507,310	16.32	349,210	29,339,134	84.02
1909	139,184	1,999,422	14.37	207,542	18,046,976	86.96
1910	195,938	2,999,824	15.31	139,430	12,200,154	87.50
1911	182,923	2,953,077	16.14	150,100	13,163,920	87.70
1912	318,372	4,805,574	15.09	105,506	8,870,075	84.07
1913	421,649	6,640,608	15.75	24,714	1,177,199	47.63
1914	868,368	18,696,718	21.53	18,376	647,288	35.22
1915	538,167	17,513,175	32.54	5,484	702,847	128.16
1916	439,185	15,187,593	34.58	21,666	2,383,765	110.02
1917	374,826	13,021,259	34.74	13,387	949,503	70.93
1918	293,719	17,852,176	60.78	18,213	1,247,800	68.51
1919	440,399	36,995,921	84.01	42,345	2,092,816	49.42
1920	575,328	45,081,179	78.36	83,039	11,921,518	43.57
1921	329,974	23,634,361	71.62	145,673	11,050,507	75.86
1922	151,533	3,055,201	20.16	155,281	9,877,596	63.61
1923	251,887	6,622,257	26.29	61,486	2,954,729	48.06
1924	154,736	5,340,629	34.51	32,761	1,295,762	39.55

Division of Statistical and Historical Research.

TABLE 446.—*Milk cows: Farm price[1] per head, 15th of month, United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	41.18	40.35	41.75	42.22	42.38	43.46	42.86	42.77	42.68	43.20	43.34	43.41	42.47
1911	44.70	44.48	45.42	44.81	44.54	43.86	42.44	42.26	42.22	42.69	42.70	42.72	43.57
1912	42.89	43.40	44.09	45.14	45.63	45.84	45.41	46.11	46.79	47.30	47.38	48.62	45.72
1913	49.51	51.42	54.02	55.34	54.80	55.20	54.80	54.78	55.78	56.47	57.71	57.19	54.75
Average 1910-1913	44.57	44.91	46.32	46.88	46.84	47.09	46.38	46.48	46.87	47.42	47.78	47.98	47.99
1914	57.99	59.09	59.23	59.60	59.85	59.82	59.67	60.72	59.58	59.53	58.77	58.23	59.34
1915	58.47	57.99	58.00	57.78	58.29	58.59	60.31	58.34	58.38	58.76	57.35	56.79	58.25
1916	57.79	57.99	59.51	60.68	60.96	61.63	62.04	61.32	61.41	62.19	62.67	63.18	60.95
1917	63.92	65.93	68.46	72.09	72.78	72.87	72.81	72.53	73.93	75.79	75.00	76.16	71.96
1918	76.54	78.36	80.71	82.45	84.11	84.74	84.97	84.06	85.21	85.41	84.51	85.78	83.07
1919	86.10	86.15	88.15	90.91	93.43	93.84	94.51	94.72	93.42	93.43	93.27	95.54	91.96
1920	94.42	95.27	94.94	95.36	94.56	94.56	91.23	90.50	89.40	85.90	77.56	70.42	89.51
Average 1914-1920	70.75	71.54	72.71	74.12	74.86	75.15	75.08	74.60	74.48	74.43	72.73	72.30	73.56
1921	66.82	63.44	65.37	64.35	62.63	59.89	56.55	55.85	54.33	53.39	53.28	53.30	59.10
1922	52.83	53.54	54.87	54.46	54.76	54.87	54.20	52.67	52.79	52.86	51.62	53.21	53.56
1923	54.01	54.15	55.29	56.14	55.91	56.34	56.22	55.45	56.13	55.51	55.39	54.66	55.43
1924	55.57	55.49	55.88	55.92	56.37	56.45	55.46	55.74	55.54	54.30	55.05	54.00	55.48

Division of Crop and Livestock Estimates.

[1] As reported by country dealers.

TABLE 447.—*Cattle, beef: Farm price per 100 pounds 15th of month, by States, 1924*

State	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
Maine	$7.20	$7.40	$7.20	$7.50	$7.00	$7.20	$7.10	$7.50	$7.00	$6.90	$7.00	$6.30	$7.11
New Hampshire	5.70	6.00	6.00	6.50	6.60	6.90	6.50	6.70	6.50	6.80	7.00	6.00	6.43
Vermont	4.60	4.30	4.50	4.90	4.60	4.30	4.40	5.10	5.00	4.70	5.00	4.50	4.66
Massachusetts	6.40	6.00	6.40	6.00	6.00	5.60	5.60	5.30	5.50	5.20	5.50	5.00	5.71
Rhode Island	6.00	6.50	------	------	------	------	------	------	6.00	6.00	------	6.00	6.10
Connecticut	6.80	7.30	8.00	------	5.60	5.80	5.90	5.80	5.60	5.80	5.60	5.60	6.16
New York	5.00	5.30	5.60	5.80	5.70	5.60	5.40	5.30	5.70	5.70	5.20	5.30	5.47
New Jersey	------	6.30	6.70	6.50	6.40	------	------	------	7.00	6.00	7.00	6.70	6.58
Pennsylvania	7.00	7.00	7.40	7.60	7.50	7.50	7.20	7.40	7.20	7.30	7.00	7.10	7.27
Delaware	7.30	8.00	8.30	8.00	8.00	8.50	------	------	8.20	8.60	------	------	8.11
Maryland	6.50	7.00	6.80	7.00	7.20	7.00	7.10	7.20	7.00	7.00	6.50	6.80	6.92
Virginia	5.80	6.00	6.30	6.00	6.30	6.10	5.90	5.50	5.70	5.60	5.60	5.50	5.86
West Virginia	5.90	6.30	6.20	6.40	6.60	6.20	6.20	5.90	5.80	5.40	5.40	5.50	5.98
North Carolina	5.00	5.00	5.00	5.00	5.30	5.20	5.30	5.40	5.20	5.20	5.30	5.20	5.18
South Carolina	4.10	4.00	4.20	4.40	4.30	4.10	4.10	4.30	4.20	4.20	4.00	4.00	4.16
Georgia	3.40	3.50	3.60	3.50	3.80	3.70	3.80	3.70	3.60	3.50	3.90	3.70	3.64
Florida	5.00	4.80	4.70	5.00	4.60	4.30	4.20	3.50	4.00	4.00	3.80	4.50	4.37
Ohio	6.50	6.70	6.80	7.00	7.00	7.00	6.70	7.00	6.80	6.70	6.50	6.60	6.78
Indiana	6.30	6.20	6.50	6.80	6.90	6.70	6.40	6.90	6.60	6.70	6.50	6.30	6.57
Illinois	6.20	6.20	6.30	6.40	6.90	6.80	6.50	6.50	6.70	6.70	6.50	6.40	6.51
Michigan	5.50	5.40	5.50	6.00	6.00	6.00	5.90	5.40	5.40	5.50	5.70	5.90	5.68
Wisconsin	4.40	4.70	4.60	4.80	4.80	4.80	4.90	4.90	4.80	4.60	4.60	4.20	4.68
Minnesota	4.80	4.80	5.10	5.40	5.60	5.50	5.40	5.70	5.60	5.30	5.40	4.60	5.27
Iowa	7.00	7.10	7.20	7.50	7.60	7.50	7.30	7.80	7.60	8.00	7.50	7.10	7.43
Missouri	6.50	6.20	6.40	6.50	6.60	6.20	6.70	6.60	6.30	6.50	6.20	6.30	6.42
North Dakota	4.60	4.70	5.10	5.30	5.00	5.00	4.80	4.60	4.50	4.40	4.40	4.30	4.72
South Dakota	5.80	5.90	6.10	6.40	6.50	6.60	6.50	6.40	6.50	6.00	5.80	5.50	6.17
Nebraska	6.50	6.80	7.20	7.50	7.70	7.50	7.40	7.80	7.30	7.00	6.90	7.00	7.22
Kansas	5.60	5.80	6.00	6.20	6.50	6.30	6.10	6.50	6.20	5.90	5.80	6.00	6.08
Kentucky	5.00	5.40	5.30	5.60	5.80	5.50	5.30	5.50	5.30	5.00	5.20	5.20	5.34
Tennessee	4.20	4.40	4.20	4.50	4.60	4.60	4.50	4.40	4.30	4.10	3.80	4.10	4.31
Alabama	3.20	3.20	3.20	3.40	3.70	3.50	3.20	3.30	3.20	3.10	3.10	3.00	3.26
Mississippi	3.10	3.00	3.00	3.00	3.00	2.90	2.80	2.80	2.70	2.70	2.70	2.70	2.87
Louisiana	4.70	4.80	4.60	4.30	4.90	4.60	4.70	4.30	4.50	4.70	5.00	4.60	4.64
Texas	4.10	4.10	4.30	4.20	4.50	4.30	4.10	4.20	4.00	3.80	4.20	3.90	4.14
Oklahoma	4.40	4.30	4.20	4.50	4.30	4.20	4.00	4.10	4.10	4.00	4.00	4.20	4.19
Arkansas	3.20	3.20	3.70	3.40	3.30	3.20	3.50	3.00	2.90	2.80	3.40	3.00	3.22
Montana	5.00	5.20	5.40	6.20	6.10	6.00	5.70	5.50	5.60	5.30	5.40	5.50	5.58
Wyoming	6.00	6.40	6.00	7.00	6.80	6.50	6.20	5.60	5.20	5.30	5.00	5.00	5.92
Colorado	6.00	5.60	6.00	6.40	6.50	6.40	6.20	5.60	5.70	5.30	5.00	5.50	5.85
New Mexico	4.00	4.40	4.40	4.60	5.00	5.10	5.00	4.50	4.20	------	------	5.00	4.62
Arizona	5.50	5.40	5.80	5.90	5.80	5.60	5.40	5.40	5.20	6.60	5.00	4.70	5.52
Utah	5.50	5.70	5.90	6.20	6.30	6.10	6.00	5.60	5.20	5.00	4.90	4.90	5.61
Nevada	6.00	6.50	6.70	7.00	6.50	6.50	6.00	5.40	5.30	5.20	5.50	------	6.05
Idaho	5.00	4.90	5.30	5.70	5.90	5.50	5.00	5.30	5.10	5.10	4.90	4.70	5.20
Washington	5.40	5.40	5.70	6.00	6.30	6.00	5.60	5.20	5.50	5.50	5.70	5.60	5.66
Oregon	5.20	5.80	5.60	6.00	6.30	6.50	6.20	6.00	5.80	5.80	6.00	5.50	5.89
California	6.60	7.00	7.50	7.10	6.90	6.50	6.20	6.00	6.00	5.90	5.80	6.40	6.49
United States	5.38	5.47	5.63	5.82	5.94	5.79	5.65	5.67	5.53	5.52	5.43	5.35	5.60

Division of Crop and Livestock Estimates.

TABLE 448.—*Cattle, beef: Farm price per 100 pounds, 15th of month, United States, 1910–1924*

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Weighted average
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	4.64	4.65	4.64	4.48	4.45	4.58	4.57	4.66	4.67	4.59	4.43	4.28	4.55
1911	4.39	4.43	4.32	4.36	4.37	4.46	4.61	4.75	5.15	5.36	5.23	5.17	4.69
1912	5.37	5.35	5.36	5.22	5.33	5.40	5.55	5.88	6.08	6.01	6.02	5.98	5.60
1913	5.91	5.92	6.05	5.99	5.96	6.04	6.16	6.28	6.29	6.33	6.32	6.38	6.12
Av. 1910–1913	5.08	5.09	5.09	5.01	5.03	5.12	5.22	5.39	5.55	5.57	5.50	5.45	5.24
1914	6.47	6.38	6.23	6.02	6.01	5.99	5.93	5.92	5.96	6.13	6.20	6.07	6.12
1915	6.18	6.06	6.04	5.85	5.75	5.85	5.99	6.37	6.66	6.73	6.91	6.78	6.24
1916	6.51	6.55	6.37	6.44	6.56	6.86	7.36	7.91	8.57	8.70	8.65	8.30	7.31
1917	8.17	8.40	8.35	8.21	8.24	8.33	8.55	8.85	9.73	10.38	10.40	10.07	8.92
1918	9.71	9.63	9.33	9.14	9.28	9.65	10.02	10.34	10.81	10.84	10.20	9.96	9.85
1919	9.82	9.02	8.65	8.65	8.63	8.99	8.98	9.08	9.20	8.97	9.32	8.93	9.00
1920	8.56	8.29	7.77	7.15	6.36	6.32	6.02	6.36	6.08	5.98	5.65	5.40	6.76
Av. 1914–1920	7.92	7.76	7.53	7.35	7.26	7.43	7.55	7.83	8.14	8.25	8.19	7.93	7.76
1921	5.39	4.98	4.81	4.69	4.62	4.75	5.07	5.46	5.53	5.70	5.84	5.76	5.18
1922	5.51	5.44	5.48	5.29	5.28	5.51	5.55	5.62	5.78	5.77	5.82	5.72	5.55
1923	5.60	5.70	5.48	5.23	5.26	5.38	5.47	5.63	5.82	5.94	5.79	5.65	5.57
1924	5.67	5.53	5.52	5.43	5.35								

Division of Crop and Livestock Estimates.

TABLE 449.—*Calves, veal: Farm price per 100 pounds, 15th of month, United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	6.41	6.28	6.59	6.54	6.30	6.57	6.37	6.29	6.43	6.41	6.39	6.38	6.42
1911	6.50	6.38	6.48	5.96	5.68	5.72	5.74	5.93	6.11	6.15	6.10	5.98	6.04
1912	6.06	6.07	6.11	6.22	6.23	6.33	6.33	6.62	6.83	6.90	6.77	6.88	6.45
1913	7.06	7.23	7.49	7.38	7.17	7.53	7.46	7.53	7.73	7.72	7.70	7.74	7.48
Av. 1910–1913	6.51	6.49	6.67	6.52	6.34	6.54	6.48	6.59	6.78	6.80	6.74	6.74	6.60
1914	7.89	7.90	7.92	7.68	7.59	7.69	7.80	8.08	8.06	7.97	7.78	7.61	7.83
1915	7.66	7.62	7.50	7.31	7.35	7.53	7.87	7.75	7.80	7.91	7.69	7.61	7.63
1916	7.67	7.87	8.11	8.00	8.08	8.39	8.54	8.59	8.77	8.59	8.60	8.79	8.35
1917	9.15	9.88	9.94	10.49	10.48	10.60	10.77	10.56	11.08	11.10	10.66	10.98	10.51
1918	11.16	11.17	11.33	11.71	11.62	11.88	12.33	12.22	12.57	12.35	11.94	12.31	11.91
1919	12.39	12.18	12.65	12.78	12.11	12.40	13.38	13.43	13.59	12.87	12.65	12.67	12.76
1920	12.89	13.12	12.98	12.72	11.60	11.68	11.44	11.64	11.88	11.64	10.77	9.27	11.80
Av. 1914–1920	9.83	9.96	10.06	10.10	9.85	10.02	10.30	10.32	10.51	10.35	10.01	9.89	10.11
1921	9.34	9.08	9.05	7.73	7.55	7.43	7.37	7.31	7.67	7.61	7.20	7.14	7.81
1922	7.23	7.84	7.85	7.26	7.28	7.67	7.49	7.67	8.10	8.17	7.92	7.78	7.68
1923	8.05	8.37	8.20	7.78	7.69	7.66	8.00	8.00	8.34	8.37	7.85	7.75	7.99
1924	8.36	8.51	8.43	8.33	8.14	7.91	7.88	7.94	8.09	8.22	7.89	7.84	8.12

Division of Crop and Livestock Estimates.

TABLE 450.—*Calves, veal: Farm price per 100 pounds 15th of month, by States, 1924*

State	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average
Maine	$10.50	$11.30	$10.40	$10.90	$10.00	$9.70	$10.00	$9.80	$9.50	$10.00	$9.80	$9.60	$10.12
New Hampshire	10.00	11.00	11.00	10.00	9.70	9.60	9.40	10.20	10.80	10.50	------	10.20	10.22
Vermont	9.80	9.40	9.20	8.80	8.50	8.20	8.50	9.40	9.00	9.50	9.10	9.20	9.05
Massachusetts	10.50	11.30	11.50	11.20	11.50	11.00	10.60	10.60	10.30	10.80	10.30	10.50	10.84
Rhode Island	12.50	12.00	12.00	11.60	12.00	11.50	11.20	12.00	11.80	11.90	11.60	12.00	11.84
Connecticut	11.50	11.50	11.80	11.70	11.70	11.80	12.00	11.70	12.00	11.70	11.60	11.80	11.73
New York	11.50	11.60	11.30	11.00	10.50	10.00	9.90	10.30	10.50	11.00	10.60	11.40	10.80
New Jersey	12.00	12.50	12.00	11.80	12.00	10.50	12.00	12.00	12.80	13.00	12.70	12.40	12.22
Pennsylvania	10.80	11.00	11.10	10.60	10.20	10.30	9.90	10.40	10.60	10.50	10.60	10.80	10.57
Delaware	13.50	12.70	13.00	12.50	13.00	12.90	13.00	12.40	12.50	13.00	------	------	12.85
Maryland	10.50	11.50	11.10	10.50	10.10	9.80	9.90	9.20	9.80	10.20	10.80	10.50	10.32
Virginia	9.30	9.40	9.50	10.00	9.50	9.00	8.50	8.30	8.40	8.60	8.80	9.30	9.05
West Virginia	8.70	9.30	9.30	9.10	9.50	9.10	9.00	8.00	8.30	8.00	8.40	8.00	8.72
North Carolina	6.80	7.00	6.50	7.00	7.50	7.00	6.90	8.20	8.00	7.80	7.70	7.90	7.36
South Carolina	6.30	6.20	6.30	6.00	5.80	5.60	5.40	5.40	5.90	5.90	5.90	6.50	5.93
Georgia	5.40	6.00	5.50	5.30	5.20	5.50	5.60	5.40	5.30	5.10	4.80	5.50	5.38
Florida	8.50	9.30	9.50	9.00	9.00	8.50	8.40	7.00	6.90	7.00	4.50	6.00	7.80
Ohio	10.70	10.80	10.60	10.40	9.50	9.30	9.50	9.50	9.80	10.20	9.80	9.70	9.98
Indiana	10.10	10.30	10.00	9.80	9.50	9.00	8.50	8.60	8.80	9.20	9.10	8.90	9.32
Illinois	9.30	9.20	9.30	9.00	9.50	9.00	8.60	8.50	8.80	9.20	8.60	8.50	8.96
Michigan	11.00	11.00	10.50	10.20	10.00	9.70	9.20	9.40	10.00	10.60	10.00	9.60	10.10
Wisconsin	8.50	8.40	8.20	8.00	7.80	7.60	8.00	8.30	8.50	9.00	8.00	7.70	8.17
Minnesota	7.60	7.60	7.60	7.60	7.30	7.20	7.30	8.00	8.00	7.80	7.00	6.70	7.48
Iowa	8.60	8.80	8.40	8.50	8.20	8.00	8.20	8.40	9.00	9.00	8.30	8.00	8.45
Missouri	7.50	8.50	8.00	8.00	7.40	7.30	7.30	7.40	7.60	8.20	7.50	7.20	7.66
North Dakota	6.90	7.00	7.20	7.30	7.00	6.80	6.90	6.50	6.80	6.60	6.40	6.70	6.84
South Dakota	7.50	7.70	8.10	8.50	8.00	8.00	7.90	7.40	7.60	7.60	7.10	7.20	7.72
Nebraska	7.90	7.90	8.10	8.50	8.70	8.40	8.60	8.50	8.20	8.00	7.40	7.40	8.13
Kansas	6.90	7.50	7.50	7.30	7.50	7.20	6.90	7.30	7.00	6.50	7.00	6.90	7.12
Kentucky	8.30	8.20	8.00	7.80	7.50	7.10	7.30	7.20	7.20	7.20	8.00	7.50	7.61
Tennessee	5.80	5.90	5.90	6.10	5.80	5.80	5.90	5.90	5.80	5.60	5.60	5.50	5.80
Alabama	4.40	4.80	4.60	5.00	4.80	4.50	4.70	4.50	4.30	4.40	4.80	4.70	4.62
Mississippi	4.90	4.60	4.60	4.70	4.50	4.40	4.80	4.40	4.50	4.00	4.50	4.20	4.51
Louisiana	5.20	5.80	5.60	5.70	6.00	5.90	5.80	4.80	5.90	5.60	5.50	5.20	5.58
Texas	5.30	5.30	5.70	5.60	5.80	5.80	5.60	5.20	5.30	5.20	5.30	4.80	5.41
Oklahoma	5.80	5.80	5.90	5.40	5.60	5.70	5.40	5.20	5.50	5.50	5.30	5.50	5.55
Arkansas	4.70	5.10	5.10	5.30	5.50	5.20	5.50	4.70	4.50	5.20	5.00	4.20	5.00
Montana	7.70	7.70	8.20	8.30	8.00	8.50	8.00	8.00	8.30	8.00	7.90	8.20	8.07
Wyoming	8.20	8.90	8.00	8.00	8.00	8.50	8.00	8.10	7.80	7.60	8.00	8.30	8.12
Colorado	7.90	7.80	8.20	8.50	8.30	8.30	8.40	7.80	7.80	7.30	7.00	7.30	7.88
New Mexico	6.00	6.50	7.00	7.20	------	------	------	6.50	------	------	------	------	6.64
Arizona	7.50	7.30	7.90	7.50	7.20	7.50	7.00	6.00	6.30	6.70	6.00	5.90	6.90
Utah	8.60	8.80	8.70	8.90	8.60	8.90	8.80	7.90	7.60	7.60	8.50	8.00	8.41
Nevada	8.00	8.00	9.00	8.80	------	------	6.60	6.60	6.70	6.50	6.00	6.10	7.23
Idaho	7.10	6.80	7.50	7.30	7.30	7.00	7.50	7.10	7.00	7.00	6.60	6.80	7.08
Washington	8.50	8.90	9.10	9.00	9.00	8.50	8.00	7.40	7.20	------	8.00	7.20	8.25
Oregon	9.00	9.80	10.20	9.80	9.70	9.40	9.00	8.30	8.50	------	7.20	7.00	8.90
California	8.50	8.40	8.80	8.50	8.20	7.50	7.40	7.50	7.80	7.60	7.50	7.50	7.93
United States	8.36	8.51	8.43	8.33	8.14	7.91	7.88	7.94	8.09	8.22	7.89	7.84	8.13

Division of Crop and Livestock Estimates.

TABLE 451.—*Cattle and calves: Monthly average price per 100 pounds, Chicago, 1900–1924*

GOOD BEEF STEERS[1]

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average[2]
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1900	5.20	4.85	4.85	4.95	5.10	5.20	5.25	5.40	5.35	5.25	5.15	5.00	5.13
1901	4.85	4.80	4.95	5.15	5.30	5.55	5.10	5.10	5.50	5.45	5.50	5.65	5.24
1902	5.70	5.55	6.05	6.45	6.60	6.95	7.10	7.05	6.65	6.20	5.20	4.80	6.19
1903	4.80	4.60	4.75	4.90	4.80	4.90	4.95	5.00	4.95	4.70	4.45	4.55	4.78
1904	4.65	4.50	4.60	4.65	4.85	5.60	5.40	5.10	5.10	5.20	4.95	4.40	4.92
1905	4.65	4.75	5.00	5.75	5.45	5.25	4.95	5.00	5.05	4.80	4.65	4.75	5.00
1906	5.00	5.05	5.15	5.05	5.20	5.20	5.40	5.45	5.50	5.60	5.60	5.50	5.31
1907	5.60	5.55	5.55	5.65	5.65	6.20	6.40	6.25	6.10	6.10	5.40	5.10	5.80
1908	5.30	5.40	6.00	6.50	6.60	6.90	6.45	6.00	5.95	5.70	5.90	6.00	6.06
1909	6.00	5.85	6.10	6.10	6.45	6.45	6.45	6.70	6.75	6.60	6.45	6.20	6.34
1910	6.20	6.35	7.35	7.55	7.50	7.50	7.10	6.85	6.80	6.60	6.20	6.00	6.83
1911	6.15	6.15	6.20	6.10	5.95	6.05	6.30	6.95	6.80	6.75	6.70	6.65	6.40
1912	6.85	6.60	7.20	7.65	7.95	8.00	7.90	8.50	9.15	7.90	8.10	7.85	7.80
1913	7.80	8.25	8.30	8.15	8.00	8.15	8.25	8.30	8.50	8.40	8.25	8.20	8.21
Av. 1909–1913	6.60	6.64	7.03	7.11	7.17	7.23	7.20	7.46	7.60	7.25	7.14	6.98	7.12
1914	8.45	8.30	8.35	8.50	8.40	8.60	8.80	9.10	9.35	9.05	8.60	8.35	8.65
1915	8.05	7.50	7.65	7.70	8.35	8.80	9.20	9.05	8.95	8.80	8.70	8.35	8.43
1916	8.35	8.35	8.75	9.10	9.50	9.85	9.25	9.45	9.40	9.75	10.15	10.00	9.33
1917	10.15	10.50	11.25	11.75	11.90	12.15	12.35	12.70	13.10	11.70	11.10	11.40	11.67
1918	12.10	12.00	12.60	14.70	15.40	15.85	16.05	15.75	16.00	14.80	15.05	14.90	14.60
1919	15.80	15.95	16.05	15.85	15.00	13.55	15.60	16.45	15.50	16.15	15.10	14.35	15.45
1920	13.95	13.05	13.10	12.30	12.25	14.95	14.68	14.30	14.95	14.61	11.65	10.08	13.32
Av. 1914–1920	10.98	10.81	11.11	11.41	11.54	11.96	12.28	12.40	12.46	12.12	11.48	11.06	11.64
1921	8.94	8.57	9.41	8.22	8.33	7.94	8.09	8.32	7.67	7.59	7.52	7.31	8.16
1922	7.37	7.60	8.01	7.94	8.20	8.83	9.48	9.62	9.98	10.53	9.42	8.89	8.82
1923	9.17	8.86	8.83	9.01	9.41	9.94	10.05	10.48	10.12	9.90	9.36	8.92	9.50
1924	9.14	9.33	9.59	9.83	9.83	9.53	9.91	9.54	9.47	9.57	9.18	8.98	9.49

CALVES

1901	5.85	5.95	5.75	5.15	5.25	6.00	5.75	5.25	5.85	5.90	5.60	5.00	5.61
1902	6.30	6.75	6.00	5.50	5.75	5.75	6.50	6.75	7.00	6.80	6.60	6.60	6.36
1903	7.10	7.15	6.50	5.75	5.60	6.20	5.65	6.40	6.65	6.40	5.75	4.95	6.18
1904	5.85	6.35	5.65	4.60	4.60	4.90	5.75	5.60	5.90	6.10	6.00	6.00	5.61
1905	6.15	6.50	5.70	5.10	5.25	5.85	5.75	5.90	6.00	6.00	6.00	6.60	5.90
1906	7.00	6.40	6.25	5.60	5.65	5.80	5.60	6.00	6.75	6.50	6.25	7.00	6.23
1907	7.00	6.50	6.60	6.00	6.35	6.15	6.40	6.35	6.50	6.00	6.25	6.00	6.34
1908	6.75	6.60	6.20	5.50	5.60	5.80	6.00	6.75	7.60	7.20	6.50	7.40	6.49
1909	7.60	6.85	7.00	6.30	6.35	6.50	7.00	7.50	7.60	8.10	7.40	8.25	7.20
1910	8.60	8.65	9.00	7.85	7.35	7.85	7.60	7.75	8.50	8.65	8.75	8.50	8.25
1911	8.75	8.40	7.40	6.60	7.25	7.60	7.40	8.00	8.75	8.60	8.35	7.85	7.91
1912	8.75	7.50	8.00	7.40	7.75	8.00	8.75	9.75	11.25	10.00	9.85	10.25	8.94
1913	9.75	9.85	10.50	8.50	9.25	9.75	10.40	11.50	11.25	10.50	10.35	10.75	10.20
Av. 1909–1913	8.69	8.25	8.38	7.33	7.59	7.94	8.23	8.90	9.47	9.17	8.94	9.12	8.50
1914	11.00	10.75	9.00	8.85	9.50	9.40	10.60	11.00	11.40	10.65	10.35	8.65	10.10
1915	9.85	10.35	10.00	8.40	9.15	9.60	10.25	11.50	11.25	10.85	10.15	9.65	10.08
1916	10.15	10.65	9.65	8.75	10.40	11.25	11.40	12.00	12.40	11.50	11.85	11.75	10.98
1917	13.40	12.65	13.40	12.50	13.25	13.40	13.00	15.[illegible]	15.00	14.85	13.50	15.25	13.78
1918	15.35	14.15	15.25	14.50	13.50	16.02	16.67	17.28	18.63	16.83	16.86	16.01	15.92
1919	15.62	15.75	15.01	14.31	14.66	16.37	17.88	19.62	20.52	18.05	17.60	16.56	16.83
1920	17.74	16.73	16.73	14.22	12.12	13.68	13.98	15.08	16.39	14.18	13.74	10.39	14.58
Av. 1914–1920	13.30	13.00	12.72	11.65	11.80	12.82	13.40	14.52	15.08	13.84	13.44	12.61	13.18
1921	11.49	11.02	10.33	8.12	8.66	8.72	9.73	9.39	10.71	8.68	7.70	7.81	9.36
1922	8.36	9.16	8.26	6.97	8.46	8.89	8.90	10.88	11.92	9.65	8.91	9.42	9.15
1923	10.08	10.63	9.32	8.68	9.51	9.31	9.60	10.01	9.98	9.39	7.82	8.69	9.42
1924	10.16	9.82	9.24	8.57	8.64	8.00	8.57	9.62	9.72	9.24	8.28	9.04	9.08

Division of Statistical and Historical Research.

Figures prior to July, 1920, for good beef steers, and prior to June, 1918, for calves, compiled from Chicago Drovers Journal Yearbook; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Bulk of sales, 1,100 lbs. up.

[2] Simple average of monthly average prices.

TABLE 452.—*Cattle, choice steers for chilled beef: Average price per 100 pounds by months, Buenos Aires, 1909–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1909	$3.00	$3.03	$3.07	$3.00	$3.07	$3.20	$3.41	$3.64	$3.95	$4.38	$4.21	$3.81	$3.48
1910	3.34	3.30	3.61	3.61	3.54	3.64	3.71	3.98	4.28	4.62	4.32	3.47	3.78
1911	3.57	3.61	3.84	3.81	3.84	3.95	4.15	4.18	4.21	4.18	4.01	3.47	3.90
1912	3.58	3.78	3.62	3.73	3.72	3.71	3.71	4.05	4.15	4.15	4.15	4.08	3.87
1913	4.22	4.19	4.44	4.93	5.26	5.02	5.10	5.12	5.12	5.22	5.35	5.18	4.93
Av. 1909–1913	3.54	3.58	3.72	3.82	3.89	3.90	4.02	4.19	4.34	4.51	4.41	4.00	3.99
1914	4.96	5.27	5.47	5.69	5.47	5.67	5.73	6.01	6.21	6.29	5.86	5.80	5.70
1915	5.72	5.61	5.56	5.65	5.44	5.54	5.97	6.71	7.45	7.52	7.11	6.59	6.24
1916	6.93	7.15	6.91	6.93	6.84	6.31	6.42	6.54	6.84	7.16	6.95	6.74	6.81
1917	6.69	6.56	6.49	6.31	6.46	6.34	6.37	6.40	6.16	6.54	6.03	5.55	6.32
1918	5.39	5.83	5.88	6.06	6.04	5.98	6.21	7.49	8.41	8.49	8.03	8.06	6.82
1919	7.96	7.75	7.74	7.85	8.03	7.21	8.60	8.92	9.63	9.20	8.25	7.72	8.24
1920	7.96	7.97	8.20	8.06	7.88	7.56	7.47	7.42	7.15	7.27	6.28	5.98	7.43
Av. 1914–1920	6.52	6.59	6.61	6.65	6.59	6.37	6.68	7.07	7.41	7.50	6.93	6.63	6.80
1921	5.93	5.95	5.71	5.41	4.40	4.10	3.69	4.12	4.74	4.96	4.90	4.39	4.86
1922	4.68	4.53	3.97	3.30	3.31	3.90	4.41	4.50	4.24	5.84	3.30	3.25	3.94
1923	3.08	3.25	3.82	4.06	3.83	3.56	3.62	3.36	3.82	4.10	3.48	3.23	3.60
1924	3.19	3.40	3.61	3.50	3.56	3.76	4.51	4.93	5.15	5.95	5.62	5.42	4.38

Division of Statistical and Historical Research. Calculated from quotations in the Review of the River Plate. Prices prior to May, 1924, originally quoted on basis of price per head supplemented from 1916 by price per pound of dressed carcass weight. Calculations assume average dressed weight of 730 pounds or live weight of 1,250 pounds. Live-weight quotations per pound from May, 1924. Converted from Argentine currency at average monthly rate of exchange.

TABLE 453.—*Cattle and calves: Trend of average farm prices and average market prices at Chicago, 1910–1924*

Year	Farm price		Average market price at Chicago		Price relatives, 1913=100			
					Farm price		Market price	
	Beef cattle, weighted average	Veal calves, simple average	Beef cattle, simple average	Veal calves, simple average	Beef cattle	Veal calves	Beef cattle	Veal calves
	Dollars	*Dollars*	*Dollars*	*Dollars*				
1910	4.76	6.41	6.83	8.25	80.5	85.7	83.2	81.0
1911	4.45	6.06	6.40	7.91	75.3	81.0	78.0	77.6
1912	5.15	6.45	7.80	8.94	87.1	86.2	95.0	87.7
1913	5.91	7.48	8.21	10.19	100.0	100.0	100.0	100.0
1914	6.24	7.83	8.65	10.10	105.6	104.7	105.4	99.1
1915	6.00	7.63	8.43	10.08	101.5	102.0	102.7	98.9
1916	6.47	8.33	9.33	10.98	109.5	111.4	113.6	107.8
1917	8.16	10.47	11.67	13.78	138.1	140.0	142.1	135.2
1918	9.44	11.88	14.60	15.92	159.7	158.8	177.8	156.2
1919	9.56	12.74	15.45	16.85	161.8	170.3	188.2	165.4
1920	8.32	11.81	13.32	14.58	140.8	157.9	162.2	143.1
1921	5.46	7.87	8.16	9.36	92.4	105.2	99.4	91.9
1922	5.48	7.69	8.82	9.15	92.7	102.8	107.4	89.8
1923	5.57	7.99	9.50	9.42	94.2	106.8	115.7	92.4
1924	5.59	8.13	9.49	9.08	94.6	108.7	115.6	89.1

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices compiled from data of the reporting service of the Livestock, Meats and Wool Division.

TABLE 454.—*Cattle and calves: Monthly average price per 100 pounds, 1924*

CHICAGO

Classification	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter cattle:							
Beef steers (1,100 pounds up)—							
Choice and prime	$11.66	$11.62	$11.84	$12.08	$11.65	$10.88	$10.94
Good	10.45	10.44	10.82	11.13	10.76	10.11	10.14
Medium	9.11	8.88	9.22	9.47	9.39	8.93	8.80
Common	7.38	7.08	7.50	7.75	7.94	7.49	6.97
Beef steers (1,100 pounds down)—							
Choice and prime	11.82	11.64	11.74	11.79	11.35	10.57	10.61
Good	10.65	10.41	10.67	10.88	10.55	9.85	10.02
Medium	9.21	8.82	9.05	9.25	9.19	8.62	8.65
Common	6.94	6.66	6.97	7.18	7.40	6.87	6.63
Canner and cutter	4.51	4.50	4.79	5.06	5.20	4.86	4.62
Light yearling steers and heifers (800 pounds down), good and prime	10.91	10.76	10.87	10.81	10.41	9.28	9.49
Heifers—							
850 pounds up (good and choice)	9.23	8.83	9.08	9.29	9.10	8.36	8.73
All weights (common and medium)	6.14	5.99	6.45	6.73	6.67	6.18	6.31
Cows—							
Good and choice	6.67	6.40	6.74	7.48	7.72	6.81	6.85
Common and medium	4.64	4.66	4.98	5.15	5.40	4.70	4.63
Canner and cutter	3.07	3.16	3.39	3.25	3.29	3.20	3.04
Bulls—							
Good and choice [1]	6.03	5.83	5.77	6.03	6.07	5.96	5.93
Canner to medium (canner and bologna)	4.56	4.46	4.43	4.38	4.37	4.32	4.19
Slaughter calves:							
Medium to choice—							
190 pounds down	11.08	10.54	9.75	9.03	9.30	8.74	9.48
190–260 pounds	9.23	9.10	8.74	8.11	7.98	7.25	7.66
260 pounds up	7.19	7.00	7.03	6.78	6.64	5.97	5.78
Cull and common—							
190 pounds down	7.31	7.12	6.41	5.83	6.21	6.24	6.80
190 pounds up	6.16	5.80	5.72	5.30	5.39	5.40	5.57
Feeder and stocker cattle and calves:							
Steers—							
Common to choice (750 pounds up)	6.72	6.71	7.17	7.51	8.26	7.78	7.30
Common to choice (750 pounds down)	6.14	6.20	6.61	6.94	7.32	6.76	6.36
Inferior (all weights)	3.78	3.84	4.34	4.79	5.04	4.87	4.57
Cows and heifers (common to choice)	4.18	4.19	4.45	4.61	4.57	4.40	4.33

Classification	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter cattle:						
Beef steers (1,100 pounds up)—						
Choice and prime	$10.75	$10.88	$11.21	$11.57	$12.28	$11.45
Good	9.92	9.92	10.20	10.29	11.12	10.44
Medium	8.30	8.29	8.69	8.60	9.11	8.90
Common	6.38	6.20	6.18	5.90	6.34	6.93
Beef steers (1,100 pounds down)—						
Choice and prime	10.68	11.00	11.90	12.45	13.72	11.61
Good	9.90	9.94	10.70	11.06	12.02	10.55
Medium	8.20	8.22	8.74	8.60	9.11	8.80
Common	6.02	5.96	6.08	5.80	6.16	6.56
Canner and cutter	4.10	3.93	4.00	3.94	4.13	4.47
Light yearling steers and heifers (800 pounds down), good and prime	9.84	10.07	10.66	10.87	11.54	10.46
Heifers—						
850 pounds up (good and choice)	9.00	9.28	9.41	9.14	9.00	9.04
All weights (common and medium)	6.15	6.12	5.97	5.66	5.49	6.16
Cows—						
Good and choice	6.86	6.42	6.15	5.92	5.78	6.65
Common and medium	4.54	4.26	4.08	4.04	3.95	4.59
Canner and cutter	2.85	2.94	2.96	3.03	2.84	3.08
Bulls—						
Good and choice [1]	5.73	5.68	5.14	5.14	5.27	5.72
Canner to medium (canner and bologna)	3.73	3.80	3.67	3.64	3.77	4.11
Slaughter calves:						
Medium to choice—						
190 pounds down	10.63	10.72	10.10	9.02	9.97	9.86
190–260 pounds	8.62	8.72	8.39	7.54	8.10	8.29
260 pounds up	5.93	5.78	5.94	5.69	5.77	6.29
Cull and common—						
190 pounds down	7.18	7.22	7.48	6.58	6.86	6.77
190 pounds up	5.60	5.58	5.49	5.12	4.96	5.51
Feeder and stocker cattle and calves:						
Steers—						
Common to choice (750 pounds up)	6.74	6.66	6.50	6.25	6.11	6.98
Common to choice (750 pounds down)	5.99	6.26	6.28	6.00	5.83	6.39
Inferior (all weights)	3.98	4.09	4.22	3.92	3.81	4.27
Cows and heifers (common to choice)	4.10	4.24	4.26	4.01	3.78	4.26

[1] Beef yearlings excluded.

TABLE 454.—*Cattle and calves: Monthly average price per 100 pounds, 1924*—Con.

EAST ST. LOUIS

Classification	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter cattle:							
Beef steers (1,100 pounds up)—							
Choice and prime	$11.57	$11.44	$11.64	$11.90	$11.74	$10.78	$10.65
Good	10.45	10.40	10.67	10.88	10.75	10.02	10.00
Medium	8.71	8.76	9.05	9.27	9.21	8.56	8.26
Common	6.80	7.04	7.35	7.40	7.22	6.80	6.44
Beef steers (1,100 pounds down)—							
Choice and prime	11.67	11.50	11.65	11.73	11.50	10.56	10.29
Good	10.61	10.49	10.61	10.61	10.45	9.74	9.48
Medium	8.78	8.79	9.00	9.07	8.90	8.23	7.83
Common	6.35	6.55	6.86	6.94	6.85	6.22	5.85
Canner and cutter	4.12	4.25	4.48	4.73	4.74	4.42	4.28
Light yearling steers and heifers (800 pounds down), good and prime	10.37	10.18	10.07	9.81	9.69	9.16	9.09
Heifers—							
850 pounds up (good and choice)	8.00	7.71	8.02	8.12	7.95	7.28	7.14
All weights (common and medium)	5.24	5.00	5.15	5.27	5.50	5.41	5.04
Cows—							
Good and choice	6.13	6.17	6.52	6.85	7.07	6.42	6.05
Common and medium	4.49	4.59	4.88	5.12	5.27	4.68	4.47
Canner and cutter	2.91	2.92	3.22	3.22	3.20	2.98	2.79
Bulls—							
Good and choice [1]	5.74	5.84	5.77	6.00	6.16	6.10	5.75
Canner to medium (canner and bologna)	3.88	4.11	4.08	3.98	4.19	4.13	4.03
Slaughter calves:							
Medium to choice—							
190 pounds down	10.33	10.40	8.95	8.41	8.33	7.90	8.06
190–260 pounds	7.82	9.12	8.34	7.78	7.50	6.87	6.76
260 pounds up	6.04	6.49	6.51	6.86	6.61	6.27	5.60
Cull and common—							
190 pounds down	5.19	5.52	5.28	5.18	5.18	5.09	5.08
190 pounds up	3.33	4.00	4.00	4.00	4.00	3.89	3.59
Feeder and stocker cattle and calves:							
Steers—							
Common to choice (750 pounds up)	5.93	6.00	6.36	6.75	6.83	6.28	5.70
Common to choice (750 pounds down)	5.62	5.75	6.00	6.38	6.47	6.15	5.63
Inferior (all weights)	3.62	3.63	3.98	4.29	4.36	3.88	3.44
Cows and heifers (common to choice)	3.72	3.93	4.16	4.32	4.32	4.10	3.98

Classification	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter cattle:						
Beef steers (1,100 pounds up)-						
Choice and prime	$10.68	$10.64	$10.87	$10.91	$12.01	$11.24
Good	9.80	9.62	9.67	9.46	10.13	10.15
Medium	7.88	7.70	7.64	7.43	7.61	8.34
Common	5.69	5.48	5.40	5.42	5.48	6.38
Beef steers (1,100 pounds down)—						
Choice and prime	10.55	10.77	11.56	12.06	13.11	11.41
Good	9.58	9.80	10.42	10.54	11.19	10.29
Medium	7.54	7.66	7.90	7.99	8.19	8.32
Common	5.33	5.19	5.11	5.22	5.28	5.98
Canner and cutter	4.08	3.94	3.91	3.82	3.74	4.21
Light yearling steers and heifers (800 pounds down), good and prime	9.67	9.76	9.97	9.98	10.48	9.85
Heifers—						
850 pounds up (good and choice)	7.01	7.32	7.25	6.99	7.38	7.51
All weights (common and medium)	4.54	4.68	4.62	4.56	4.82	4.99
Cows—						
Good and choice	5.94	5.68	5.44	5.16	5.42	6.07
Common and medium	4.17	4.12	4.04	3.96	4.10	4.49
Canner and cutter	2.69	2.80	2.81	2.86	2.82	2.94
Bulls—						
Good and choice [1]	5.62	5.50	5.11	4.96	4.92	5.62
Canner to medium (canner and bologna)	3.68	3.43	3.30	3.34	3.26	3.79
Slaughter calves:						
Medium to choice—						
190 pounds down	8.83	9.10	8.74	8.03	8.99	8.84
190–260 pounds	7.54	8.22	8.03	7.32	8.28	7.80
260 pounds up	5.04	5.02	4.75	4.91	5.25	5.78
Cull and common—						
190 pounds down	5.16	5.25	5.13	4.98	5.00	5.17
190 pounds up	3.04	2.88	2.88	2.94	2.94	3.46
Feeder and stocker cattle and calves:						
Steers—						
Common to choice (750 pounds up)	5.55	5.75	5.46	5.49	5.62	5.98
Common to choice (750 pounds down)	5.50	5.40	5.02	5.18	5.38	5.71
Inferior (all weights)	3.38	3.54	3.35	3.44	3.59	3.71
Cows and heifers (common to choice)	4.06	4.10	3.79	3.72	3.60	3.98

[1] Beef yearlings excluded.

TABLE 454.—*Cattle and calves: Monthly average price per 100 pounds, 1924*—Con.

FORT WORTH

Classification	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter cattle:							
Beef steers (1,100 pounds up)—							
Medium	$7.23	$7.31	$7.25	$7.54	$7.35	$7.27	$6.90
Common	5.33	5.40	5.38	5.68	5.68	5.72	5.42
Beef steers (1,100 pounds down)—							
Good	8.65	8.49	8.25	8.55	8.47	8.17	7.79
Medium	7.19	7.02	6.88	7.19	7.16	6.82	6.49
Common	5.24	5.16	5.13	5.39	5.54	5.28	4.95
Canner and cutter	3.25	3.25	3.25	3.38	3.60	3.52	3.36
Light yearling steers and heifers (800 pounds down) good and prime	8.92	8.65	8.50	8.57	8.28	7.88	7.63
Heifers—							
850 pounds up (good and choice)	6.84	6.56	6.98	6.94	6.52	6.24	6.20
All weights (common and medium)	4.02	4.02	4.54	4.45	4.13	3.95	3.99
Cows—							
Good and choice	4.77	4.92	5.44	5.74	5.58	5.06	4.85
Common and medium	3.47	3.63	3.86	4.08	3.98	3.54	3.45
Canner and cutter	2.35	2.47	2.46	2.42	2.36	2.13	2.20
Bulls—							
Good and choice [1]	4.19	4.22	4.25	4.21	4.07	4.01	3.95
Canner to medium (canner and bologna)	2.77	2.76	2.88	2.84	2.70	2.64	2.69
Slaughter calves:							
Medium to choice—							
190 pounds down	6.56	6.80	7.33	7.38	7.29	6.63	6.21
190–260 pounds	6.21	6.52	7.07	6.80	6.58	5.91	5.69
260 pounds up	5.88	6.28	6.70	6.30	6.08	5.53	5.27
Cull and common—							
190 pounds down	3.74	4.00	4.22	4.14	4.33	3.84	3.68
190 pounds up	3.45	3.72	3.97	3.76	3.69	3.24	3.13
Feeder and stocker cattle and calves:							
Steers—							
Common to choice (750 pounds up)	5.50	5.50	5.80	5.88	5.90	5.89	5.62
Common to choice (750 pounds down)	5.25	5.25	5.55	5.62	5.55	5.34	4.93
Inferior (all weights)	3.12	3.12	3.23	3.25	3.25	3.19	3.06
Cows and heifers (common to choice)	2.92	2.94	3.02	3.45	3.70	3.52	3.26
Calves (common to choice)	4.71	4.80	5.23	5.25	5.07	4.53	4.17

Classification	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter cattle:						
Beef steers (1,100 pounds up)—						
Medium	$6.75	$6.78	$6.52	$6.50	$6.56	$7.00
Common	5.12	4.91	4.64	4.62	4.76	5.22
Beef steers (1,100 pounds down)—						
Good	7.75	7.99	8.00	8.00	8.11	8.18
Medium	6.25	6.40	6.26	6.25	6.41	6.69
Common	4.62	4.44	4.26	4.25	4.33	4.88
Canner and cutter	3.24	3.03	3.00	3.00	3.00	3.24
Light yearling steers and heifers (800 pounds down), good and prime	7.62	7.78	8.29	8.25	8.76	8.26
Heifers—						
850 pounds up (good and choice)	6.25	6.51	6.52	6.38	6.69	6.55
All weights (common and medium)	3.98	3.92	3.89	3.74	3.99	4.05
Cows—						
Good and choice	4.60	4.50	4.26	4.16	4.20	4.84
Common and medium	3.12	3.12	2.98	2.98	2.99	3.43
Canner and cutter	2.01	2.19	2.12	2.20	2.23	2.26
Bulls—						
Good and choice [1]	3.88	3.88	3.76	3.76	3.64	3.98
Canner to medium (canner and bologna)	2.63	2.62	2.56	2.50	2.46	2.67
Slaughter calves:						
Medium to choice—						
190 pounds down	6.15	6.78	6.71	6.28	6.64	6.73
190–260 pounds	5.43	5.91	5.50	5.06	5.78	6.04
260 pounds up	4.83	4.77	4.54	4.33	5.17	5.47
Cull and common—						
190 pounds down	3.72	4.22	4.13	3.86	4.16	4.00
190 pounds up	2.91	3.09	2.94	2.81	3.15	3.32
Feeder and stocker cattle and calves:						
Steers—						
Common to choice (750 pounds up)	5.50	5.50	------	------	4.91	5.60
Common to choice (750 pounds down)	4.75	4.75	4.51	4.62	4.82	5.08
Inferior (all weights)	3.00	3.00	2.76	2.75	2.87	3.05
Cows and heifers (common to choice)	3.12	3.14	------	------	3.27	3.23
Calves (common to choice)	4.00	3.98	------	------	4.47	4.62

[1] Beef yearlings excluded.

TABLE 454.—*Cattle and calves: Monthly average price per 100 pounds, 1924*—Con.

KANSAS CITY

Classification	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter cattle:							
Beef steers (1,100 pounds up)—							
Choice and prime	$11.24	$10.99	$11.04	$11.33	$11.22	$10.60	$10.46
Good	9.72	9.49	9.88	10.30	10.08	9.67	9.54
Medium	8.03	8.00	8.42	8.85	8.65	8.42	8.12
Common	6.19	6.11	6.60	7.00	7.00	6.88	6.40
Beef steers (1,100 pounds down)—							
Choice and prime	11.36	11.10	11.00	11.14	10.90	10.27	10.28
Good	9.93	9.60	9.70	9.97	9.66	9.28	9.32
Medium	8.22	8.11	8.25	8.53	8.38	8.14	7.69
Common	6.12	6.11	6.38	6.75	6.75	6.56	5.78
Canner and cutter	4.00	4.00	4.26	4.62	4.62	4.52	4.25
Light yearling steers and heifers (800 pounds down), good and prime	9.88	9.76	9.62	9.57	9.37	9.03	9.10
Heifers—							
850 pounds up (good and choice)	8.03	7.80	7.99	7.91	7.88	7.70	7.66
All weights (common and medium)	4.89	4.62	5.04	5.12	5.12	5.08	4.99
Cows—							
Good and choice	5.92	5.75	6.18	6.74	6.94	6.51	6.42
Common and medium	4.03	4.00	4.41	4.88	4.88	4.53	4.23
Canner and cutter	2.77	2.85	3.08	3.12	3.04	2.88	2.64
Bulls—							
Good and choice [1]	5.40	5.35	5.38	5.34	5.38	5.34	5.27
Canner to medium (canner and bologna)	3.73	3.68	3.87	3.84	3.92	3.88	3.85
Slaughter calves:							
Medium to choice—							
190 pounds down	9.19	9.05	8.38	8.52	8.68	7.71	7.44
190–260 pounds	7.96	7.78	7.13	7.20	7.48	6.71	6.40
260 pounds up	6.17	6.12	6.24	6.50	6.70	5.95	5.51
Cull and common—							
190 pounds down	5.07	5.09	5.00	5.12	5.17	4.80	4.67
190 pounds up	4.00	4.00	4.12	4.12	4.15	3.80	3.64
Feeder and stocker cattle and calves:							
Steers							
Common to choice (750 pounds up)	6.54	6.64	6.84	6.97	7.24	6.99	6.80
Common to choice (750 pounds down)	6.00	6.06	6.28	6.33	6.33	6.19	6.06
Inferior (all weights)	3.75	3.75	3.75	3.75	3.75	3.75	3.75
Cows and heifers (common to choice)	3.97	3.96	4.12	4.26	4.49	4.33	4.12
Calves (common to choice)	5.70	5.62	5.87	5.77	5.75	5.68	5.22

Classification	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter cattle:						
Beef steers (1,100 pounds up)—						
Choice and prime	$10.54	$10.52	$10.82	$10.76	$11.30	$10.90
Good	9.57	9.41	9.69	9.51	9.79	9.72
Medium	7.96	7.47	7.63	7.57	7.82	8.08
Common	5.81	5.50	5.17	5.07	5.24	6.08
Beef steers (1,100 pounds down)—						
Choice and prime	10.61	10.64	11.25	11.58	12.47	11.05
Good	9.54	9.47	9.96	10.29	10.63	9.78
Medium	7.54	7.20	7.44	7.80	8.06	7.95
Common	5.24	4.90	4.90	5.08	5.23	5.82
Canner and cutter	3.86	3.75	3.73	3.70	3.66	4.08
Light yearling steers and heifers (800 pounds down), good and prime	9.51	9.68	9.94	10.21	10.64	9.69
Heifers—						
850 pounds up (good and choice)	8.00	8.16	8.42	8.64	8.45	8.05
All weights (common and medium)	4.99	5.00	5.09	5.14	5.00	5.01
Cows—						
Good and choice	6.24	6.22	5.89	5.79	5.59	6.18
Common and medium	3.93	3.98	3.90	4.05	3.88	4.22
Canner and cutter	2.48	2.72	2.63	2.80	2.65	2.80
Bulls—						
Good and choice [1]	5.06	4.98	4.39	4.34	4.31	5.04
Canner to medium (canner and bologna)	3.61	3.37	3.09	3.21	3.14	3.60
Slaughter calves:						
Medium to choice—						
190 pounds down	7.94	8.59	8.36	7.74	8.25	8.32
190–260 pounds	6.84	7.37	6.94	6.53	7.15	7.12
260 pounds up	5.38	4.69	4.39	4.55	4.92	5.59
Cull and common—						
190 pounds down	4.77	5.26	5.15	4.88	5.15	5.01
190 pounds up	3.50	3.38	3.38	3.27	3.42	3.73
Feeder and stocker cattle and calves:						
Steers—						
Common to choice (750 pounds up)	6.79	6.58	6.27	6.25	6.14	6.67
Common to choice (750 pounds down)	6.03	5.97	5.90	5.94	5.92	6.08
Inferior (all weights)	3.75	3.73	3.50	3.50	3.50	3.69
Cows and heifers (common to choice)	4.11	4.27	4.09	4.07	3.93	4.14
Calves (common to choice)	5.26	5.41	5.50	5.51	5.50	5.57

[1] Beef yearlings excluded.

TABLE 454.—*Cattle and calves: Monthly average price per 100 pounds, 1924*—Con.

OMAHA

Classification	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter cattle:							
Beef steers (1,100 pounds up)—							
Choice and prime	$11.36	$11.13	$11.16	$11.38	$11.20	$10.54	$10.45
Good	10.15	9.83	10.06	10.37	10.15	9.64	9.59
Medium	8.51	8.26	8.60	8.85	8.75	8.42	8.37
Common	6.56	6.52	6.83	6.99	7.10	6.96	6.78
Beef steers (1,100 pounds down)—							
Choice and prime	11.48	11.16	11.06	11.16	10.97	10.21	10.19
Good	10.26	9.83	9.92	10.14	9.95	9.40	9.43
Medium	8.56	8.28	8.45	8.68	8.60	8.24	8.21
Common	6.44	6.27	6.54	6.76	6.83	6.65	6.44
Canner and cutter	4.19	4.14	4.36	4.67	4.81	4.75	4.52
Light yearling steers and heifers (800 pounds down), good and prime	10.08	9.81	9.86	9.95	9.78	9.02	8.93
Heifers—							
850 pounds up (good and choice)	8.60	8.24	8.36	8.41	8.40	7.93	7.91
All weights (common and medium)	5.69	5.52	5.74	5.95	6.00	5.52	5.36
Cows—							
Good and choice	5.89	5.76	6.36	7.10	7.12	6.82	6.86
Common and medium	4.30	4.18	4.65	5.19	5.16	4.62	4.50
Canner and cutter	2.94	2.80	3.09	3.24	3.17	2.85	2.66
Bulls—							
Good and choice [1]	5.09	4.88	5.31	5.55	5.80	5.69	5.59
Canner to medium (canner and bologna)	3.91	3.93	4.07	4.00	4.16	4.22	4.14
Slaughter calves:							
Medium to choice—							
190 pounds down	8.77	8.62	8.74	8.57	8.46	7.83	8.05
190-260 pounds	7.57	7.74	7.95	7.93	7.66	6.84	6.73
260 pounds up	5.94	5.88	6.61	6.55	6.88	6.11	5.61
Cull and common—							
190 pounds down	5.74	5.65	5.76	5.76	5.60	5.27	5.41
190 pounds up	4.50	4.50	4.64	4.96	4.88	4.83	4.81
Feeder and stocker cattle and calves:							
Steers—							
Common to choice (750 pounds up)	6.62	6.78	7.02	7.24	7.39	7.17	6.95
Common to choice (750 pounds down)	6.30	6.48	6.54	6.58	6.66	6.24	6.12
Inferior (all weights)	3.92	3.97	4.03	4.09	4.16	3.86	3.75
Cows and heifers (common to choice)	4.12	4.12	4.20	4.65	4.74	4.53	4.16
Calves (common to choice)	5.74	5.75	5.85	5.88	5.86	5.48	5.34

Classification	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter cattle:						
Beef steers (1,100 pounds up)—						
Choice and prime	$10.57	$10.62	$10.78	$10.82	$11.88	$10.99
Good	9.61	9.52	9.70	9.70	10.04	9.86
Medium	8.02	7.63	7.92	7.78	7.98	8.26
Common	6.00	5.36	5.33	5.07	5.28	6.23
Beef steers (1,100 pounds down)—						
Choice and prime	10.56	10.77	11.30	12.72	12.50	11.17
Good	9.61	9.68	10.13	10.38	10.85	9.96
Medium	7.78	7.67	7.95	7.89	8.12	8.20
Common	5.56	5.34	5.33	5.02	5.28	6.04
Canner and cutter	3.98	3.82	3.76	3.41	3.55	4.16
Light yearling steers and heifers (800 pounds down), good and prime	9.44	9.83	10.22	10.45	10.74	9.84
Heifers—						
850 pounds up (good and choice)	8.04	8.46	8.81	8.88	8.82	8.40
All weights (common and medium)	4.88	5.31	5.38	5.34	5.27	5.50
Cows—						
Good and choice	6.39	6.14	5.83	5.63	5.55	6.29
Common and medium	3.93	3.81	3.73	3.90	3.87	4.32
Canner and cutter	2.40	2.62	2.70	2.97	2.96	2.86
Bulls—						
Good and choice [1]	5.32	5.22	4.57	4.46	4.26	5.14
Canner to medium (canner and bologna)	3.45	3.32	3.03	3.11	3.05	3.70
Slaughter calves:						
Medium to choice—						
190 pounds down	7.90	8.53	8.72	8.21	8.52	8.41
190-260 pounds	6.36	6.88	7.23	6.67	6.93	7.21
260 pounds up	5.12	5.06	4.95	4.76	5.32	5.73
Cull and common—						
190 pounds down	5.21	5.38	5.37	5.01	5.41	5.46
190 pounds up	4.50	4.04	3.74	3.59	3.57	4.38
Feeder and stocker cattle and calves:						
Steers—						
Common to choice (750 pounds up)	6.79	6.87	6.69	6.18	5.78	6.79
Common to choice (750 pounds down)	6.00	5.85	5.76	5.57	5.54	6.14
Inferior (all weights)	3.63	3.50	3.42	3.09	3.21	3.72
Cows and heifers (common to choice)	3.85	3.96	3.90	3.68	3.44	4.11
Calves (common to choice)	5.09	5.27	5.12	5.17	5.03	5.46

[1] Beef yearlings excluded.

TABLE 454.—*Cattle and calves: Monthly average price per 100 pounds, 1924*—Con.

SOUTH ST. PAUL

Classification	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter cattle:							
Beef steers (1,100 pounds up)—							
Choice and prime	$10.96	$10.78	$10.76	$10.96			
Good	9.55	9.44	9.54	9.82	$10.14	$9.46	$9.11
Medium	7.93	7.84	7.98	8.28	8.48	8.18	7.91
Common	6.01	6.12	6.25	6.66	6.98	6.70	6.39
Beef steers (1,100 pounds down)—							
Choice and prime	10.96	10.78	10.82	10.88			
Good	9.55	9.44	9.54	9.77	10.00	9.27	8.86
Medium	7.90	7.82	7.92	8.19	8.29	7.88	7.56
Common	5.88	5.88	6.06	6.40	6.55	6.09	5.78
Canner and cutter	3.50	3.65	4.00	4.35	4.62	4.14	3.88
Light yearling steers and heifers (800 pounds down), good and prime	9.88	9.78	9.75	9.56	9.25	8.70	8.15
Heifers—							
850 pounds up (good and choice)	8.21	8.03	8.14	8.23	8.15	7.71	7.25
All weights (common and medium)	5.21	5.03	5.21	5.81	6.15	5.50	5.05
Cows—							
Good and choice	5.99	5.76	6.02	6.41	6.63	6.16	5.75
Common and medium	4.06	4.12	4.28	4.57	4.69	4.22	3.75
Canner and cutter	2.72	2.75	2.75	2.84	2.70	2.78	2.50
Bulls—							
Good and choice [1]	5.01	4.96	4.82	5.08	5.34	5.42	5.43
Canner to medium (canner and bologna)	3.81	3.93	3.85	3.88	3.91	3.93	3.84
Slaughter calves:							
Medium to choice—							
190 pounds down	7.45	7.18	7.33	7.27	7.19	7.40	7.22
190–260 pounds	6.13	5.98	5.75	5.93	6.04	6.00	5.94
260 pounds up	5.19	4.95	4.88	5.19	5.12	4.88	4.98
Cull and common—							
190 pounds down	4.61	4.50	4.62	4.66	4.51	4.75	4.89
190 pounds up	3.19	3.25	3.25	3.63	4.20	4.41	4.77
Feeder and stocker cattle and calves:							
Steers—							
Common to choice (750 pounds up)	5.37	5.57	5.74	6.24	7.09	6.88	6.57
Common to choice (750 pounds down)	5.02	5.11	5.46	5.84	6.52	5.96	5.51
Inferior (all weights)	3.07	3.04	3.00	3.33	3.96	3.71	3.50
Cows and heifers (common to choice)	3.42	3.62	3.64	3.93	4.12	3.96	3.50
Calves (common to choice)	4.75	4.83	4.94	5.00	5.08	5.06	4.93

Classification	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter cattle:						
Beef steers (1,100 pounds up)—						
Good	$9.42	$9.48	$9.25	$9.25	$9.43	$9.49
Medium	7.87	7.59	7.17	7.00	7.44	7.81
Common	6.14	5.59	5.13	4.91	5.23	6.01
Beef steers (1,100 pounds down)—						
Good	9.41	9.50	9.64	10.12	10.41	9.63
Medium	7.73	7.50	7.33	7.33	7.67	7.76
Common	5.72	5.12	4.84	4.66	4.88	5.66
Canner and cutter	3.84	3.62	3.40	3.20	3.23	3.79
Light yearling steers and heifers (800 pounds down), good and prime	8.40	8.66	9.11	9.25	9.76	9.19
Heifers—						
850 pounds up (good and choice)	7.41	7.52	7.63	7.44	7.47	7.77
All weights (common and medium)	5.16	5.25	4.86	4.43	4.38	5.17
Cows—						
Good and choice	5.86	5.88	5.85	5.48	5.19	5.92
Common and medium	3.75	3.75	3.73	3.52	3.62	4.00
Canner and cutter	2.46	2.52	2.49	2.44	2.62	2.63
Bulls—						
Good and choice [1]	5.18	5.12	4.99	4.92	4.93	5.10
Canner and medium (canner and bologna)	3.40	3.25	3.15	3.28	3.30	3.63
Slaughter calves:						
Medium to choice—						
190 pounds down	8.68	8.69	7.51	6.05	6.55	7.38
190–260 pounds	6.32	6.90	5.94	4.67	5.11	5.89
260 pounds up	5.36	5.35	4.98	3.82	4.15	4.90
Cull and common—						
190 pounds down	5.52	5.85	5.20	3.96	3.87	4.74
190 pounds up	4.50	4.72	4.29	3.24	3.00	3.87
Feeder and stocker cattle and calves:						
Steers—						
Common to choice (750 pounds up)	6.48	6.24	5.98	5.50	5.39	6.09
Common to choice (750 pounds down)	5.70	5.83	5.60	5.10	5.00	5.55
Inferior (all weights)	3.62	3.72	3.75	3.35	3.12	3.43
Cows and heifers (common to choice)	3.50	3.55	3.61	3.32	3.25	3.62
Calves (common to choice)	4.98	5.00	5.00	4.82	4.75	4.93

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Live-stock, Meats, and Wool Division.

[1] Beef yearlings excluded.

TABLE 455.—*Cattle: Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts, 1913–1924*

Year	Live steers good to choice, Chicago	Beef, wholesale				Beef, retail											
		Good native steer, Chicago		Native sides, New York		Sirloin steak						Round steak					
						Chicago		New York		Average, leading cities		Chicago		New York		Average, leading cities	
		Price per pound	Wholesale as per cent of live steer price	Price per pound	Wholesale as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price
	Cents	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*
1913	8.5	13.0	153	12.5	147	23.2	273	25.9	305	25.4	299	20.2	238	25.0	294	22.3	262
1914	9.0	13.6	151	13.5	150	25.3	283	26.8	298	25.9	288	22.4	249	26.3	292	23.6	262
1915	8.7	12.9	148	12.6	145	25.7	295	26.8	308	25.7	295	22.1	254	26.0	299	23.0	264
1916	9.6	13.8	144	13.4	140	26.8	279	28.1	293	27.3	284	22.6	235	27.4	285	24.5	255
1917	12.8	16.7	130	16.4	128	29.3	229	32.6	255	31.5	246	25.8	202	32.6	255	29.0	227
1918	16.4	22.1	135	20.9	127	35.3	215	40.9	249	38.9	237	32.3	197	42.3	258	36.9	225
1919	17.5	23.3	133	21.5	123	38.3	219	43.9	251	41.7	238	34.3	196	45.7	261	38.9	222
1920	14.5	23.0	159	20.8	143	43.0	297	46.9	323	43.7	301	36.3	250	47.3	326	39.5	272
1921	8.8	16.3	185	14.8	168	38.0	432	42.1	478	38.8	441	31.0	352	41.4	469	34.4	391
1922	9.5	15.0	158	13.8	145	37.2	392	41.1	433	37.4	394	29.1	306	39.6	417	32.3	340
1923	10.0	15.8	158	14.5	145	39.8	398	42.5	425	39.1	391	30.7	307	40.8	408	33.5	335
1924	9.7	17.1	176	15.1	156	41.2	425	43.0	443	39.6	408	32.1	331	41.4	427	33.8	348
1924.																	
January	9.5	17.0	179	16.0	168	40.6	427	42.5	447	39.0	410	31.1	327	41.2	434	33.3	351
February	9.7	17.0	175	15.3	158	40.3	416	41.2	425	38.7	399	31.1	321	40.4	416	33.0	340
March	10.1	17.0	168	15.8	156	40.0	396	41.1	407	38.9	385	31.3	310	40.0	396	33.1	323
April	10.8	17.0	157	16.0	148	40.4	374	42.4	393	39.6	367	31.3	290	40.9	379	33.7	312
May	10.3	17.0	165	16.1	156	41.7	405	43.9	426	40.6	394	32.1	312	42.2	410	34.6	336
June	9.6	16.8	175	14.5	151	41.7	434	43.8	456	40.7	424	32.0	333	42.1	439	34.8	362
July	9.6	16.5	172	14.7	153	41.9	436	43.8	456	40.7	424	32.7	341	42.0	438	34.6	360
August	9.5	16.5	174	14.1	148	41.9	441	44.0	463	40.7	428	32.9	346	42.7	449	34.8	366
September	9.0	16.5	183	14.6	162	41.5	461	43.8	487	40.2	447	33.0	367	42.4	471	34.3	381
October	9.5	17.2	181	14.4	152	41.5	437	43.6	459	39.6	417	33.2	349	41.6	438	33.7	355
November	9.2	18.3	199	13.9	151	41.8	454	42.9	466	38.7	421	32.5	353	41.0	446	32.9	358
December	9.6	18.3	191	15.4	160	41.0	427	42.5	443	38.2	398	31.6	329	40.4	421	32.4	338

TABLE 455.—*Cattle: Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts, 1913–1924*—Continued

Year	Beef, retail—Continued											
	Chuck roast						Rib roast					
	Chicago		New York		Average, leading cities		Chicago		New York		Average, leading cities	
	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price	Price per pound	Retail as per cent of live steer price
	Cents	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*
1913	15.4	181	16.0	188	16.0	188	19.5	229	21.8	256	19.8	233
1914	15.9	188	16.8	187	16.7	186	20.7	230	22.1	246	20.4	227
1915	16.7	192	16.5	190	16.1	185	21.3	245	22.2	255	20.1	231
1916	16.6	173	17.3	180	17.1	178	21.9	228	23.2	242	21.2	221
1917	20.3	159	21.3	166	20.9	163	24.1	188	27.4	214	24.9	195
1918	25.9	158	28.5	174	26.6	162	29.7	181	35.3	215	30.7	187
1919	26.7	153	29.9	171	27.0	154	31.4	179	39.1	223	32.5	186
1920	25.9	179	28.9	199	26.2	181	33.7	232	40.5	279	33.2	229
1921	20.7	235	23.1	262	21.2	241	30.2	343	36.4	414	29.1	331
1922	19.1	201	21.4	225	19.7	207	28.8	303	35.3	372	27.6	291
1923	19.9	199	22.4	224	20.2	202	30.2	302	36.3	363	28.4	284
1924	21.0	216	23.1	238	20.8	214	31.6	326	36.9	380	28.8	297
1924												
January	20.2	213	23.0	242	20.7	218	31.2	328	36.7	386	28.6	301
February	20.8	214	22.9	236	20.4	210	31.3	323	36.6	377	28.3	292
March	20.6	204	22.8	226	20.6	204	31.3	310	35.8	354	28.6	283
April	21.3	197	23.0	213	20.9	194	31.7	294	36.7	340	29.0	268
May	21.2	206	23.8	231	21.3	207	32.1	312	37.4	363	29.4	285
June	21.1	220	23.4	244	21.2	221	32.1	334	37.4	390	29.4	306
July	20.9	218	23.0	240	21.0	219	31.8	331	37.1	386	29.1	303
August	21.0	221	23.5	247	21.0	221	31.6	333	37.0	389	29.1	306
September	21.1	234	23.6	262	20.9	232	31.6	351	37.6	418	29.0	322
October	21.4	225	23.1	243	20.7	218	31.8	335	37.1	391	28.6	301
November	21.6	235	22.8	248	20.4	222	31.7	345	36.6	398	28.2	306
December	21.3	222	22.8	237	20.2	210	31.3	326	37.0	385	28.0	292

Division of Statistical and Historical Research. All prices from Bureau of Labor Statistics.

TABLE 456.—*Cattle and calves: Monthly slaughter under Federal inspection, 1907–1924*

CATTLE

Calendar year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1907	717,935	569,641	555,476	634,541	620,114	588,465	640,535	667,827	696,271	801,110	595,692	545,758	7,633,365
1908	642,632	527,369	519,851	463,445	490,623	525,134	563,403	640,332	767,698	821,193	680,616	636,964	7,279,260
1909	586,542	489,905	550,719	508,267	536,101	543,597	608,030	652,172	782,309	892,348	798,967	764,850	7,713,807
1910	632,131	527,361	599,076	532,904	551,179	620,862	614,962	678,668	795,525	831,406	779,527	643,999	7,807,600
1911	626,060	535,853	562,077	499,422	599,064	614,447	591,317	719,510	691,720	828,316	745,810	605,480	7,619,096
1912	674,995	515,056	563,882	522,278	562,506	511,135	507,695	631,623	643,617	808,361	690,973	620,457	7,252,578
1913	621,744	489,842	483,693	554,709	546,781	556,321	592,959	582,081	656,410	701,402	601,937	590,482	6,978,361
1914	585,164	498,991	476,406	474,177	473,806	490,302	505,244	518,165	650,427	743,686	658,189	682,180	6,756,737
1915	572,748	466,122	551,991	507,442	534,457	573,851	596,142	590,302	641,411	736,149	702,134	680,646	7,153,395
1916	622,507	549,956	597,059	475,566	564,207	648,209	562,448	742,534	790,737	941,049	971,801	844,385	8,310,458
1917	822,932	662,776	647,251	654,336	815,071	844,168	783,559	865,883	957,253	1,195,587	1,098,796	1,002,540	10,350,152
1918	895,275	784,834	828,216	914,899	781,755	829,690	1,019,982	987,237	1,142,754	1,251,041	1,233,081	1,159,785	11,828,549
1919	1,119,200	701,353	640,288	622,123	720,684	644,463	854,797	859,409	855,292	1,073,220	1,040,074	960,181	10,091,084
1920	832,231	630,995	683,139	637,575	626,304	656,602	661,172	685,763	825,484	843,136	858,946	667,344	8,608,691
1921	689,506	526,177	620,936	590,943	569,979	640,186	579,028	680,419	689,043	749,756	686,115	586,192	7,608,280
1922	641,513	569,153	673,701	589,916	702,203	724,418	697,303	761,125	796,377	883,949	859,413	778,736	8,677,807
1923	745,109	633,710	687,634	696,757	762,461	726,962	724,896	820,514	809,810	952,795	845,618	756,250	9,162,516
1924	812,459	669,051	665,156	689,190	773,334	669,579	764,104	785,981	870,171	1,016,289	951,887	925,874	9,593,075

CALVES

1907	128,178	99,283	122,451	205,410	224,405	203,916	220,697	205,840	197,811	186,620	126,141	103,635	2,024,387
1908	116,868	87,891	137,120	196,976	205,225	210,692	192,034	184,719	187,400	180,317	142,560	116,471	1,958,273
1909	134,800	95,221	149,150	200,106	228,192	235,741	213,217	195,623	205,468	205,064	171,288	155,147	2,189,017
1910	132,412	116,899	188,441	221,557	251,746	237,937	198,425	206,000	197,135	187,567	168,323	131,845	2,238,287
1911	135,440	120,845	180,386	218,434	243,247	232,261	198,471	206,971	184,421	179,838	155,135	128,094	2,183,543
1912	152,064	126,432	179,813	244,700	258,331	228,659	201,085	192,355	189,785	193,250	162,837	148,643	2,277,954
1913	139,281	117,987	141,551	212,374	204,723	194,613	182,000	149,292	158,518	156,562	124,004	121,509	1,902,414
1914	122,486	99,865	145,226	185,619	183,052	186,771	153,448	129,359	129,637	135,009	107,279	119,211	1,696,962
1915	108,642	96,096	156,205	198,515	205,039	197,462	161,997	141,289	138,557	148,061	141,400	125,439	1,818,702
1916	129,231	143,262	189,472	233,412	267,422	228,480	177,605	206,783	185,928	203,905	217,370	184,533	2,367,403
1917	203,250	181,581	211,501	286,191	344,598	276,501	276,710	254,711	271,514	339,324	280,910	215,930	3,142,721
1918	210,444	192,769	259,854	351,387	357,353	312,171	354,721	273,597	316,816	306,096	272,076	249,109	3,456,393
1919	294,812	209,834	295,388	393,414	391,304	327,060	399,966	318,769	317,984	374,619	344,238	311,639	3,969,027
1920	305,125	283,052	390,053	382,420	368,614	431,079	342,765	332,349	347,578	314,791	315,971	244,573	4,058,370
1921	282,043	253,692	360,410	365,541	366,798	369,696	324,046	303,796	321,193	309,136	292,172	259,045	3,807,568
1922	288,487	279,359	391,439	365,323	401,340	388,919	329,445	344,968	353,095	382,837	347,711	308,646	4,181,769
1923	351,382	296,698	367,979	400,322	466,792	387,905	378,513	402,643	338,093	416,388	370,070	323,538	4,500,322
1924	372,859	345,593	376,709	465,720	469,692	408,130	421,292	374,480	419,113	473,468	392,395	415,579	4,935,030

Bureau of Animal Industry.

TABLE 457.—*Beef and beef products: International trade, average 1911–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1911–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	144	940,300	----	983,010	----	1,083,747	----	1,490,744
Australia	437	301,882	[1] 249	[1] 224,755	----	[1] 152,856	----	[1 2] 61,440
Brazil	48,989	171	10,160	149,944	13,829	80,459	----	206,697
Canada	3,091	6,448	2,986	33,997	2,958	27,327	2,467	24,380
China	85	8,787	1,363	10,172	2,141	3,434	1,414	6,314
Denmark	18,815	43,485	7,603	21,658	10,900	51,737	10,955	30,707
Netherlands	256,296	326,176	154,831	180,541	159,756	163,264	199,164	202,545
New Zealand	398	80,543	443	165,243	411	117,610	437	141,494
United States	17,668	213,722	32,378	218,810	36,694	214,733	19,356	192,368
Uruguay	152	119,675	----	201,653	----	----	----	----
PRINCIPAL IMPORTING COUNTRIES								
Austria	----	----	40,638	7,359	16,138	6,453	----	----
Austria-Hungary	12,983	3,762	----	----	----	----	----	----
Belgium	6,034	1,577	84,671	15,124	81,122	3,923	148,000	4,227
British India	7,434	773	5,774	1,066	7,268	893	8,043	1,227
Chile	6,636	298	2,528	1,256	308	106	----	----
Cuba	37,822	----	34,865	----	47,245	----	----	----
Czechoslovakia	----	----	3,491	----	2,023	763	368	----
Egypt	476	----	5,711	72	4,694	16	4,699	20
Finland	14,755	9	1,504	36	2,017	----	3,948	----
France	41,318	62,361	163,444	35,391	112,151	37,138	164,413	51,598
Germany	212,150	942	186,333	[3] 1,054	180,254	2,630	230,906	1,295
Hongkong	----	----	----	----	1,328	325	1,608	433
Italy	131	[4]	5,747	58	36,611	225	28,784	546
Japan	----	----	70,521	----	----	----	----	----
Norway	20,203	2,337	23,661	1,600	24,748	1,614	19,781	1,605
Philippine Islands	15,837	----	13,516	----	9,608	----	6,438	----
Spain	966	38	759	76	10,013	[5]	11,615	----
Sweden	12,912	17,285	14,617	26,136	19,066	15,787	12,968	7,712
Switzerland	9,052	440	6,205	215	5,323	286	6,937	722
Union of South Africa	17,622	292	4,148	3,409	7,37	1,7530	11,538	1,536
United Kingdom	1,252,292	27,595	1,515,667	38,174	1,471,707	26,633	1,788,994	31,463
Other countries	29,474	3,438	8,191	1,477	6,277	1,989	4,027	640
Total	2,044,172	2,162,336	2,402,064	2,322,286	2,271,960	1,995,701	2,686,860	2,459,722

Division of Statistical and Historical Research. Official sources.

[1] Year beginning July 1.
[2] Nine months.
[3] Eight months, May-December.
[4] Not separately stated.
[5] Less than 500 pounds.

TABLE 458.—*Beef: Stocks, frozen and cured, in cold-storage warehouses and meat-packing establishments, 1915–1924*

[Thousand pounds—i. e., 000 omitted]

Year beginning November	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1
1915	----	----	147,817	153,118	151,912	144,089	112,045	90,349	74,024	77,456	76,753	87,972
1916	122,828	196,106	239,743	226,800	207,453	184,794	147,800	133,838	145,033	141,130	130,743	150,468
1917	211,254	273,989	354,814	330,907	313,689	302,121	241,942	214,888	176,600	209,027	215,125	223,181
1918	253,652	262,049	335,085	330,324	296,539	252,415	212,407	191,002	191,883	190,222	197,595	203,571
1919	221,791	258,858	298,864	288,752	260,147	231,937	200,788	157,271	121,652	101,086	89,721	78,055
1920	89,015	112,166	142,813	142,891	146,409	138,345	122,188	109,553	90,220	84,091	67,334	59,822
1921	63,486	80,333	84,808	78,295	73,782	69,516	64,507	56,852	50,706	47,031	48,291	53,572
1922	67,814	95,628	116,255	114,113	100,591	90,502	78,535	65,023	57,220	45,893	46,041	48,187
1923	63,421	93,166	105,577	102,655	100,007	93,274	78,423	66,069	59,418	49,812	48,906	47,538
1924	67,244	100,239	----	----	----	----	----	----	----	----	----	----

Division of Statistical and Historical Research. From reports of the Cold Storage Report Section.

TABLE 459.—*Cattle, calves, beef, and veal: Statement of the livestock and meat situation, by months, 1924*

Item	Unit	Jan.	Feb.	Mar.	Apr.	May	June	July
Inspected slaughter:								
Cattle	Thousands	813	669	665	689	773	670	764
Calves	do	373	346	377	486	470	408	421
Carcasses condemned:								
Cattle	do	8	7	8	6	7	5	5
Calves	do	1	1	2	1	1	1	1
Average live weight:								
Cattle	do	966	966	967	962	948	951	940
Calves	do	177	163	152	147	157	168	181
Average dressed weight:								
Cattle	do	514	521	523	523	523	523	517
Calves	do	104	93	92	89	95	97	103
Total dressed weight (carcass, not including condemned):								
Beef	1,000 pounds	413, 254	345, 335	343, 965	356, 957	400, 858	347, 175	392, 101
Veal	do	38, 528	31, 991	34, 584	41, 331	44, 733	39, 342	43, 198
Storage first of month:								
Fresh beef	do	82, 984	79, 944	76, 769	68, 075	52, 941	41, 784	37, 028
Cured beef	do	22, 593	22, 711	23, 238	25, 199	25, 482	24, 285	22, 390
Exports: [3]								
Fresh beef and veal	do	286	343	172	202	186	168	172
Cured beef	do	1, 201	1, 605	1, 630	1, 848	1, 725	1, 902	1, 620
Canned beef	do	341	105	124	115	104	74	65
Oleo oil and stearin	do	7, 003	7, 482	8, 741	9, 179	9, 301	8, 266	9, 245
Tallow	do	1, 560	2, 618	2, 904	2, 982	3, 057	2, 113	3, 459
Imports, fresh beef and veal	do	1, 065	1, 182	1, 952	2, 450	2, 810	2, 642	1, 668
Receipts, cattle and calves [4]	Thousands	1, 888	1, 457	1, 556	1, 751	1, 890	1, 673	1, 798
Stocker and feeder shipments [4]	do	243	170	174	239	275	201	169
Prices per 100 pounds:								
Average cost for slaughter—								
Cattle	Dollars	6. 65	6. 67	7. 14	7. 57	7. 92	7. 40	7. 19
Calves	do	8. 29	9. 46	8. 85	8. 49	8. 19	7. 68	7. 61
At Chicago—								
Cattle, good steers	do	10. 55	10. 42	10. 74	11. 00	10. 66	9. 98	10. 08
Veal calves	do	10. 16	9. 82	9. 24	8. 57	8. 64	8. 00	8. 57
At eastern markets—								
Beef carcasses, good grade	do	15. 92	15. 10	15. 71	16. 61	16. 94	15. 71	14. 86
Veal carcasses, good grade	do	19. 32	19. 38	17. 01	16. 54	16. 86	15. 96	15. 86
Cattle on farms Jan. 1	Thousands	66, 801						

Item	Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Inspected slaughter:							
Cattle	Thousands	786	870	1, 016	952	926	9, 593
Calves	do	374	419	473	392	416	4, 935
Carcasses condemned:							
Cattle	do	5	6	9	12	11	89
Calves	do	1	1	1	1	1	13
Average live weight:							
Cattle	do	952	939	939	933	947	[1] 951
Calves	do	197	201	196	198	183	[1] 177
Average dressed weight:							
Cattle	do	517	502	491	476	491	[1] 510
Calves	do	109	113	108	107	105	[1] 101
Total dressed weight (carcass, not including condemned):							
Beef	1,000 pounds	403, 828	433, 842	494, 491	447, 899	449, 769	4, 829, 474
Veal	do	40, 004	47, 394	51, 233	41, 995	43, 355	498, 588
Storage first of month:							
Fresh beef	do	29, 435	29, 135	28, 599	45, 857	76, 731	[2] 54, 107
Cured beef	do	20, 577	19, 771	18, 939	21, 387	23, 508	[2] 22, 490
Exports: [3]							
Fresh beef and veal	do	206	274	265	226	292	2, 792
Cured beef	do	2, 274	2, 187	2, 543	1, 868	1, 520	21, 923
Canned beef	do	166	151	98	91	66	1, 500
Oleo oil and stearin	do	8, 864	10, 042	11, 361	9, 999	6, 472	105, 955
Tallow	do	3, 147	4, 186	3, 472	2, 977	1, 487	33, 962
Imports, fresh beef and veal	do	1, 368	696	941	745	585	18, 104

TABLE 459.—*Cattle, calves, beef, and veal: Statement of the livestock and meat situation, by months, 1924*—Continued

Item	Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Receipts, cattle and calves [4]	Thousands	1,934	2,566	2,736	2,363	2,083	23,695
Stocker and feeder shipments [4]	do	306	580	751	549	309	3,966
Prices per 100 pounds:							
Average cost for slaughter—							
Cattle	Dollars	7.06	6.33	5.75	5.34	5.66	[1] 6.72
Calves	do	7.42	7.23	6.81	6.24	7.15	[1] 7.78
At Chicago—							
Cattle, good steers	do	9.91	9.93	10.45	10.68	11.57	[1] 10.50
Veal calves	do	9.62	9.72	9.24	8.28	9.04	[2] 9.08
At eastern markets—							
Beef carcasses, good grade	do	16.09	15.66	15.49	15.24	15.09	[2] 15.70
Veal carcasses, good grade	do	16.92	18.00	16.90	15.55	16.07	[2] 17.03

Division of Statistical and Historical Research. Inspected slaughter from reports of Bureau of Animal Industry. Weights and storage holdings from reports of the Cold Storage Report Section; receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division, and number on farm from Division of Crop and Livestock Estimates. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Weighted average.
[2] Simple average, not total.
[3] Including reexports.
[4] At public stockyards.

TABLE 460.—*Beef products:* [1] *Exports, all products combined, United States, 1910–1925*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	July	August	September	October	November	December	January	February	March	April	May	June	Total
1910	35,891	25,898	28,365	26,677	21,819	22,987	16,703	19,016	23,778	19,905	18,518	23,319	282,876
1911	18,090	18,826	16,146	15,398	18,227	15,598	16,540	16,265	23,412	30,692	40,030	32,904	262,128
1912	29,171	25,841	25,130	21,002	14,962	15,373	14,266	15,739	19,203	19,838	15,967	13,804	230,296
1913	16,754	15,574	10,871	10,518	8,008	8,908	12,863	13,657	16,424	14,203	15,686	19,971	163,497
1914	15,388	13,280	11,895	10,670	10,778	10,361	10,499	9,283	11,073	14,181	15,326	13,221	145,955
1915	12,410	10,960	17,131	16,495	31,587	18,895	32,879	35,308	41,125	49,961	40,190	71,340	378,281
1916	50,154	43,166	39,404	28,930	36,702	42,155	21,461	28,422	26,378	33,361	35,105	53,830	439,068
1917	28,242	24,679	25,783	36,024	31,724	26,908	32,680	25,932	35,895	51,974	51,950	33,296	405,087
1918	19,911	42,278	31,773	17,737	10,743	36,443	43,475	31,892	87,199	72,882	96,982	92,150	583,465
1919	53,583	69,217	49,124	43,523	83,803	49,504	42,078	30,685	27,164	39,559	28,990	43,964	561,194
1920	25,496	28,184	25,400	45,744	28,663	19,711	30,576	20,497	17,635	29,852	24,925	27,861	324,544
1921	18,716	9,387	10,530	15,180	14,068	14,999	24,767	14,523	12,626	14,625	15,911	13,065	178,417
1922	18,019	18,496	18,568	12,772	10,044	9,369	9,109	12,400	17,810	13,735	19,155	19,873	179,350
1923	15,271	13,751	13,832	13,165	14,554	10,778	12,537	11,415	15,144	12,149	13,603	14,935	161,136
1924	14,256	18,171	14,997	14,205	12,086	8,747	9,899	11,668	12,920	13,827	13,865	11,909	156,550
1925	14,029	14,387	16,375	16,763	14,417	9,329	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.

[1] These figures include fresh, canned, pickled, and other cured beef, tallow, and oleo oil.

TABLE 461.—*Beef, fresh: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	France	Italy	United Kingdom	Other Europe	Total Europe	Canada	Newfoundland and Labrador	Bermuda	Panama	Cuba	Other countries	Total
1910	----------	86	70,795	5	70,886	136	4	394	4,042	95	173	75,730
1911	----------	1	37,258	42	37,301	248	5	561	4,221	42	133	42,511
1912	----------	14	8,872	18	8,904	585	12	176	5,401	45	141	15,264
1913	----------	-------	127	22	149	640	20	380	5,935	125	113	7,362
1914	----------	-------	-------	5	5	254	-------	483	5,534	38	80	6,394
1915	99,620	10,472	54,497	31	164,620	545	82	656	3,707	533	298	170,441
1916	49,100	47,888	117,409	241	214,638	3,192	111	885	1,505	53	10,830	231,214
1917	38,042	13,066	125,688	576	177,372	17,771	263	1,327	235	58	151	197,177
1918	36,927	8,567	285,789	-------	331,283	37,350	329	510	144	203	214	370,033
1919	26,629	19,085	272,129	930	318,773	3,019	20	932	257	201	9,003	332,205
1920	329	3,610	9,323	134,931	148,193	2,918	196	1,020	84	314	834	153,561
1921	401	-------	3,140	4,028	7,569	695	-------	1,143	198	515	10,964	21,084
1922	----------	-------	1,044	346	1,390	128	12	1,116	236	176	865	3,993
1923	4	-------	1,464	271	1,739	119	7	898	210	285	759	4,017
1924	(1)	(1)	394	126	520	133	25	1,042	237	261	599	2,817

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of Bureau of Foreign and Domestic Commerce.

[1] Less than 500.

TABLE 462.—*Beef, pickled and other cured: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30	Belgium	France	Germany	Italy	Netherlands	United Kingdom	Other Europe	Total Europe	Canada	Newfoundland and Labrador	Other countries	Total
1910	2,140	174	4,068	155	629	10,457	2,353	19,976	1,336	5,074	10,485	36,871
1911	1,843	171	4,581	54	793	10,263	2,749	20,454	1,818	5,821	12,191	40,284
1912	1,829	124	4,616	42	749	8,747	3,383	19,490	1,752	5,077	11,769	38,088
1913	554	34	3,081	2	468	5,930	2,253	12,322	712	3,807	9,016	25,857
1914	556	28	1,758	-------	276	4,113	1,036	7,767	1,331	4,936	9,232	23,266
1915	1,908	15	379	97	2,368	10,994	3,180	18,941	1,659	4,331	6,944	31,875
1916	4,546	133	(1)	499	96	12,003	3,570	20,847	5,101	5,027	7,140	38,115
1917	19,987	312	-------	5	4,987	7,490	2,925	35,706	9,395	6,803	6,150	58,054
1918	31,230	60	-------	600	-------	4,205	5,739	41,840	2,623	5,505	4,500	54,468
1919	20,596	1,937	-------	3,496	-------	3,995	5,940	35,964	1,603	4,251	3,248	45,066
1920	1,962	198	3,189	408	3,079	5,336	4,619	18,791	2,255	6,214	5,124	32,384
1921	702	25	1,166	83	1,024	4,115	457	7,572	1,732	5,516	8,493	23,313
1922	693	89	954	5	178	3,513	4,084	9,516	1,080	6,942	9,236	26,774
1923	364	49	463	-------	191	3,085	2,113	6,265	1,461	6,627	9,832	24,185
1924	385	21	447	2	62	1,667	2,860	5,444	1,066	7,420	7,921	21,851

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 463.—*Beef, canned: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30	Belgium	France	Italy	Netherlands	United Kingdom	Other Europe	Total Europe	Canada	Newfoundland and Labrador	Philippine Islands	Other countries	Total
1910	406	226	22	298	9,300	193	10,445	205	136	540	3,479	14,805
1911	283	78	10	210	6,292	27	6,900	41	118	200	3,566	10,825
1912	286	107	12	241	5,743	167	6,556	123	236	1,180	2,931	11,026
1913	178	119	4	253	3,117	188	3,859	111	26	206	2,638	6,840
1914	381	40	4	56	1,194	65	1,740	63	40	52	1,570	3,465
1915	28	6,440	965	68	64,701	1,359	73,561	72	13	143	1,454	75,243
1916	------	6,508	1,968	------	38,205	2,632	49,313	35	70	58	1,330	50,804
1917	------	17,653	188	------	40,218	57	58,116	7,571	160	190	1,499	67,536
1918	------	30,417	17,699	------	46,375	259	94,750	1,118	261	169	1,045	97,343
1919	6,461	19,458	45,636	1,341	25,289	8,573	106,758	339	249	125	989	108,460
1920	959	187	397	1,038	9,718	16,677	28,976	461	262	278	1,157	31,134
1921	(1)	(1)	1	(1)	1,996	6,206	8,203	331	18	113	2,098	10,763
1922	(1)	76	------	1	2,463	53	2,593	174	47	95	839	3,748
1923	2	(1)	------	------	722	64	788	94	65	298	1,067	2,312
1924	1	(1)	(1)	72	304	397	774	32	52	113	574	1,545

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and reports of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

DAIRY PRODUCTS

TABLE 464.—*Dairy products: Weighted average price and value on farms, 1920–1924*

Product	Unit	Price per unit					Value				
		1920	1921	1922	1923	1924	1920	1921	1922	1923	1924
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*
Milk sold [1]	Gallon	28.47	21.07	18.92	22.19	20.90	976,260	796,112	734,721	949,511	937,045
Milk consumed on farm [1]	do	28.47	21.07	18.92	22.19	20.90	830,529	694,194	640,471	800,884	776,925
Total whole milk [1]	do	28.47	21.07	18.92	22.19	20.90	1,806,789	1,490,305	1,375,192	1,750,395	1,713,970
Butter made	Pound	54.25	37.16	35.27	40.38	39.50	366,174	241,560	220,438	246,318	237,000
Cheese made	do	33.10	24.50	22.00	25.80	24.30	2,085	1,470	1,100	1,096	972
Cream sold [2]	Gallon	129.38	83.00	73.10	95.03	78.69	107,747	64,807	61,636	89,750	70,631
Butterfat sold	Pound	54.22	38.22	36.00	41.56	38.00	373,662	321,768	331,382	415,255	394,212
Buttermilk	100 lbs	73.30	28.80	30.55	40.75	45.60	12,468	4,717	4,812	6,264	6,895
Whey	do	36.65	14.40	15.28	20.38	22.80	208	78	69	78	82
Skim milk from butter made, cream sold, and butter fat sold	do	73.30	28.80	30.55	40.75	45.60	215,405	92,059	102,057	143,262	162,386
Total							2,884,538	2,216,764	2,096,686	2,652,418	2,586,148

Division of Crop and Livestock Estimates.

[1] Includes milk equivalent of cream sold for household use.

[2] For cream powder and ice cream.

TABLE 465.—*Milk: Production and uses in the United States, 1920–1923*

Purpose for which milk is used	1920				1921			
	Whole milk used	Per cent of total milk	Milk used per pound of product	Product manufactured	Whole milk used	Per cent of total milk	Milk used per pound of product	Products manufactured
	Million pounds	*Per cent*	*Pounds*	*Million pounds*	*Million pounds*	*Per cent*	*Pounds*	*Million pounds*
Butter:								
Creamery	18,135.1	20.226	21.0	863.6	22,153.7	22.408	21.0	1,054.9
Farm	14,175.0	15.810	21.0	675.0	13,650.0	13.807	21.0	650.0
Cheese, all kinds	3,624.3	4.042	10.0	362.4	3,558.4	3.599	10.0	355.8
Milk:								
Condensed and evaporated	3,945.0	4.400	2.5	1,578.0	3,660.4	3.703	2.5	1,464.2
Powdered	82.7	.092	8.0	10.3	33.9	.034	8.0	4.2
Malted	43.4	.048	2.2	19.7	34.4	.035	2.2	15.7
Sterilized, canned	5.6	.006	1.0	5.6	5.1	.005	1.0	5.1
Chocolate	60.0	.067			40.0	.041		
Cream, powdered	5.9	.007	19.0	.3	2.5	.002	19.0	.1
Ice cream	3,575.0	3.987	[1] 13.75	[2] 260.0	3,355.0	3.396	[1] 13.75	[2] 244.0
Total milk for manufacture	43,652.0	48.685			46,493.4	47.030		
Milk accounted for otherwise:								
Household purposes	39,090.0	43.600			45,143.0	45.660		
Fed to calves	4,202.0	4.688			4,260.0	4.310		
Waste, loss, and unspecified	2,713.3	3.027			2,965.9	3.000		
Total milk produced	89,657.3	100.000			98,862.3	100.000		

Purpose for which milk is used	1922				1923			
	Whole milk used	Per cent of total milk	Milk used per pound of product	Product manufactured	Whole milk used	Per cent of total milk	Milk used per pound of product	Products manufactured
	Million pounds	*Per cent*	*Pounds*	*Million pounds*	*Million pounds*	*Per cent*	*Pounds*	*Million pounds*
Butter:								
Creamery	24,223.8	23.619	21.0	1,153.5	26,296.5	23.963	21.0	1,252.2
Farm	13,125.0	12.797	21.0	625.0	12,810.0	11.673	21.0	610.0
Cheese, all kinds	3,749.8	3.656	10.0	375.0	3,989.5	3.636	10.0	398.9
Milk:								
Condensed and evaporated	3,578.4	3.489	2.5	1,431.3	4,437.2	4.044	2.5	1,774.9
Powdered	44.8	.044	8.0	5.6	52.5	.048	8.0	6.6
Malted	30.0	.029	2.2	13.7	33.7	.031	2.2	15.3
Sterilized, canned	.3		1.0	.3	.1		1.0	.1
Chocolate	100.0	.098			149.5	.136		
Cream, powdered	2.2	.002	19.0	.1	6.2	.006	19.0	.3
Ice cream	3,623.4	3.533	[1] 13.75	[2] 263.5	4,054.9	3.695	13.75	[2] 294.9
Total milk for manufacture	48,477.7	47.267			51,830.1	47.232		
Milk accounted for otherwise:								
Household purposes	46,672.6	45.507			50,440.0	45.965		
Fed to calves	4,335.0	4.226			4,174.0	3.803		
Waste, loss, and unspecified	3,076.9	3.000			3,292.0	3.00		
Total milk produced	102,562.2	100.000			109,736.1	100.000		

Division of Dairy and Poultry Products.

[1] Milk per gallon of ice cream. [2] Gallons.

TABLE 466.—*Dairy products and oleomargarine: Production, 1919–1923*

Product	1919		1920		1921		1922		1923	
	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced
		1,000 lbs.		*1,000 lbs.*		*1,000 lbs.*		*1,000 lbs*		*1,000 lbs.*
Creamery butter	3,742	868,125	3,447	863,577	3,463	1,054,938	3,497	1,153,515	3,539	1,252,214
Whey butter (made from whey cream)	412	5,782	314	3,155	285	2,176	235	2,291	219	1,904
Renovated or process butter	17	12,189	12	7,530	10	5,877	9	4,448	5	2,802
American cheese:										
Whole milk	2,266	295,144	1,826	254,774	1,819	261,727	1,808	282,806	1,835	308,108
Part skim	91	6,854	50	4,467	13	1,455	20	2,164	23	2,145
Full skim	101	7,256	78	6,458	23	1,733	33	2,500	24	2,033
Swiss cheese (including block)	339	21,602	270	20,430	290	22,678	290	19,983	306	24,555
Brick and Munster cheese	529	38,776	514	44,126	406	42,073	438	37,194	378	33,250
Limburger cheese	167	7,844	125	7,503	100	7,035	104	7,383	108	7,100
Cream and Neufchatel cheese	61	5,639	40	7,601	35	9,279	38	9,936	51	10,334
All Italian varieties of cheese	64	4,391	41	4,779	35	3,793	34	2,627	32	2,132
All other varieties of cheese	94	11,733	76	12,383	48	6,065	51	5,387	42	5,040
Total cheese (not including cottage, pot, and bakers')		399,239		362,521		355,838		369,980		394,697
Cottage, pot, and bakers' cheese	489	31,614	357	29,887	329	27,316	363	32,389	357	35,527
Condensed milk (sweetened):										
Case goods—										
Skimmed	30	7,468	15	7,700	7	3,861	8	3,915	10	2,748
Unskimmed	104	573,044	75	340,391	59	199,985	49	230,456	51	196,058
Bulk goods—										
Skimmed	118	65,377	111	84,223	85	66,051	92	76,049	99	102,236
Unskimmed	101	38,394	58	25,524	43	22,324	46	30,292	56	44,860
Evaporated milk (unsweetened):										
Case goods—										
Skimmed	18	3,626	9	5,526	3	1,405	4	3,574	4	7,035
Unskimmed	156	1,194,496	130	979,873	136	1,028,172	132	949,909	139	1,252,520
Bulk goods—										
Skimmed	133	71,039	118	64,304	113	69,220	114	67,066	113	77,416
Unskimmed	126	77,514	93	72,474	92	73,145	78	70,088	73	92,008
Total condensed and evaporated milk		2,030,958		1,578,015		1,464,163		1,431,349		1,774,881
Evaporated, part or full skimmed modified with foreign fat:										
Case goods	11	62,262	12	84,044	15	59,050	14	38,538	9	6,935
Bulk goods	10	2,733	6	2,517	7	5,873	4	1,915	1	110
Sterilized milk (canned same as condensed)	14	4,421	8	5,623	5	5,074	5	330	1	80
Condensed or evaporated buttermilk	25	24,282	5	32,539	24	29,314	36	44,343	43	54,833
Dried or powdered buttermilk	15	5,279	19	5,704	24	7,708	22	9,007	35	13,032
Powdered whole milk	20	9,042	19	10,334	15	4,242	18	5,599	18	6,560
Powdered skimmed milk	55	34,945	56	41,893	50	38,546	53	40,617	65	62,251
Powdered cream	6	607	5	309	3	130	4	118	4	328
Dried casein (skim-milk product)	136	13,685	85	11,441	73	8,066	74	6,907	124	14,500
Dried casein (buttermilk product)	17	722	3	85	2	10	1	20	1	48
Malted milk	11	17,436	8	19,715	7	15,652	7	13,659	7	15,331
Milk sugar (crude)	24	6,616	21	5,583	9	2,890	7	2,191	11	2,872
Ice cream of all kinds (gallons)	2,758	133,056	2,427	148,298	2,642	147,949	2,673	161,609	2,657	183,412

TABLE 466.—*Dairy products and oleomargarine: Production, 1919–1923*—Contd.

Product	1919		1920		1921		1922		1923	
	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced	Number factories reporting	Quantity produced
Oleomargarine (uncolored):										
Animal and vegetable oil	45	*1,000 lbs.* 214,759	51	*1,000 lbs.* 161,636	55	*1,000 lbs.* 103,962	57	*1,000 lbs.* 104,285	51	*1,000 lbs.* 121,271
Exclusively vegetable oil	58	132,906	71	190,280	71	99,265	69	74,127	60	93,970
Exclusively animal oil	5	3,391	7	3,843	3	624	3	303	4	450
Oleomargarine (colored):										
Animal and vegetable oil	33	9,303	36	8,951	36	5,960	36	4,976	34	7,078
Exclusively vegetable oil	23	9,793	34	5,359	35	2,026	33	1,384	27	2,808
Exclusively animal oil	2	1,165	3	94	2	30	1	1	------	------
Total oleomargarine (colored and uncolored)	------	371,317	------	370,163	------	211,867	------	185,076	------	225,577

Division of Dairy and Poultry Products. Compiled from reports made by manufacturers.

TABLE 467.—*Dairy products and oleomargarine, production, by months, 1923*

[Thousands of pounds—i. e., 000 omitted]

Manufactured product	Factories reporting, number	Quantity manufactured in 1923											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Creamery butter	3,539	83,688	74,134	88,311	100,547	134,350	158,371	148,278	120,802	102,273	89,297	74,909	77,254	1,252,214
Whey butter (made from whey cream)	219	99	100	128	141	166	189	191	164	149	261	162	154	1,904
Renovated or process butter	5	319	190	215	233	242	160	150	269	232	247	257	288	2,902
American cheese:														
Whole milk	1,835	15,092	15,326	20,184	24,014	32,942	41,382	38,288	31,822	28,648	25,566	18,236	16,608	308,108
Part skim	23	128	138	112	130	234	339	309	136	114	154	161	190	2,145
Full skim	24	172	142	209	133	175	317	276	153	48	161	125	122	2,033
Swiss cheese (including block)	306	196	199	298	1,018	2,948	3,468	4,015	3,683	3,368	2,756	1,855	751	24,555
Brick and Munster cheese	378	2,053	2,010	2,561	3,375	3,692	3,894	3,127	2,686	2,381	2,285	2,431	2,755	33,250
Limburger cheese	108	343	313	362	515	707	830	952	636	647	794	555	446	7,100
Cream and Neufchatel cheese	51	928	918	936	892	979	819	827	712	645	797	924	957	10,334
All Italian varieties	32	91	111	122	180	237	240	274	228	213	155	131	150	2,132
All other varieties	42	424	452	603	445	417	356	324	357	388	461	429	384	5,040
Total cheese (not including cottage, pot, and bakers')		19,427	19,609	25,387	30,702	42,331	51,645	48,392	40,413	36,452	33,129	24,847	22,363	394,697
Cottage, pot, and bakers' cheese	357	2,778	2,594	3,332	3,357	3,806	3,158	2,498	2,436	2,370	3,002	2,996	3,200	35,527
Sweetened condensed milk:														
Case goods—														
Skimmed	10	222	302	435	246	411	325	196	173	204	157	23	54	2,748
Unskimmed	51	13,423	11,702	17,901	23,605	23,263	19,544	16,580	11,969	11,663	15,752	13,709	16,947	196,058
Bulk goods—														
Skimmed	99	8,197	7,582	8,875	9,309	12,409	11,663	8,333	8,168	7,383	7,796	5,961	6,560	102,236
Unskimmed	56	3,217	2,640	2,704	4,295	6,506	7,346	6,324	4,064	2,485	2,219	1,714	1,346	44,860
Unsweetened evaporated milk:														
Case goods—														
Skimmed	4				178	180	270	242	394	385	1,900	1,881	1,605	7,035
Unskimmed	139	78,903	77,908	89,001	118,014	138,170	160,653	139,445	110,787	99,214	96,275	75,019	69,131	1,252,520
Bulk goods—														
Skimmed	113	3,663	3,322	5,774	6,157	8,664	12,114	9,856	7,694	6,150	5,628	4,453	3,941	77,416
Unskimmed	73	5,836	5,034	6,564	8,274	12,123	16,630	10,929	9,532	7,674	3,759	2,903	2,750	92,008
Total condensed and evaporated milk		113,461	108,490	131,254	170,078	201,726	228,545	191,905	152,781	135,158	133,486	105,663	102,334	1,774,881

Evaporated, part or full skimmed, modified with foreign fat:														
Case goods	9	2,642	551	478	264	704	185	257	421	797	467	48	121	6,935
Bulk goods	1				14	23	34				12	13	14	110
Sterilized milk (canned same as condensed)	1				9	12	25				9	13	12	80
Condensed or evaporated buttermilk	43	3,249	2,851	3,377	3,099	5,576	6,197	5,664	5,370	4,802	4,876	4,636	4,536	54,833
Dried or powdered buttermilk	35	686	731	943	1,097	1,531	1,858	1,520	1,434	1,049	651	673	859	13,032
Powdered whole milk	18	261	214	398	678	686	1,150	851	502	408	639	434	339	6,560
Powdered skim milk	65	3,589	3,680	4,476	5,841	7,361	7,268	5,946	4,749	4,547	4,990	4,386	5,418	62,251
Powdered cream	4				57	97	87	33	24	12	9		9	328
Dried casein (skim milk product)	124	459	574	1,141	1,634	1,839	2,025	1,631	1,184	863	1,003	917	1,230	14,500
Dried casein (buttermilk product)	1		6	38		1	3							48
Malted milk	7	1,090	1,179	1,442	1,655	1,621	1,557	1,208	1,156	973	1,143	1,222	1,085	15,331
Milk sugar (crude)	11	85	100	224	416	424	402	326	229	184	172	152	158	2,872
Ice cream of all kinds (gallons)	2,657	6,052	5,625	8,570	12,433	19,667	29,034	31,137	25,957	17,630	12,725	7,495	7,087	183,412
Oleomargarine (uncolored):														
Animal and vegetable oil	51	10,484	9,715	10,918	10,008	9,860	7,946	7,902	9,696	10,575	11,492	11,586	11,089	121,271
Exclusively vegetable oil	60	9,392	8,248	8,930	7,886	6,576	5,483	4,881	5,716	7,603	9,869	9,640	9,746	93,970
Exclusively animal oil	4	23	17	29	28	15	46	25	74	46	39	60	48	450
Oleomargarine (colored):														
Animal and vegetable oil	34	653	557	631	610	627	451	441	502	593	656	622	735	7,078
Exclusively vegetable oil	27	225	217	256	245	228	183	160	178	237	261	297	309	2,808
Total oleomargarine (colored and uncolored)		20,777	18,754	20,764	18,777	17,298	14,109	13,409	16,166	19,054	22,337	22,205	21,927	225,577

Division of Dairy and Poultry Products.

TABLE 468.—*Condensed milk: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Australia [1]	4,463	727	93	33,287				
Canada	259	4,575	147	35,401	232	24,813	177	41,056
Denmark	[2] 11	[3] 4,724	6	37,523	3	50,293		66,969
Italy	806	5,913	1,129	289	664	1,043	987	6,791
Netherlands	[4] 39	55	281	66,899	534	190,581	163	227,393
New Zealand [1]	261	132	41	3,029	48	1,482	3	1,443
Norway	3	32,106	1,210	6,556	1,089	15,382	986	16,069
Switzerland	201	80,539	1,432	46,825	5	45,474	177	55,827
United States		[3] 16,200	8,668	289,725	5,294	187,497	10,398	194,264
PRINCIPAL IMPORTING COUNTRIES								
Argentina	742				816			
Belgium	[5]	[5]	2,672	46	762	140	669	89
Brazil	8,694		579		1,383			
British India [1]	11,236		7,815	116	7,222	172	[6] 7,083	[6] 195
China	4,484		6,185		8,025		9,443	
Cuba	28,457		42,799		41,228			
Egypt	[7] 1,628		893	23	2,310	24	1,545	38
France	2,458	4,140	37,261	11,723	32,923	7,350	31,304	8,286
Germany [8]	66	12,080	9,815	[9] 2,890	9,294	1,022	8,872	582
Japan	10,061		8,015	132				
Java and Madura	[2] 6,136	[2] 74	10,443		11,052			
Philippine Islands	12,311		12,239		12,177			
Spain	5,605		5,639		83		[10] 36	
Sweden	28	92	94	467	162	8	190	
Union of South Africa	21,227	[11]	7,282	[11]	6,932	1	10,697	1
United Kingdom	121,175	48,221	235,349	4,065	207,081	15,589	249,996	13,469
Total, 25 countries	240,351	209,578	400,166	538,996	349,321	540,871	332,726	632,472

Division of Statistical and Historical Research.
Official sources.

[1] Includes some preserved milk.
[2] Two-year average.
[3] Four-year average.
[4] Three-year average.
[5] Not separately stated.
[6] Twelve months' sea trade, eleven months' land trade.
[7] One year only.
[8] Includes some powdered milk.
[9] Eight months, May–December.
[10] Ten months.
[11] Less than 500 pounds.

TABLE 469.—*Milk: Retail price, standard or grade B milk, per quart, delivered to family trade in cities, 1920–1924*

Market and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Boston: 1920	17	17	17	17	16	16	17	17½	18	18	18	18
1921	17	16½	16	15½	15	15	15	16	15½	15	15	15
1922	13½	13½	13½	13½	12½	12½	13½	13½	13½	14½	14½	14½
1923	14½	14½	14½	13½	13½	13½	14	14½	14½	14½	15½	13½
1924	14½	13½	12½	12	12	12	12½	13½	14½	14½	14½	14½
New York: 1920	18	16½	16½	15	15	15	16	17	18	18	18	17
1921	17	16	15	------	------	14	14	15	15	15	15	16
1922	15	15	15	------	15	13	14	15	15	15	15	16
1923	16	15	15	15	14	14	14	14	15	15	16	16
1924	15	14	14	14	13	13	13	13	14	14	15	15
Philadelphia: 1920	14	14	14	14	14	14	14	15	15	15	15	13
1921	13	13	13	13	11	11	11	11	11	11	11	11
1922	11	11	11	11	11	11	11	11	11	12	12	12
1923	11½	12	12	12	13	13	13	13	13	13	12	12½
1924	12	12	12	12	12	12	12	12	12	12	12	12
Pittsburgh: 1920	16	16	16	15	15	15	15	16	16	16	16	16
1921	15	15	14	14	14	14	14	14	14	14	14	13
1922	13	12	12	12	12	12	12	12	------	------	14	14
1923	------	------	14	14	14	14	14	14	14	15	15	15
1924	15	14	14	14	14	14	14	14	14	14	14	14
Cincinnati: 1920	15	15	15	15	15	15	15	15	15	16	15	15
1921	15	14	14	14	13	13	13	13	13	13	13	13
1922	13	12	12	12	12	12	12	12	12	12	12	12
1923	12	12	12	12	12	12	12	12	12	14	14	14
1924	14	14	14	14	14	------	------	------	------	------	------	------
Cleveland: 1920	16	16	16	15	15	15	15	16	16	16	15	15
1921	15	14	14	14	14	13	13	13	13	13	13	13
1922	11	11	11	10	10½	10½	10½	11	11	13	13	14
1923	14	14	14	14	13½	13	14	14	14	13½	14	12
1924	13½	14	13½	13½	14	12	11	14	13½	13½	13½	13½
Indianapolis: 1920	14	14	14	14	14	14	14	14	14	14	14	14
1921	14	14	13	13	13	12	12	12	12	12	11½	11
1922	11½	11	11	10½	10½	10	10	10	10	------	10	10
1923	10	12	12	12	12	12	12	12	12	12	12	12
1924	12	12	12	12	12	12	12	12	12	11	12	12
Chicago: 1920	15	15	14	14	14	14	15	16	16	16	15	14
1921	14	14	14	14	14	14	14	14	12	12	12	12
1922	12	12	12	12	12	12	12	12	12	12	12	12
1923	12½	13	13	13	13	13	14	14	14	14	14	14
1924	14	14	14	14	14	14	14	14	14	14	14	14
Detroit: 1920	16	16	16	16	15½	15½	16	16	16	16	16	14
1921	13	13	13	13	13	13	13	13	13	13	13	13
1922	13	13	12	11½	11½	11½	12	13	13	13	13	14
1923	13½	13½	13½	14	14	14	------	15	15	15	14	13½
1924	14	14	14	14	14	13½	14	13½	13½	13½	13½	13½
Milwaukee: 1920	13	13	12	12	12	12	13	13	13	13	11	11
1921	------	10	10	10	9	9	9	10	9	9	9	9
1922	9	9	9	9	9	9	9	9	9	9	10	10
1923	10	10	10	10	10	10	10	11	11	11	11	10½
1924	11	11	11	11	11	11	11	11	11	10½	10	10
Minneapolis: 1920	13	13	13	13	13	13	13	14	14	14	14	14
1921	13	12½	12	12	11	10	10	11	11	11	11	10½
1922	10	10	10	10	10	10	10	10	11	11	11	11½
1923	11	11	10½	11	11	11	11	12	12	12	12	11½
1924	12	12	12	10	10	10	10	11½	11	11	11	11
St. Paul: 1920	13	13	13	13	13	13	13	14	14	14	14	14
1921	13	13	12	12	11	10	------	11	------	11	11	10½
1922	10	10	10	10	10	10	10	10	11	------	11	------
1923	11	11	11	11	11	11	------	12	12	12	12	12
1924	12	11	11	10	10	10	10	11	------	11	11	11
Sioux City: 1920	16	16	16	16	16	15	15	15	16	16	16	16
1921	15	14	13	------	12½	12½	12½	12½	12½	12½	12½	------
1922	11	10	10	10	10	10	------	11	------	------	------	------
1923	------	------	------	10	10	10	------	11	12	------	12	12
1924	12	12	12	12	11	11	11	11	11	11	------	11
St. Louis: 1920	16	16	16	15	15	15	15	16	16	16	16½	16
1921	16	15	14	14	13	14	13	13	13	13	13	10
1922	10	10	10	10	10	10	12	12	12	12	12	13
1923	13	13	13	13	13	13	13	13	13	13	13	13
1924	13	13	13	13	13	13	13	13	13	13	13	13
Kansas City: 1920	15½	15½	16	16	15½	15½	15	15½	15	15½	15½	15½
1921	14½	14	13½	13½	13½	13	14	14	14	14	14	14
1922	14	13	12	11	11	11½	11½	12	10	12	12	12½
1923	13	13	13	13	13	13	13	13	13	13	13	12½
1924	12	13	13	13	------	13	13	13	13	13	13	13
Washington, D. C.: 1920	18	17½	17½	17½	16	16	16	16	16½	17½	17½	17½
1921	16½	16	16	16	13	13½	13½	13½	14	15	15	15
1922	13½	13	13	13½	13	13	13	13	13	14	14	14
1923	14	14	14	14	14	14	14	14	14	14	15	15
1924	15	15	15	15	14	14	14	14	14	14	14	14

TABLE 469.—*Milk: Retail price, standard or grade B milk, per quart, delivered to family trade in cities, 1920–1924*—Continued

Market and year	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Richmond: 1920	16	16	16	16	16	17	16	16	16	16	16	16
1921	16	16	14½	13	14	14	14	14	14	14	14	14
1922	14	14	14	13	13	13	13	13	13	13	14	14
1923	15	14	14	14	14	14	14	14	14	14	15	----
1924	14	14	14	14	14	14	14	14	14	14	14	14
Jacksonville: 1920	20	20	20	20	20	20	25	25	25	24	22½	22½
1921	----	18	18	----	----	20	----	19	20	20	18½	18½
1922	17½	----	17	14	14	14	16½	15½	17	16½	17	17
1923	17½	17½	18½	16	15½	15½	16½	16	17	18½	18	17½
1924	19	20	----	17½	16½	17	17	17	18½	18½	18½	18½
Louisville: 1920	16	16	16	16	16	16	16	16	16	16	16	----
1921	15	20	----	----	----	----	11	12	11	11	11	11
1922	11	9	9	9	9	9	9	10	11	11½	12	13
1923	13	12	12	12	12	12	12	12½	12½	13	13	13
1924	13	13	13	13	12	12	12	12	12	12	13	13
Nashville: 1920	17	17	17	17	17	17	17	17	17	19	17	17
1921	16	16	16	14	14	14	14	14	15	14	14	14
1922	11	11	11	11	11	11	11	11	11	11	11	----
1923	12	12	12	12	12	12	12	12	----	----	14	14
1924	14	14	14	----	14	12	12	12	14	14	14	14
Birmingham: 1920	21½	20	20	20	23	20	20	22½	22½	20	20	22½
1921	22½	22½	----	20	----	18	20	17½	17½	17½	17½	17½
1922	20	18	----	17½	15	16	----	17½	----	----	16	----
1923	14	16	17	16	16	16	16	16	16	16	15	15
1924	15	17	17	17	17	16	17	16½	16½	18	18	18
New Orleans: 1920	19	19	19	19	17	17	17	17	19	19	19	18
1921	17	17	16	16	16	16	16	16	16	16	14	14
1922	14	14	14	14	14	14	14	14	----	14	14	14
1923	14	14	14	14	14	14	14	14	14	15	15	15
1924	----	----	15	15	14	14	14	14	14	14	14	14
Dallas: 1920	----	23	23	21	21	21	21	21	21	21	21	21
1921	----	19	17	----	15	----	15	----	15	----	----	15
1922	15	15	12	12	12	12	15	15	15	15	15	15
1923	15	15	15	15	15	15	15	15	15	15	15	14
1924	15	15	15	15	15	15	15	15	15	15	15	15
Butte: 1920	15	15	15	----	15	15	15	15	----	15	15	15
1921	15	15	15	----	13	----	12½	12½	12½	13	13	13
1922	12½	13	12½	12	12½	11½	11½	12	12	12	13	12½
1923	12½	12½	13	12½	12½	12	12½	12½	13½	13	13	13
1924	----	13	13½	13	13½	13½	13½	13½	13½	13	13	13½
Denver: 1920	12½	12½	13	13	13	13	13	13	13	13	13	13
1921	13	13	13	12	11	11	11	11	10	10	10	10½
1922	10	10	9½	10	10	9½	10	10	9½	10	10	12
1923	12	12	12	12	12	12	12	12	12	12	12	10
1924	12	12	12	12	12	11	12	12	12	12	12	13½
Salt Lake City: 1920	12½	12½	12½	12½	12½	12½	13	12½	12½	12½	12½	12½
1921	12½	12½	12½	12½	12½	12½	12½	12½	12½	12½	12½	12½
1922	10	8½	9	9	8½	8½	8½	8½	----	9	8½	9
1923	10½	10	10	----	10	----	----	10½	9½	10	10	11
1924	9½	9½	9½	9½	9½	9½	9½	----	9½	11	10½	10½
Seattle: 1920	14	14½	13½	12	----	13	14	14	14	14	----	13
1921	13	11	13	13	12	----	----	12	----	12	12	11
1922	13	13	13	12	12	12	12	13	13	12½	13	13
1923	13	13	13	13	12	12	12	12	13	13	13	10
1924	----	13	----	12	11	11	11	11	11	9	9	10
Portland, Oreg.: 1920	15	15	15	13	13½	13	13	14	14	14	14½	14½
1921	14	14	14	----	13	12	12	12½	12½	12½	12	12
1922	12	11	11	----	11	11	11	12	12	12	12	12
1923	12½	12	12½	12	12	12	13	12	12	12½	12	11½
1924	12	11½	11	11	11	11	----	12	11½	11	11	10½
Los Angeles: 1920	16	16	16	16	16	16	18	18	18	18	18	18
1921	18	16	16	16	----	16	15	14	14	14	14	14
1922	14½	14	14	14	14	14	14	14	14	14	15	15
1923	15	15	15	15	15	15	15	15	15	15	15	15
1924	15	15	----	16	15	15	17	15	17	17	14	14½
San Francisco: 1920	16	16	15½	15	16	16	15½	17	17	17	17	17
1921	15½	15½	15	15	15	14½	13½	14	14	13½	13½	13½
1922	13½	12½	12½	12½	----	12½	12½	12½	12½	12½	12½	13
1923	12½	12½	12½	12½	12½	12½	12½	12½	----	----	14	14
1924	14	14	14	14	14	14	14	14	14	14	14	14

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TABLE 470.—*Milk: Wholesale price, standard or grade B milk, per quart, in cases of 12 quarts, 1920–1924*

Market and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Boston: 1920	15	15	15	15	14	14	15	15	16½	16½	16½	16½
1921	15½	15	13½	13½	13½	13½	13½	14	14	14	14	14
1922	11	10½	10½	10½	10½	10	11	11	11	12	12	12
1923	12	12	12	11½	11½	11½	12	12½	12½	12½	13½	13
1924	12½	11½	10½	10	10	10	10½	11½	12½	12½	12½	12½
New York: 1920	17½	16	16	15	15	15	------	17	18	18	18	17
1921	17	16	15	------	------	------	14	15	14½	14½	14½	14½
1922	14½	14½	13½	------	13	12½	14	14½	14½	14½	14½	15½
1923	15½	14	14	14	13½	13	13	13	14	14	14½	14
1924	14	13	13	13	12	12	------	12	13	13	14	14
Philadelphia: 1920	13	13	13	13	13	13	13	14	14	15	14	12
1921	12	12	12½	------	10	10	10	10	10	10	10	10
1922	10	10	10	10	10	10	10	10	10½	11	11½	11½
1923	10½	11	11½	12	12	12	12	12½	12½	12	11½	11½
1924	11½	11½	11½	11½	12	11	11½	11½	11½	11	12	12
Pittsburgh: 1920	15½	15	15	14½	14½	14½	14½	15½	15½	15½	15½	15½
1921	14½	14½	13½	13½	13½	13½	13½	13½	13½	13½	13½	12½
1922	12½	11½	11½	11½	11½	11½	11½	12	------	12½	13½	13½
1923	13½	13½	13½	13½	13½	13½	13½	13½	13½	14½	14½	14½
1924	14½	13½	13½	13½	13½	13½	13½	13½	13½	13½	11	------
Cincinnati: 1920	14½	14	14	------	14	14	14	14	14	14	14	14
1921	14	13	13	------	12	12	12	12	12	12	12	12
1922	12	11	11	11	11	11	11	11	11	11	11	11
1923	11	11	11	11	11	11	------	10	10½	12	12	12
1924	12	12	12	12	12	------	------	------	------	------	------	------
Cleveland: 1920	14½	14½	14½	13½	13½	13½	13½	14½	14½	14½	13½	13½
1921	13½	12½	12½	12½	12½	11½	11½	11½	11½	11½	11½	11
1922	9	9	9	9	8½	8½	8½	8½	8½	10½	10½	11½
1923	11½	11½	11½	11½	11½	11	11	11½	11½	11½	11½	11½
1924	11½	11½	11½	11½	11½	9	9	11	10	11	11	12
Indianapolis: 1920	12	12	12	12	12	12	12	12	12	12	12	12
1921	12	12	11	11	11	10	10	10	10	10	10	9
1922	10	9	9	9	9	8	8	8	8	8	8	8½
1923	8½	10½	10½	11½	10½	10½	10½	10	10½	10½	10½	10½
1924	10	10½	10	10	10	10½	10	10	10	10	10	10½
Chicago: 1920	14½	14½	13½	13½	13½	13½	14½	15½	15½	15½	14	13½
1921	13½	13½	13½	13	13	13½	13½	13	11½	11½	11½	11½
1922	11	11	11	9½	11	11	11	11	11	10	11	11
1923	11	12	12	12	11	12	13	13	13	13	13½	13½
1924	------	13½	13	12½	12½	12½	12½	12½	13	13	13	13
Detroit: 1920	15	15	15	15	14½	14½	15	15	15	15	15	13
1921	12	12	12	12	12	12	12	12	12	12	12	12
1922	12	12	11	11	10½	10½	10½	11	11	11½	10	11
1923	12	11½	12	12½	12½	12	------	13	13	13	12	12½
1924	12	12	12	12	12	11½	12	12	11	11	10	10
Milwaukee: 1920	12	12	11	11	11	11	12	12	12	12	10	10
1921	------	8½	8½	8½	7½	7½	7½	8	7½	7½	7½	7½
1922	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	8½	8½
1923	8½	8½	8½	8½	8½	8½	8½	9½	9½	9½	9½	9½
1924	9½	9½	9½	9½	9½	9½	9½	9½	9½	9	8½	9
Minneapolis: 1920	11½	11½	11½	11½	11½	11½	11½	12½	12½	12½	12½	12½
1921	11½	11	10½	10½	9½	8½	8½	9½	9½	9½	9½	9
1922	8½	8½	8½	8½	8	8½	8	8½	9	9	9	10
1923	9½	9½	9½	9½	9½	9½	9½	10½	10½	10½	10½	10½
1924	10½	10½	10½	8½	8½	8½	9	9½	9½	10	9½	9½
St. Paul: 1920	12	12	12	11½	11½	------	12	12½	12½	12½	12½	12½
1921	11½	11½	10½	10½	9½	8½	------	9½	------	9½	9½	9½
1922	8½	8½	8½	8½	8½	8½	8½	8½	9½	9½	9½	------
1923	9½	9½	9½	9½	9½	9½	9½	10½	10½	------	------	10½
1924	10½	9½	9½	8½	8½	------	------	9½	------	9½	9½	------
Sioux City: 1920	14½	14½	14½	14½	14½	13½	13½	13½	14½	14½	14½	14½
1921	13½	12½	11½	11	11	11	11	11	11	11	11	------
1922	9½	8½	8½	8½	8½	8½	8½	------	9	------	------	------
1923	------	------	------	8	8	8	------	9	------	------	10	10
1924	10	10	10	10	9	9	9	9	9	9	------	9
St. Louis: 1920	15	15	15	------	14	------	14	15	15	15	15	15
1921	15	13½	13	12	13	11	11	11	11	11	11	------
1922	8	8	8	8	8	8	10	------	10	10	10	11
1923	11	11	11	11	11	11	11	11	11	11	11	11
1924	11	11	11	11	11	11	11	11	11	11	11	11
Kansas City: 1920	14	14	14	14½	14	13½	14	14½	13½	14½	13½	14½
1921	12½	13	11½	11½	11½	12	12	12½	12	12	11½	11
1922	11½	11	10	9	8½	9	9	9½	8½	9½	9½	10
1923	10½	10	10	10½	10	10½	11	10	10	11	10	10½
1924	10	11	11	10½	------	11	11	11½	10½	10½	10½	10½
Washington, D. C.: 1920	15½	15	15½	15	13½	13½	13½	14	14	15	15½	15
1921	14½	13	14	14	11	11	10	------	11	12	12	12
1922	11	12	10	10	10	10	10	10	10	11	11	11½
1923	11	11	11	11	11	11	11	11	11	11	12	12
1924	12	12	12	12	11½	11½	11½	11½	11½	11½	11½	10½

TABLE 470.—*Milk: Wholesale price, standard or grade B milk, per quart, in cases of 12 quarts, 1920–1924*—Continued

Market and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Richmond: 1920	16	16	16	16	16	15	16	16	16	16	16	16
1921	16	----	14½	11	13	13	13	13	13	13	13	13
1922	13	13	13	12	12	12	13	12	12	12	13	13
1923	13	13	13	13	13	13	13	13	13	13	14	14
1924	13	13	13	13	13	13	13	13	13	13	13	10
Jacksonville: 1920	17	17	----	18	18	----	22	22	22	18	18	18
1921	----	15	15	----	----	16	----	16	14	16	16	16
1922	13	----	15	11	12½	----	13	12½	14½	14½	15	14½
1923	14½	14½	14½	13	12½	12½	12½	13	13	15	15	14½
1924	16	16½	15½	14½	14½	14	14	14	14	14½	14½	14½
Louisville: 1920	14	----	14	14	14	14	14	14	14	14	14	----
1921	13	14	----	----	----	----	9	10	9	9	9	9
1922	9	7	7	7	7	7	7	8	9	9½	10	11
1923	11	10	10	10	10	10	10	10½	10½	11	11	11
1924	11	11	11	11	10	10	10	10	10	10	11	11
Nashville: 1920	16	16	16	16	16	16	16	16	16	16	16	15
1921	15	14	14	13	13	12	12	12	12	12	12	12
1922	10	9	9	9	9	9	9	9	9	9	9	10
1923	10	10	10	10	10	10	10	10	10	10	12	12
1924	12	12	12	12	12	10	10	10	12	12	12	12
Birmingham: 1920	15	18	15	15	15½	18	15	15	15	----	----	18
1921	18	15	----	15	14	14	14	13	13½	13½	13½	13½
1922	13	12	----	11	14	----	----	10	----	----	13	----
1923	14	13½	13½	13½	13½	13½	13½	13½	13½	13½	12	12
1924	12	14	14	14	14	13	13	13	13½	14	14½	14½
New Orleans: 1920	17	17	17	17	15	15	15	15	17	17	17	16
1921	15	15	14	14	14	14	14	14	14	14	12	12
1922	12	12	12	12	12	12	12	12	12	12	12	12
1923	12	12	12	12	12	12	12	12	12	12	13	13
1924	13	13	13	13	12	12	12	12	12	12	12	12
Butte: 1920	----	12½	12½	----	----	12½	12½	12½	----	15	----	----
1921	12½	12½	12½	----	10	----	----	10	9	10	10	10
1922	10	10	10	10	10	9½	9½	9½	9	10	10	10
1923	10	10	10	10	10	10	10	10	10	11	11	11
1924	----	11	11	11	11	11	11	11	11	11	11	11
Denver: 1920	11½	11½	12	12	----	11	12	11	11	11	11	11
1921	----	13	----	10	9	9	8½	9	8	8	8½	8½
1922	8	8	7½	8	8	7½	8	8	8	8	8	10
1923	----	10	10	10	10	10	9	10	10	10	10	10
1924	10	10	10	10	----	9	10	10	9½	10	10	11½
Salt Lake City: 1920	11	11	11	11	11	11	11	11	11	11	11	11
1921	12	11	11	11	11	11	11	11	11	11	11	11
1922	8	8	8	8	8	9½	8	8	----	8	8	8
1923	9	9	9	9	9	9	9	9	9	9	9	9
1924	9	9	9	9	9	9	9	9	10	10	9½	10
Seattle: 1920	11½	11	10	9	----	10	11	11	11	10½	----	----
1921	9	8½	9	9	8½	----	----	8½	----	8½	8½	8
1922	9½	9½	9½	8	8½	8½	8½	9½	9½	9	10½	10½
1923	10½	10½	10½	10½	9½	9½	9½	9½	10½	10½	10½	----
1924	10½	10	9½	9½	8½	8½	----	8½	8½	7	7	7½
Portland, Oreg.: 1920	13½	13½	13½	12	12½	12	12	12	13	13½	13	13
1921	12½	12	12	----	9	9	9	8	9	9	9	9
1922	9	8½	8½	----	8	8	8	9	9	9	9	9
1923	9	9	9	9	9	9	9	10	10	10	10½	9½
1924	10	9	8	8	8	8	----	8	8	----	8	7½
Los Angeles: 1920	15	15	15	15	15	15	17	17	----	17	17	17
1921	17	15	15	15	----	15	14	13	13	13	13	13
1922	13½	13	13	13	13	13	13	13	13	13	14	14
1923	14	14	14	14	14	14	14	14	14	14	14	14
1924	14	14	15	15	14	14	15	15	15	15	13	13
San Francisco: 1920	14	14	13½	13½	14	14	13½	14	14	14½	14½	15
1921	13	13	13	12	12	12	11	11	11	11	11	11
1922	11	10½	10½	11	----	10½	10	10	10	10	10	11
1923	11	10½	10	10½	10	10½	----	11	----	----	12	11½
1924	12	11	11	12	12	12	11	12	12	10	12	12

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TABLE 471.—*Creamery butter: Production, United States, 1917–1924*

[Thousand pounds—i. e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1917	43, 997	38, 459	47, 371	53, 809	75, 108	98, 898	94, 151	83, 936	76, 744	56, 176	42, 705	48, 157	759, 511
1918	44, 357	42, 389	49, 086	57, 332	85, 564	104, 385	97, 440	85, 148	72, 397	63, 886	45, 741	45, 560	793, 285
1919	52, 189	44, 343	54, 822	67, 487	103, 941	119, 357	104, 156	84, 458	68, 815	58, 723	45, 041	46, 662	849, 994
1920	49, 044	46, 355	56, 308	60, 622	86, 845	114, 695	110, 844	90, 669	77, 106	65, 129	53, 570	52, 395	863, 577
1921	58, 906	56, 556	67, 677	82, 763	119, 077	130, 633	111, 898	111, 638	89, 932	84, 374	70, 024	71, 460	1, 054, 938
1922	73, 505	67, 405	79, 532	86, 623	132, 351	150, 034	135, 231	114, 160	92, 359	83, 070	68, 628	70, 617	1, 153, 515
1923	83, 688	74, 134	88, 311	100, 547	134, 350	158, 371	148, 278	120, 802	102, 273	89, 297	74, 909	77, 254	1, 252, 214
1924	83, 603	82, 906	91, 409	10, 638	134, 142	155, 107	156, 385	130, 911	109, 159	------	------	------	---------

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

TABLE 472.—*Creamery butter: Net receipts at five markets, 1918–1924*

[Thousand pounds—i. e., 000 omitted]

NEW YORK

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918	------	11, 571	12, 468	10, 867	15, 018	21, 902	20, 986	15, 708	13, 367	16, 032	11, 639	11, 642	------
1919	13, 590	13, 225	13, 419	14, 157	18, 934	23, 493	19, 314	16, 335	16, 244	13, 405	12, 635	9, 954	184, 805
1920	9, 750	9, 259	10, 724	6, 485	10, 144	17, 623	17, 801	15, 048	12, 329	9, 985	8, 627	8, 301	136, 076
1921	10, 003	9, 116	10, 721	11, 792	17, 640	22, 513	17, 885	19, 562	17, 515	14, 113	12, 866	12, 311	176, 037
1922	13, 385	13, 620	15, 918	13, 424	20, 438	28, 588	25, 391	19, 083	15, 053	13, 958	13, 240	12, 235	204, 333
1923	16, 829	12, 341	16, 707	15, 409	20, 444	26, 468	23, 594	18, 172	15, 823	14, 924	12, 750	13, 070	207, 031
1924	13, 389	13, 763	15, 800	15, 290	18, 231	25, 344	27, 579	20, 835	18, 626	17, 086	11, 908	13, 422	211, 273

CHICAGO

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918	------	11, 005	11, 802	11, 873	12, 207	20, 088	21, 990	15, 225	12, 568	12, 256	9, 084	9, 608	------
1919	10, 188	8, 413	9, 472	10, 657	19, 152	27, 588	20, 358	15, 339	10, 876	8, 894	6, 383	6, 257	153, 577
1920	8, 321	7, 809	9, 422	8, 551	12, 887	22, 214	22, 843	16, 699	12, 776	9, 438	7, 592	7, 557	146, 109
1921	8, 312	8, 191	10, 062	11, 997	18, 009	23, 618	17, 815	17, 600	12, 287	12, 122	9, 246	10, 756	160, 035
1922	11, 266	9, 959	11, 726	11, 885	19, 483	26, 156	22, 457	17, 841	12, 949	11, 072	9, 632	11, 736	176, 162
1923	13, 704	11, 840	13, 076	13, 184	19, 327	27, 191	21, 593	15, 436	13, 855	12, 719	11, 642	13, 170	186, 737
1924	14, 912	15, 641	16, 932	15, 779	22, 260	27, 699	27, 255	21, 192	15, 998	14, 257	10, 672	11, 650	213, 347

PHILADELPHIA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918	------	681	2, 166	2, 054	2, 968	4, 084	3, 903	3, 364	2, 827	2, 848	2, 226	2, 396	------
1919	3, 161	2, 687	3, 099	3, 391	4, 186	5, 506	4, 155	3, 601	3, 424	3, 180	3, 460	2, 474	42, 324
1920	2, 698	2, 910	2, 809	2, 450	3, 044	5, 402	4, 836	3, 946	3, 884	3, 118	2, 488	2, 617	40, 202
1921	2, 686	2, 329	3, 191	3, 376	5, 075	6, 450	5, 362	4, 723	4, 222	3, 951	3, 459	3, 756	48, 580
1922	4, 536	3, 836	4, 032	3, 678	5, 377	7, 267	5, 681	4, 913	3, 779	3, 578	3, 368	3, 474	53, 519
1923	4, 223	3, 614	5, 023	4, 387	5, 348	7, 852	5, 307	4, 998	4, 350	4, 427	3, 527	3, 649	56, 705
1924	4, 332	4, 359	4, 345	4, 807	5, 719	8, 751	8, 165	5, 891	4, 747	4, 520	3, 802	3, 945	63, 383

BOSTON

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918	------	1, 540	3, 283	2, 802	4, 938	9, 634	9, 000	5, 214	3, 723	4, 588	3, 054	2, 875	------
1919	3, 318	3, 159	2, 596	3, 619	7, 897	11, 662	11, 324	6, 290	4, 333	2, 821	1, 827	1, 685	60, 531
1920	2, 658	2, 626	4, 437	3, 066	1, 698	13, 498	11, 909	7, 233	5, 590	3, 614	1, 966	2, 045	60, 340
1921	3, 077	3, 102	3, 428	3, 208	6, 650	10, 363	11, 146	4, 387	5, 782	5, 205	2, 713	2, 557	61, 618
1922	3, 957	3, 580	3, 963	3, 622	9, 017	14, 020	9, 558	7, 158	4, 967	3, 785	3, 706	3, 369	70, 672
1923	3, 802	4, 020	4, 810	5, 439	7, 037	12, 008	10, 977	7, 001	6, 001	4, 582	4, 199	3, 348	73, 224
1924	4, 362	5, 026	5, 368	5, 482	7, 754	13, 400	12, 538	7, 422	6, 437	4, 550	2, 381	2, 351	77, 021

TABLE 472.—*Creamery butter: Net receipts at five markets, 1918–1924*—Continued

SAN FRANCISCO

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918							1,549	1,500	1,278	1,684	1,538	1,332	
1919	1,267	1,480	2,014	2,792	2,955	2,457	2,179	1,752	1,090	1,339	1,460	1,332	22,117
1920	1,488	1,665	2,174	3,141	2,767	2,197	1,744	1,789	1,661	1,800	1,565	1,572	23,563
1921	1,652	1,441	1,982	2,345	2,256	2,306	2,359	2,710	2,064	2,538	2,370	1,718	25,741
1922	1,742	1,583	2,152	2,619	2,731	2,742	2,177	2,257	2,034	2,228	1,862	1,789	25,916
1923	2,055	1,524	1,959	2,406	2,462	2,883	2,616	2,224	1,878	1,906	1,656	1,942	25,511
1924	1,594	1,684	1,925	2,613	3,498	2,698	2,552	2,283	1,952	1,806	1,704	2,102	26,411

TOTAL

1918							57,428	41,011	33,763	37,408	27,541	27,853	
1919	31,524	29,064	30,600	34,616	53,124	70,706	57,330	43,317	35,967	29,639	25,765	21,702	463,354
1920	24,915	24,209	29,566	23,693	30,540	60,934	59,133	44,715	36,240	27,955	22,238	22,092	406,290
1921	25,730	24,179	29,404	32,718	49,630	65,250	54,567	48,982	41,870	37,929	30,654	31,098	472,011
1922	34,886	32,548	37,791	35,228	57,046	78,773	65,264	51,252	38,782	34,621	31,808	32,603	530,602
1923	40,613	33,839	41,575	40,825	54,618	76,402	64,087	47,831	41,907	38,558	33,774	35,179	549,208
1924	37,689	40,473	44,370	43,971	57,462	77,892	78,089	57,623	47,760	42,219	30,417	33,470	591,435

Division of Statistical and Historical Research. Compiled from records of the Division of Dairy and Poultry Products.

TABLE 473.—*Creamery butter: Receipts, gross, at five markets by States of origin, 1924*

[Thousand pounds—i. e., 000 omitted]

BOSTON

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Chicago	829	1,081	716	816	1,039	985	459	306	483	328	318	331	7,691
Illinois	1,218	1,599	1,654	1,428	2,303	3,763	2,089	1,340	792	666	453	388	17,693
Indiana	55	41	38	48	291	813	673	145	155	116	10	51	2,436
Iowa	209	120	138	82	264	413	825	395	428	253	105	129	3,361
Kansas	2	26	57	13	87	81	152	1	70	15		3	507
Kentucky	21				5	22	43						91
Maine	2	42	16	17	6	12	11	3	1	41	15	30	196
Massachusetts	101	16	62	17	9	76	74	21	37	169	103	38	723
Michigan	161	69	58	65	127	644	625	331	79	142	32	61	2,394
Minnesota	807	1,478	1,564	1,817	2,196	3,169	3,644	2,702	2,444	1,389	705	829	22,744
Missouri	47	11	13	3	155	280	319	103	259	137	73	4	1,404
Montana		13	71	33	1	6	1	49		22	24		220
Nebraska	248	107	215	276	520	1,291	1,672	767	519	461	58	244	6,378
New Hampshire	12	14	17	18	13	12	15	6	14	16	2	4	143
New York	461	349	432	329	254	392	823	789	919	441	169	110	5,468
North Dakota		42	53	49	64	257	391	199	117	32	26		1,230
Ohio	196	153	124	80	225	1,031	550	292	193	229	158	51	3,282
Oklahoma	2	12	31	18	25	69	27		50	6	4	44	288
South Dakota	56	64	227	250	271	471	504	265	190	101	15	36	2,450
Vermont	441	370	436	675	786	1,050	800	335	247	313	238	232	5,923
Wisconsin	45	33	80	104	116	277	396	307	270	212	99	44	1,983
Other States	13	35	31	34	1		72	25	1	23	26	26	287
Canada			29										29

TABLE 473.—*Creamery butter: Receipts, gross, at five markets by States of origin, 1924*—Continued

NEW YORK

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	6	6	4	6	12	10	7	4	1		2	10	70
California					36					22	24	5	87
Colorado	24	24					26					33	107
Georgia	10	6	1	2	15	9	6	7	3	5	13	20	97
Idaho	40	12	44								10		106
Illinois	1,995	1,772	1,887	2,095	3,779	4,445	4,593	3,916	3,248	2,667	1,900	2,742	35,039
Indiana	261	140	257	323	307	585	653	330	460	279	100	93	3,788
Iowa	3,539	3,973	4,182	4,084	4,985	6,719	7,286	5,725	5,459	4,788	3,568	3,473	57,781
Kansas	33	21			24	287	368	214	71	42	1	3	1,064
Kentucky	9	8	14	15	54	219	99	136	140	100	145	15	954
Louisiana	1			1	27	63	31						123
Maryland	22	6	4	1	14	3	47	14	2	4	6	9	132
Massachusetts	40	4	1	15	6	51	153	30	86	128	122	11	647
Michigan	506	1,236	1,281	682	835	1,111	1,605	1,421	960	525	564	539	11,265
Minnesota	4,909	5,262	6,776	6,934	6,635	8,086	9,384	6,888	6,247	5,666	3,411	3,968	74,166
Missouri	219	41	142	110	507	437	500	386	422	524	265	377	3,930
Montana	58				3	29	74	59	72	84	30	56	465
Nebraska	1,715	1,896	2,107	1,981	1,945	2,726	3,276	2,005	1,951	2,093	1,411	1,706	24,812
New York	419	181	172	241	586	1,317	1,030	1,135	730	1,065	914	395	8,185
North Carolina	27	18	9	11	22	23	21	16	14	12	12	12	197
North Dakota	22	17	3	28	17	44	46	43	53	95	3	26	397
Ohio	435	383	349	270	512	1,289	1,313	645	553	641	467	494	7,351
Pennsylvania	167	46	56	64	103	81	76	112	145	84	16	38	988
South Dakota	6	12	11	11	6	10	14	94	58	11	27	10	270
Tennessee	79	49	21	24	74	102	66	80	93	128	63	80	859
Texas			12		52	26		1				7	98
Virginia	23	15	8	11	31	142	134	81	65	80	71	24	684
West Virginia	5	4	3	4	4	7	17	6	5	13	5	3	76
Wisconsin	1,011	1,010	1,137	1,048	831	1,881	1,604	1,153	1,065	1,019	832	1,139	13,730
Other States	7	17	7	13	42	112	43	9	8	39	10	34	341
Canada	177	45	115	29	1	27		22	20	2	30	482	950

PHILADELPHIA

Alabama					2	25		28	26				81
California	174	50											224
Delaware		2	1			1		7	5	4	1		21
Illinois	754	445	1,700	700	1,252	1,230	901	904	573	705	756	948	10,874
Indiana	272	250	227	260	182	235	158	160	198	204	145	101	2,392
Iowa	111	107	85	121	290	572	531	282	241	205	161	77	2,783
Kansas	48	12	31	36	11	15	20	10	44	13	56	24	320
Kentucky	1	1			24	49	24	31	47	9			186
Maryland	1		83	11	4	9	2	1	8	11	6	1	137
Michigan	207	139	374	177	439	509	485	244	190	222	100	360	3,446
Minnesota	2,295	3,094	1,573	3,037	2,515	4,563	4,581	3,231	2,902	2,685	2,213	2,064	34,753
Mississippi	10				72	229							311
Missouri	222	162	40	90	116	148	241	212	248	107	44	47	1,677
Montana	43	20			21	48	24				41	24	221
Nebraska	164	159	161	161	313	212	190	256	208	110	216	259	2,409
New York	171	139	234	268	349	197	218	97	12	111	65	65	1,926
North Dakota		1		1	4	21		13	1	4			44
Ohio	73	84	162	91	324	632	606	365	335	299	216	250	3,437
Oklahoma					22	6	7	3	3	22	3	5	71
Pennsylvania	199	147	147	236	208	263	296	213	159	169	166	94	2,297
South Dakota	1		9			26	55	16	3				110
Tennessee	69	36	21	12	217	362	375	361	189	223	83	31	1,979
Virginia	104	109	77	80	126	202	238	185	130	161	128	98	1,638
West Virginia	6		3	5	13	34	25	9	24	14	5	8	145
Wisconsin	268	203	264	503	386	841	767	482	196	199	194	313	4,616
Other States	48	88		1	7	30	1	17		1		49	242
Canada		25	63	20	26	125	132						391

TABLE 473.—*Creamery butter: Receipts, gross, at five markets by States of origin, 1924*—Continued

CHICAGO

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama		2		4	1			1	41			2	51
Arkansas	1	2	1	2	6	7	3	2	3	1		1	29
Colorado	173	228	215	76	283	429	308	80	11	2	1	23	1,829
Georgia	1	1			1	1	1	1			1	1	8
Idaho	178	24											202
Indiana	33	37	34	20	106	242	308	73	80	102	31	36	1,102
Illinois	358	326	361	461	931	1,489	1,474	1,258	692	784	437	299	8,870
Iowa	2,886	3,631	3,873	3,516	5,291	6,050	5,540	4,383	3,548	3,080	2,302	2,796	46,896
Kansas	824	880	654	675	1,481	2,040	1,721	1,210	487	357	341	428	11,098
Kentucky	41	61	14	2	59	60	136	73	36	36	29	13	560
Michigan	97	144	155	170	159	361	281	105	112	84	28	65	1,761
Minnesota	3,549	4,528	5,136	4,047	4,234	4,425	4,386	4,014	3,522	3,163	2,727	3,037	46,767
Mississippi	1	1	26	2	25	92	45	3	1		1	3	198
Missouri	823	730	519	640	1,370	1,847	1,834	1,224	963	828	620	577	11,975
Montana	75	163	74	20	58	165	239	96	6	86	12	93	1,077
Nebraska	1,940	1,450	1,483	980	1,913	2,882	2,740	2,240	1,420	1,081	873	1,052	20,054
New Mexico		1	2			4	22	15					44
New York		62						3	5		24	59	153
North Dakota	265	212	329	549	195	383	1,047	1,020	452	741	533	575	6,301
Ohio	18	64	2		2	6	7	6	15	4	204	32	360
Oklahoma	101	51	79	138	665	421	306	222	96	41	24		2,144
Pennsylvania	14	7	10	7	4	1	3			1	55	1	103
South Dakota	952	1,051	1,336	1,177	1,410	2,069	2,460	1,989	1,253	923	578	773	15,971
Tennessee	4	3	2	3	1	1	1	11	2	2	3	2	35
Utah	62	97	33										192
Wisconsin	4,423	5,145	6,144	6,597	8,732	10,486	13,064	7,597	6,607	5,895	4,083	4,155	79,928
Other States	131	30	1	1	3	45	44	10	1	36	4	70	376

SAN FRANCISCO

California	1,455	1,587	1,880	2,389	3,118	2,343	2,094	1,862	1,567	1,482	1,509	1,698	22,984
Idaho	1	35		1		1	26	46	119	132	26	103	490
Montana	7			22	28	52	105	129	143	78	105	32	701
Nevada	13	13	6	24	26	19	12	38	55	33	10	10	259
Oregon	33	20	12	118	248	147	92	73	29	46	45	84	947
Utah	39	17	21	14	1		4	14	27	7		14	158
Washington	46	13	7	44	51	114	46	97	12	29	8	139	606
Other States				1	26	21	172	24				22	266

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

TABLE 474.—*Creamery butter: Cold-storage holdings, 1915–1924*

[Thousand pounds—i. e., 000 omitted]

Year beginning May	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1
1915				68,573	101,662	99,450	92,719	71,849	48,977	31,139	15,033	3,346
1916	1,082	7,017	53,863	102,537	105,836	100,522	85,260	79,292	46,134	30,474	16,952	6,805
1917	3,607	9,953	49,982	88,992	108,179	109,154	100,115	79,928	50,726	26,618	18,808	14,629
1918	9,536	12,098	49,140	88,305	99,334	87,883	80,874	65,111	43,910	36,777	24,191	11,909
1919	9,659	29,435	90,158	123,546	131,888	121,816	100,474	73,654	53,737	38,359	22,568	12,555
1920	7,554	12,872	52,526	101,455	115,558	113,385	101,778	79,760	58,682	41,490	27,103	14,732
1921	7,712	21,682	61,991	82,838	92,202	90,116	77,983	65,129	48,412	35,047	22,582	9,113
1922	3,830	13,202	67,410	103,151	112,039	96,680	73,857	47,773	26,819	16,122	8,910	4,824
1923	3,248	10,112	62,768	101,774	102,731	96,117	76,472	51,508	30,299	15,246	9,847	7,842
1924	8,913	22,348	74,184	134,118	156,440	153,494	135,018	100,832				

Division of Statistical and Historical Research.

TABLE 475.—*Butter: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	113	6,934	7	56,905	5	53,977	6	72,337
Australia [1]	46	77,859	732	127,347		78,975		[2] 55,116
Canada	3,388	3,973	4,018	9,133	6,397	21,505	2,738	13,174
Denmark	6,241	195,530	403	202,953	1,174	210,557	4,044	246,097
Finland	2,370	26,337	14	14,253	29	18,373	103	14,476
Italy	972	7,870	1,004	145	2,964	1,683	526	2,905
Netherlands	4,987	75,133	4,401	44,528	10,816	50,981	1,687	52,769
New Zealand	47	38,761	[3]	100,630		125,462	7	140,016
Russia	2,202	150,294						
Sweden	330	45,870	14,171	340	5,691	3,043	3,463	5,421
Union of South Africa	3,913	26	382	2,698	196	1,500	1,166	601
PRINCIPAL IMPORTING COUNTRIES								
Algeria	1,946	9	1,356	34	1,419	38		
Austria			452				3,600	1
Austria-Hungary	6,281	4,267						
Belgium	14,024	3,125	22,663	1,337	41,828	294	21,342	220
Brazil	4,551	[4] 4	3	51	7	15		
China	[5] 1,677		1,456		1,421		1,702	
Cuba	1,459		2,035		1,701			
Dutch East Indies	4,152		6,824		6,000			
Egypt	2,350	[4] 166	628	149	1,142	84	1,673	76
France	13,713	40,769	40,140	2,701	64,985	6,795	23,200	19,367
Germany	111,441	498	3,351	[6] 203	2,358	619	2,903	147
Greece	206	8	4,393		2,787		5,677	
Norway	976	3,137	7,560	29	7,654	14	5,825	26
Persia	2,201	3,059	840	209				
Peru	462	20	801	1	1,038	16	1,337	12
Philippine Islands	1,665		730		1,032		853	
Spain	939	259	620	354	694	2 1	378	391
Switzerland	11,106	44	15,994	10	15,088	8	14,684	20
Trinidad and Tobago	847		857	5	1,013	4		
United Kingdom	455,489	1,179	372,895	1,105	427,398	1,373	558,139	2,092
United States	1,647	4,125	18,558	8,015	6,957	10,938	23,741	5,846
Other countries	12,273	37	4,665	1,489	11,974	1,369	1,987	1,431
Total	674,014	689,293	531,953	574,624	623,768	585,154	680,751	632,541

Division of Statistical and Historical Research. Official sources.

Butter includes all butter made from milk, melted and renovated butter, but does not include margarine, cocoa butter, or ghee.

[1] Year beginning July 1.
[2] Nine months.
[3] Less than 500 pounds.
[4] Two-year average.
[5] Four-year average.
[6] Eight months, May–December.

TABLE 476.—*Butter: Average export price per pound in Copenhagen, Denmark, 1914–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1914	26.1	25.6	25.6	24.1	23.4	23.9	[1] 25.9	24.4	25.0	27.8	27.3	29.9	25.8
1915	29.6	26.9	28.0	27.6	29.6	29.1	31.0	32.6	34.7	41.6	40.5	36.6	32.3
1916	33.8	35.4	37.8	36.8	36.3	35.7	36.7	40.1	42.1	42.6	44.3	44.9	38.9
1917	45.3	39.6	38.4	37.2	38.6	40.5	45.0	49.7	54.6	65.4	68.4	65.5	49.0
1918	64.2	63.7	64.0	65.0	65.3	64.7	65.1	65.0	62.0	58.3	75.6	76.0	65.7
1919	75.8	73.8	72.4	71.1	58.2	50.8	48.4	46.5	54.7	53.8	59.5	52.1	59.8
1920	48.9	42.1	40.2	40.8	44.2	44.8	42.4	42.9	43.6	45.7	44.7	44.0	45.2
Av. 1914–1920	46.2	43.9	45.1	44.5	42.2	41.4	42.1	43.0	45.2	47.9	51.5	49.9	45.2
1921	42.4	39.3	40.4	43.9	33.5	32.4	38.3	41.1	36.4	38.3	39.9	31.8	38.1
1922	31.1	31.0	32.9	33.8	33.5	37.0	39.4	39.1	41.1	40.7	39.9	39.7	36.6
1923	40.5	41.3	41.0	34.5	29.5	29.3	30.7	34.7	40.3	38.9	39.4	41.4	36.8
1924	40.0	39.5	36.9	31.3	36.4	33.4	37.8	41.1	42.3	46.1	44.2	46.8	39.6

Division of Statistical and Historical Research. For earlier years, 1882–1913, see the United States Department of Agriculture Yearbook, 1923, p. 923.

Conversions from Danish quotations in ore per pund (1.1023 pound) at par of exchange (100 ore=26.8 cents) to July, 1914; July, 1914, to date at average monthly exchange rate as quoted by Federal Reserve Board.

TABLE 477.—*Butter: Farm price per pound, 15th of month, United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1910	28.3	27.1	26.0	25.6	24.8	23.7	23.6	24.5	25.7	26.0	27.4	27.8	25.5
1911	26.0	23.4	22.6	22.0	20.8	20.4	21.0	22.4	23.4	24.5	26.3	27.8	22.9
1912	28.6	28.1	26.6	26.0	25.4	24.1	23.6	24.0	24.9	26.2	27.8	28.6	25.7
1913	28.0	27.6	27.6	27.3	26.2	25.1	24.8	25.4	26.7	27.8	28.7	29.2	26.7
Av. 1910–1913	27.7	26.6	25.7	25.2	24.3	23.3	23.2	24.1	25.2	26.3	27.6	28.4	25.2
1914	28.3	26.7	25.4	24.4	23.3	22.8	23.3	24.5	25.6	26.2	27.4	28.6	25.1
1915	28.3	27.4	26.3	25.8	25.2	24.5	24.2	24.4	24.9	25.8	27.0	28.0	25.7
1916	28.0	27.4	27.4	27.8	27.2	26.1	25.9	26.8	28.2	30.0	32.8	34.2	28.6
1917	33.8	33.8	33.8	34.8	35.6	34.2	33.8	35.0	37.5	39.9	41.4	42.5	35.9
1918	43.4	43.6	42.0	40.3	39.2	38.4	39.0	40.6	44.3	48.4	51.2	53.8	42.7
1919	52.2	46.7	45.7	49.0	49.7	48.2	47.7	49.0	50.6	53.8	58.0	60.6	50.3
1920	59.6	56.8	56.0	56.8	55.6	52.6	51.8	52.2	53.2	54.2	54.5	51.8	54.3
Av. 1914–1920	39.1	37.5	36.7	37.0	36.5	35.3	35.1	36.1	37.8	39.8	41.8	42.8	37.4
1921	47.0	43.6	41.2	39.5	34.0	29.2	31.6	35.4	37.4	39.6	41.0	40.7	37.0
1922	37.4	34.6	34.6	34.6	34.1	33.1	33.0	33.4	34.8	37.4	40.2	42.9	35.3
1923	43.0	42.0	41.6	40.8	39.4	37.9	37.0	38.0	40.2	42.2	44.3	45.8	40.4
1924	44.9	44.4	43.2	40.3	38.3	36.3	37.0	37.7	38.2	38.8	39.3	41.8	39.4

Division of Crop and Livestock Estimates.

TABLE 478.—*Butter, first quality British: Average price per pound in Great Britain, 1904–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1904	26.9	27.9	27.0	24.3	21.1	20.9	21.3	24.5	25.2	26.7	27.5	29.1	25.2
1905	28.4	28.4	26.4	25.3	22.3	23.3	24.3	27.4	28.4	28.4	29.4	31.4	27.0
1906	30.9	30.4	29.4	27.9	25.9	24.3	25.4	27.9	29.9	30.9	31.4	31.9	28.8
1907	31.4	30.4	29.4	27.9	25.9	23.8	24.8	26.4	26.9	28.9	30.4	31.4	28.1
1908	30.9	31.9	30.9	28.4	26.4	23.8	25.9	27.9	28.9	29.4	29.9	30.4	28.5
1909	30.4	29.9	29.4	27.9	25.9	24.8	25.9	27.9	28.4	29.4	30.4	31.4	28.7
1910	30.9	31.4	30.9	29.4	27.4	25.3	25.9	26.9	27.9	28.9	29.4	30.4	28.7
1911	30.4	29.9	29.4	27.9	25.9	24.8	25.9	29.4	30.4	31.9	32.4	32.9	29.3
1912	32.4	32.9	31.4	29.4	26.4	25.4	26.9	27.9	28.9	29.9	30.9	31.9	29.5
1913	31.9	31.9	31.4	28.9	26.9	25.4	26.4	27.9	28.9	29.4	30.4	31.4	29.2
Av. 1909–1913	31.2	31.2	30.5	28.7	26.5	25.1	26.2	28.0	28.9	29.9	30.7	31.6	29.0
1914	31.4	30.9	30.4	28.9	26.4	25.4	27.0	31.2	30.6	31.0	32.2	33.0	29.9
1915	33.8	34.6	33.5	32.0	29.4	29.3	30.8	32.4	33.2	35.6	36.0	37.9	33.2
1916	38.1	37.7	37.7	36.7	34.7	32.7	34.2	38.2	40.6	42.1	44.6	46.0	38.6
1917	48.0	49.0	49.0	48.6	44.6	42.1	44.1	48.5	51.5	54.4	54.9	56.4	49.2
1918	55.9	56.4	56.4	57.0	56.0	55.5	54.9	54.5	54.5	55.0	57.0	58.0	55.9
1919	58.0	58.0	56.8	56.2	56.3	55.7	53.5	51.6	50.5	50.4	49.3	45.5	53.5
1920	44.7	64.4	71.1	73.0	60.2	57.6	59.4	63.7	68.0	73.8	74.6	76.4	65.6
Av. 1914–1920	44.3	47.3	47.8	47.5	43.9	42.6	43.4	45.7	47.0	48.9	49.8	50.3	46.6
1921	75.1	72.5	64.0	56.1	44.7	38.1	42.4	47.9	44.2	45.6	47.6	49.3	52.3
1922	43.6	42.3	39.7	40.5	38.4	36.6	43.5	46.5	47.1	48.1	50.4	52.8	44.1
1923	53.6	52.8	51.7	47.5	36.6	33.8	33.9	40.3	43.1	44.8	46.4	49.1	44.5
1924	48.8	47.1	44.6	40.1	34.1	33.3	38.7	44.3	47.6	49.5	53.5	55.9	44.8

Division of Statistical and Historical Research. Compiled from Ministry of Agriculture and Fisheries, Agricultural Statistics of Great Britain and Agricultural Returns of Great Britain. Average of wholesale prices at country markets. Conversions at par of exchange 1904–1913; subsequently at monthly average rates of exchange as quoted by Federal Reserve Board.

TABLE 479.—*Butter, 92 score creamery: Average wholesale price, at leading markets 1910–1924*

Market, and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
New York:	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1910	33	30	33	31	28	28	28	29	30	30	31	30	30
1911	26	26	24	21	22	23	25	26	27	30	34	37	27
1912	39	32	31	33	30	27	27	27	30	31	34	37	32
1913	35	36	37	35	29	28	27	28	32	31	34	36	32
1914	33	29	28	25	26	27	28	30	31	32	35	34	30
1915	34	32	30	31	29	28	27	26	27	29	31	35	30
1916	33	34	37	36	31	30	29	31	34	35	39	40	34
1917	40	44	42	44	40	39	39	41	44	45	46	50	43
1918	52	50	44	42	42	44	45	46	56	58	63	69	51
1919	62	52	62	64	58	52	53	55	59	68	71	72	61
1920	65	66	67	71	61	57	57	55	59	60	63	55	61
Av. 1914–1920	46	44	44	45	41	40	40	41	44	47	50	51	44
1921	52	47	48	46	32	33	40	43	43	47	45	44	43
1922	37	37	38	38	38	37	36	35	41	46	51	54	41
1923	52	50	49	46	42	39	39	44	46	48	53	55	47
1924	53	50	47	38	39	41	40	38	38	39	43	45	43
Chicago:													
1918			41	42	42	42	43	45	55	56	62	67	50
1919	60	49	60	62	57	51	51	53	57	64	69	68	58
1920	63	63	66	64	57	55	55	54	57	57	60	51	58
1921	48	47	47	44	29	32	39	40	42	45	44	43	42
1922	34	37	38	37	34	36	34	34	39	44	50	53	39
1923	50	50	49	45	40	39	38	43	46	47	52	53	46
1924	52	49	46	37	37	39	38	37	37	37	42	42	41
Philadelphia:													
1918					46	44	45	46	56	59	63	60	54
1919	62	52	62	65	59	53	54	56	59	68	70	73	61
1920	65	67	68	71	62	58	58	56	60	60	63	55	62
1921	53	48	49	47	33	33	40	43	43	47	46	45	44
1922	37	37	38	38	37	37	37	36	42	47	52	55	41
1923	52	50	50	46	42	40	40	45	47	49	53	55	47
1924	53	51	47	39	40	42	41	39	39	39	43	45	43
Boston:													
1918					46	44	45	46	55	59	62	67	53
1919	63	51	62	65	59	53	53	56	58	64	69	71	60
1920	65	66	68	69	61	58	58	57	59	59	60	54	61
1921	52	48	48	46	32	34	41	43	43	46	45	44	44
1922	37	37	39	38	37	37	37	36	40	46	50	54	41
1923	52	50	51	47	43	40	40	44	46	48	51	53	47
1924	53	52	48	39	39	42	40	39	38	38	42	44	43
San Francisco:													
1918										59	58	62	60
1919	56	49	56	56	56	54	54	55	60	63	64	65	57
1920	62	62	59	56	53	54	57	59	64	58	53	48	57
1921	42	46	38	34	31	34	39	42	44	46	46	41	40
1922	36	40	33	32	35	38	39	39	46	49	45	47	40
1923	48	46	42	41	42	44	42	45	48	47	48	48	45
1924	47	46	44	38	37	40	39	40	39	39	39	43	41

Division of Statistical and Historical Research. Compiled from Urner-Barry reports, 1910–1917, average of daily range; subsequently from reports of the Division of Dairy and Poultry products, average of daily prices.

TABLE 480.—*American cheese: Production in the United States, 1917–1924*

[Thousand lbs., i. e., 000 omitted.]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1917	8,519	9,415	11,918	17,577	28,932	38,796	35,296	32,248	37,613	22,303	14,262	8,070	264,949
1918	8,143	7,860	11,992	17,931	31,285	40,184	34,332	29,996	25,424	18,862	12,172	9,097	247,278
1919	10,956	11,855	19,009	21,642	34,849	44,599	35,465	30,940	26,257	23,114	13,107	10,044	281,837
1920	10,457	11,509	14,954	18,856	29,832	41,376	34,313	26,787	22,935	20,054	13,308	10,308	254,684
1921	11,889	12,857	17,678	23,521	34,556	36,444	26,977	27,652	23,612	21,496	13,426	11,618	261,726
1922	12,837	13,927	18,774	21,740	31,349	36,254	33,265	29,496	25,581	25,785	18,382	15,416	282,806
1923	15,092	15,326	20,184	24,014	32,942	41,382	38,288	31,822	28,648	25,566	18,236	16,608	308,108
1924	16,684	17,810	21,587	22,830	31,209	40,412	37,752	31,082	28,323				

Division of Statistical and Historical Research.
Compiled from reports of the Division of Dairy and Poultry Products.

TABLE 481.—*Cheese: Net receipts at five markets, 1918–1924*

[Thousand pounds—i. e., 000 omitted]

NEW YORK

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918	3,256	3,518	2,657	2,844	3,899	5,951	6,687	4,956	3,670	5,123	3,833	4,156	50,550
1919	3,479	3,173	4,393	5,114	7,008	7,075	6,972	5,428	7,121	6,367	4,621	4,294	65,045
1920	3,337	2,431	3,803	1,398	4,693	6,152	5,703	5,278	3,483	3,208	3,756	3,762	47,004
1921	3,274	3,337	2,883	4,068	6,003	5,856	6,655	4,772	4,308	4,415	3,657	2,753	51,981
1922	2,739	2,775	4,063	4,466	5,047	6,376	5,379	4,642	3,942	3,866	3,607	3,207	50,109
1923	2,908	3,385	4,341	4,196	4,610	5,207	6,110	4,757	3,845	3,791	3,544	2,731	49,425
1924	3,209	2,859	3,367	3,050	3,609	4,706	5,235	3,042	3,594	3,333	3,684	3,181	42,959

CHICAGO

1918	------	------	6,202	5,549	4,957	7,614	8,536	6,674	6,016	5,698	4,634	5,019	------
1919	5,925	4,864	5,495	6,287	7,833	9,778	8,539	8,323	7,362	6,648	5,073	4,902	81,019
1920	5,328	5,100	7,069	5,067	7,744	11,194	9,183	6,590	5,707	6,255	6,795	5,556	81,597
1921	6,042	5,423	7,147	6,840	9,290	9,832	7,112	6,930	6,734	8,091	6,147	6,261	85,849
1922	5,940	6,139	8,093	7,875	10,262	11,384	10,121	10,669	9,419	10,452	8,803	8,477	107,724
1923	7,775	7,243	8,124	9,053	10,745	15,039	13,874	11,750	10,652	12,608	9,216	7,566	123,645
1924	8,135	10,358	10,267	10,601	11,940	12,337	14,204	12,943	11,516	10,264	8,341	9,109	130,024

PHILADELPHIA

1918	------	------	642	629	1,228	1,148	2,315	1,389	940	1,262	706	877	------
1919	539	881	1,529	1,654	1,965	2,226	2,152	1,704	1,740	2,887	2,930	1,185	21,392
1920	874	1,040	1,489	626	1,743	2,104	1,657	2,189	1,362	1,130	1,431	1,221	16,806
1921	1,116	1,064	1,280	1,306	2,223	2,602	2,491	2,311	2,086	1,920	1,369	1,094	20,952
1922	1,144	1,120	1,506	1,523	1,750	1,827	1,846	1,887	1,815	2,101	1,738	1,067	19,324
1923	964	982	1,236	1,297	1,361	1,915	2,114	2,000	1,972	2,217	1,310	995	18,363
1924	1,000	1,086	1,188	897	1,092	1,850	2,061	1,704	1,660	1,978	1,218	1,132	16,866

BOSTON

1918	------	------	647	453	1,462	2,559	2,305	1,721	972	778	574	476	------
1919	351	577	1,100	1,088	2,000	2,374	2,898	2,091	1,422	1,859	1,231	791	17,722
1920	620	274	622	511	948	1,422	2,290	1,749	1,343	1,479	1,256	483	12,997
1921	435	574	691	685	978	2,503	1,701	1,173	1,262	1,456	1,249	501	13,208
1922	408	590	663	1,004	1,201	2,220	1,963	1,461	1,410	1,104	910	587	13,521
1923	828	436	947	1,029	1,195	2,074	2,304	1,936	1,165	1,777	1,302	921	15,914
1924	740	845	672	927	1,341	1,914	2,064	1,204	1,248	993	927	850	13,725

SAN FRANCISCO

1918	------	------	------	------	------	------	693	1,372	785	935	651	764	------
1919	694	846	869	1,219	1,263	1,195	1,706	871	874	730	795	1,027	12,089
1920	935	810	935	981	1,012	1,002	964	601	936	852	564	611	10,203
1921	621	885	757	963	867	887	1,365	813	533	771	806	364	9,632
1922	503	634	464	697	886	963	902	1,147	877	800	551	733	9,157
1923	588	571	706	858	1,052	1,171	1,362	1,237	985	932	1,185	1,043	11,690
1924	725	944	1,046	700	1,039	1,234	1,579	1,103	837	911	714	650	11,482

TOTAL

1918	------	------	------	------	------	------	20,536	16,112	12,383	13,796	10,398	11,292	------
1919	10,988	10,271	13,386	15,362	20,069	22,648	22,267	18,417	18,519	18,491	14,650	12,199	197,267
1920	11,094	9,655	13,918	8,583	16,140	21,874	19,797	16,416	12,831	12,924	13,802	11,633	168,667
1921	11,488	11,283	12,758	13,952	19,361	21,680	19,324	15,999	14,923	16,653	13,228	10,973	181,622
1922	10,734	11,258	14,789	15,565	19,146	22,770	20,211	19,806	17,463	18,323	15,699	14,071	199,835
1923	13,063	12,617	15,354	16,433	18,963	25,406	25,764	21,630	16,619	21,325	16,557	13,254	219,037
1924	13,899	16,092	16,540	16,175	19,030	22,041	25,143	19,996	18,855	17,479	14,884	14,922	215,056

Division of Statistical and Historical Research.
Compiled from records of the Division of Dairy and Poultry Products.

TABLE 482.—*Cheese: Receipts, gross, at five markets, by States of origin, 1924*

[Thousand pounds—i. e., 000 omitted]

BOSTON

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Chicago	103	246	16	45	173	77	160	131	46	97	187	239	1,520
Illinois	150	201	136	317	194	33	111	22	78	35	66	69	1,412
Iowa	2						1		2				5
Michigan	26					28				20			74
New Hampshire	3	3	2	27	1	2		1	1			1	41
New York	260	183	257	217	460	856	827	504	687	413	382	163	5,209
Ohio	1	8	10	7	9	21	9	10	13	11	25	13	137
Pennsylvania	24	22	17	12	14	12	16	12	12	13	9	17	180
Vermont	12	76	76	189	71	148	66	10	6	8	65	9	736
Wisconsin	98	93	153	110	416	735	873	514	401	394	192	338	4,317
Other States	5	12	5	3	3	2	1		2	2	1	1	37
Canada	56												56

NEW YORK

Illinois	629	761	824	748	634	722	670	368	518	661	1,170	677	8,382
Indiana		23			22	149			63	81	79	164	581
Iowa	2		20	42	36				25	26	35	109	295
Maryland	12		15	1		1							29
Massachusetts	32	34	18	73	16	11	10	5	1	1	28	6	235
Michigan	77	19	49	50	35	149	167	7	52	15	24		644
Minnesota				22	172	24	47		26	50	10	1	352
Missouri		3	1	1	1	1	1		1		1	38	48
Nebraska			1						80			159	240
New Hampshire						22				14			36
New Jersey	6	9	17	7	4					2	1	3	49
New York	1,525	979	1,292	891	1,269	1,326	1,627	903	1,077	1,106	1,312	1,081	14,478
Ohio		27	20	6	6	22		45	1	7		1	136
Pennsylvania	47	33	41	26	110	48	18	3	84	104	70	34	618
Vermont		1	1			75			2				79
Virginia		6	1	42									49
Wisconsin	964	958	1,008	1,104	1,255	2,129	2,664	1,619	1,658	1,198	901	881	16,339
Other States	1	1	2	1	14	22	13	3	2	37	15	2	109
Canada	4	5	57	36	5	5	17	29	4	30	38	25	259

PHILADELPHIA

Illinois	378	444	414	245	247	389	340	437	424	283	453	279	4,333
Iowa					138	1		23		1		1	164
Massachusetts					24	1	40		18				83
Michigan							52	59	22	67			200
New York	443	294	359	194	257	313	280	157	311	384	294	369	3,655
Pennsylvania	13	88	11	7	22	13	7	2	1	40	15	21	240
Wisconsin	165	260	404	403	403	1,100	1,341	1,025	883	1,158	450	411	8,003
Other States	1			47	1	33	1	1	1	45	6	51	187

CHICAGO

Colorado	2	1				7	6	12		3	2	1	34
Idaho	180	135	136	177								48	675
Indiana	5	11	2	2	2	4	1	4	3	3	7	6	50
Illinois	186	220	225	266	351	582	435	418	351	328	279	324	3,965
Iowa	9	32	26	27	87	73	136	52	20	60	45	53	620
Kansas		28	1	1									30
Kentucky		1		1			2	1	7				12
Michigan	64	113	113	102	147	192	78	80	103	168	52	29	1,241
Minnesota	326	243	363	336	406	267	99	44	210	196	98	145	2,733
Missouri	36	5	16			55	23		1	31		20	187
Montana	54	75	57	28	25	42	34						310
New Jersey	24	34								37			95
New York	50	51	170	86	145	110	129	421	311	39	34	121	1,667
Ohio	20	1	1	1	9	54	2	1		1		1	91
Pennsylvania	3	1	6	13	4	6	11	16	16	52	20	10	158
South Dakota			27	7	14	16						1	65
Wisconsin	7,174	9,377	9,063	9,555	10,730	10,870	13,183	11,729	10,468	9,277	7,719	8,294	117,439
Other States	1	30	46	4	4	3	35	107	26	4	14	4	278
Canada			15		25	56	30	58		65	71	53	373

TABLE 482.—*Cheese: Receipts, gross, at five markets, by States of origin, 1924*—Con.

[Thousand pounds—i. e., 000 omitted.]

SAN FRANCISCO

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
California	249	343	335	186	226	247	184	170	135	158	160	210	2,603
Colorado	23	18	30	19	23	17	17	22	28	29	14	16	256
Idaho	49	267	138	------	91	189	256	337	322	175	263	175	2,262
Illinois	77	1	107	74	112	161	90	59	28	84	1	26	821
New York	2	42	22	31	8	------	60	27	------	40	64	14	310
Oregon	60	72	181	267	451	428	394	299	173	243	86	56	2,710
Washington	6	2	8	7	2	7	15	2	------	3	1	5	58
Wisconsin	227	193	185	112	133	177	496	187	145	92	122	148	2,216
Other States	32	6	40	4	------	1	67	------	6	87	3	------	246

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

TABLE 483.—*American cheese: Cold-storage holdings, 1915–1924* [1]

[Thousand pounds—i. e., 000 omitted]

Year beginning May	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1
1915					28,575	24,144	32,428	31,271	28,558	18,908	13,373	8,443
1916	6,546	7,301	16,357	31,569	46,776	49,579	45,713	37,080	31,855	22,113	15,560	9,842
1917	7,928	11,626	34,159	67,595	91,545	90,671	78,087	75,166	66,784	56,298	37,743	27,965
1918	17,736	20,395	30,054	48,804	55,742	42,065	33,402	25,625	19,823	15,486	9,837	6,750
1919	6,027	12,478	37,501	62,645	76,661	81,359	72,889	62,508	53,168	43,631	34,039	23,431
1920	16,963	13,502	29,654	51,512	60,372	55,007	48,566	39,921	34,115	25,000	17,477	14,294
1921	13,466	17,814	34,948	41,284	46,635	45,163	42,969	34,055	27,691	21,430	15,006	10,745
1922	10,868	15,481	33,130	46,580	53,625	49,473	40,852	37,291	33,617	26,593	20,693	14,465
1923	14,077	17,507	36,834	55,839	63,960	62,384	57,927	55,105	49,566	40,506	35,160	28,294
1924	26,202	27,172	45,239	65,864	76,406	73,153	67,905	58,705	------	------	------	------

Division of Statistical and Historical Research.

[1] The term "American cheese" is intended to cover only those varieties known as twins, flats, daisies, cheddars, longhorns, and square prints. It does not, therefore, include all kinds of cheese made in America.

TABLE 484.—*Miscellaneous varieties of cheese: Cold-storage holdings, 1917–1924* [1]

[Thousand pounds—i. e., 000 omitted]

Year beginning May	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1
1917					2,117	1,885	1,640	1,574	1,118	944	825	824
1918	966	1,741	4,317	6,579	8,669	7,919	5,829	6,530	4,810	5,160	4,262	5,343
1919	6,842	9,110	11,333	12,053	11,175	10,380	10,208	9,023	6,876	6,104	5,594	5,346
1920	5,797	6,845	10,316	12,306	12,237	12,030	12,260	11,345	9,754	9,248	8,149	8,013
1921	7,294	7,751	8,887	9,494	10,171	9,904	9,060	7,988	7,232	6,023	5,385	4,960
1922	4,774	5,507	6,405	6,268	6,486	5,906	5,354	3,840	3,840	3,934	3,819	3,599
1923	3,930	5,292	6,485	7,712	7,219	6,558	6,482	7,117	7,136	6,510	5,739	5,156
1924	6,034	6,286	7,948	8,918	8,375	7,360	6,599	5,842	------	------	------	------

Division of Statistical and Historical Research.

[1] Includes cheese not classified on cold storage report and holdings of storages not reporting by varieties.

TABLE 485.—*Cheese: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909-1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	10,447	[1] 6	543	14,333	1,474	14,829	2,359	12,685
Australia	360	799	86	12,671				
Canada	1,054	167,260	908	137,180	687	120,177	1,900	116,202
Czechoslovakia			183	3,226	1,355	2,278	1,999	4,016
Denmark	1,414	527	521	27,653	1,194	19,674	731	12,034
Finland	478	2,086	3	4,686		5,989		2,944
Hungary					2	1,494	[2]	1,160
Italy	13,308	60,560	1,780	16,664	15,571	32,057	10,228	50,389
Netherlands	522	127,379	802	115,279	750	143,769	873	136,646
New Zealand	3	55,561	[3]	153,304	1	130,054	[3]	161,444
Russia	3,911	7,011						
Switzerland	7,150	70,075	1,894	10,596	1,792	46,152	2,543	39,046
Yugoslavia				2,582		3,875		2,412
PRINCIPAL IMPORTING COUNTRIES								
Algeria	6,592	138	5,778	170	7,206	196	7,416	
Austria			7,342		8,362	161	9,847	317
Austria-Hungary	12,298	966						
Belgium	31,771	354	34,329	1,750	48,316	1,148	39,548	1,042
Brazil	4,178	[1] 1	148	8	394	1		
British India	1,314		755		1,072		1,006	
Cuba	4,520	7	4,738	3	3,841	4		
Dutch East Indies	757		1,375		1,491			
Egypt	8,182	[2] 48	3,452	165	6,776	102	6,014	122
France	49,056	26,880	35,146	14,381	60,272	22,023	54,297	33,226
Germany	48,687	1,967	59,974	[4] 1,022	51,984	2,235	24,930	636
Norway	663	377	1,157	256	1,540	657	1,961	697
Spain	5,032	53	4,504	689	4,222	453	5,971	126
Sweden	946	41	2,239	296	1,992	336	4,164	
Tunis	1,382	19	749	40	997	19		
Union of South Africa	4,991	3	49	459	268	152	832	118
United Kingdom	257,407	950	312,783	479	294,938	581	313,584	945
United States	46,346	5,142	26,866	11,772	46,573	5,007	64,420	8,331
Other countries	12,048	9,914	6,095	841	5,625	985	2,232	38
Total	535,417	538,124	514,199	530,505	568,695	554,408	556,855	584,576

Division of Statistical and Historical Research. Official sources. All cheese made from milk, including "cottage cheese."

[1] Four-year average.
[2] Less than 500 pounds.
[3] One year only.
[4] Eight months, May-December.

TABLE 486.—*Cheese, No. 1 American: Average wholesale price per pound, New York, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1910	$0.17	$0.17	$0.17	$0.17	$0.14	$0.14	$0.15	$0.15	$0.15	$0.15	$0.15	$0.16	$0.16
1911	.15	.15	.14	.14	.11	.11	.12	.12	.14	.14	.15	.16	.14
1912	.16	.17	.18	.19	.15	.14	.15	.16	.16	.18	.17	.17	.16
1913	.17	.17	16.	.15	.13	.14	.14	.15	.16	.16	.16	.16	.15
1914	.17	.16	.18	.16	.14	.15	.15	.16	.16	.15	.15	.15	.16
1915	.15	.16	.16	.16	.17	.15	.15	.13	.14	.15	.16	.17	.15
1916	.17	.18	.18	.18	.18	.15	.15	.17	.19	.21	.23	.24	.19
1917	.24	.25	.26	.26	.26	.23	.24	.23	.25	.25	.23	.24	.24
1918	.24	.26	.24	.23	.24	.23	.25	.26	.28	.33	.32	.35	.27
1919	.35	.30	.32	.31	.32	.32	.33	.31	.31	.31	.32	.32	.32
1920	.32	.30	.29	.30	.30	.28	.27	.27	.28	.28	.28	.28	.29
Av. 1914-1920	.23	.23	.23	.23	.23	[1] .22	[1] 22	.22	.23	.24	.24	.25	.23
1921	.24	.21	.25	.22	.17	.16	.19	.21	.21	.22	.21	.21	.21
1922	.21	.20	.20	.18	.17	.19	.21	.21	.21				.20
1923	.26	.26	.25	.23	.23	.24	.25	.25	.26	.26	.25		.25
1924	.22	.22	.21	.17	.17	.20	.21	.21	.22	.20	.21	.23	.20

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

OLEOMARGARINE

TABLE 487.—*Oleomargarine production and consumption in the United States, 1887–1924*

Year ended June 30	Production	Stocks, beginning of year	Exports	Stocks, end of year	Consumption	
					Total	Per capita
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
1887	[1] 21,513,537	[2] 181,090	834,574	423,855	20,436,198	0.35
1888	34,325,527	423,855	1,729,327	1,575,293	31,444,762	.53
1889	35,664,026	1,575,293	2,192,047	1,978,094	33,069,178	.54
1890	32,324,032	1,978,094	2,535,926	978,650	30,787,550	.49
1891	41,392,409	978,650	1,986,743	779,368	42,604,948	.67
1892	44,365,155	779,368	1,610,837	1,021,555	42,512,131	.65
1893	67,224,298	1,021,555	3,479,322	322,911	64,443,620	.97
1894	69,622,246	322,911	3,808,950	437,287	65,608,920	.97
1895	56,958,105	437,287	10,100,897	393,597	46,900,898	.68
1896	50,853,234	393,597	6,063,690	396,404	44,786,728	.64
1897	45,531,207	396,404	4,864,351	223,368	40,839,892	.57
1898	57,516,136	223,308	4,328,536	444,745	52,966,163	.73
1899	83,130,474	444,745	5,549,322	787,503	77,238,394	1.04
1900	107,045,028	787,503	4,256,067	817,806	102,758,658	1.36
1901	104,943,856	817,806	4,990,699	722,237	100,048,726	1.30
1902	126,316,427	722,237	5,721,254		121,317,410	1.54
1903	73,285,946		7,645,652	653,174	64,987,120	.81
1904	50,203,495	653,174	6,137,251	490,822	44,228,596	.54
1905	52,011,716	490,822	7,863,164	600,060	44,039,314	.53
1906	55,434,900	600,060	11,794,174	483,780	43,757,006	.51
1907	71,366,775	483,780	5,397,609	700,823	65,752,123	.76
1908	74,188,320	700,823	2,938,175	692,225	71,258,743	.81
1909	92,282,815	692,225	2,889,058	748,318	89,337,664	.99
1910	141,802,280	748,318	3,418,632	1,165,446	138,026,520	1.51
1911	121,162,705	1,165,446	3,794,939	942,440	117,590,862	1.26
1912	128,601,053	942,440	3,627,425	1,249,246	124,666,822	1.32
1913	145,227,862	1,249,246	2,967,582	1,650,897	141,858,629	1.48
1914	144,021,276	1,650,897	2,532,821	1,261,245	141,878,107	1.46
1915	145,810,048	1,261,245	5,252,183	1,661,559	140,157,551	1.42
1916	152,509,913	1,661,559	5,426,221	1,992,726	146,752,525	1.47
1917	233,170,111	1,992,726	5,651,267	2,988,197	226,523,373	2.23
1918	326,528,839	2,988,197	6,309,896	3,577,733	319,629,407	3.11
1919	359,216,571	3,577,733	18,570,400	2,562,597	341,661,307	3.28
1920	391,283,143	2,562,597	20,952,180	4,110,174	368,783,386	3.49
1921	281,081,514	4,110,174	6,219,165	1,979,543	276,992,980	2.59
1922	190,950,373	1,979,543	1,989,421	2,265,895	188,674,600	1.74
1923	209,182,188	2,265,895	2,027,546	2,647,297	206,773,240	1.88
1924	239,698,749	2,647,297	1,124,394	2,607,346	238,614,306	2.14

Division of Statistical and Historical Research. Production and stocks from Bureau of Internal Revenue. Exports from Bureau of Foreign and Domestic Commerce.

[1] Eight months, Nov. 1, 1886–June 30, 1887.

[2] Stocks on Nov. 1, 1886.

TABLE 488.—*Oleomargarine: Production in the United States, 1918–1923*

[Thousand pounds—i. e., 000 omitted]

Year	Uncolored; made of—			Colored; made of—			Total
	Animal and vegetable oil	Exclusively vegetable oil	Exclusively animal oil	Animal and vegetable oil	Exclusively vegetable oil	Exclusively animal oil	
1918	255,197	88,862	3,307	7,056	112	1,003	355,537
1919	214,759	132,906	3,391	9,303	9,793	1,165	371,317
1920	161,636	190,280	3,843	8,951	5,359	94	370,163
1921	103,962	99,265	624	5,960	2,026	30	211,867
1922	104,284	74,128	302	4,977	1,383	1	185,075
1923	121,272	93,972	450	7,078	2,808		225,580
1923							
January	10,484	9,393	23	653	225		20,778
February	9,715	8,248	17	557	217		18,754
March	10,918	8,931	29	631	256		20,765
April	10,009	7,886	28	610	245		18,778
May	9,860	6,576	15	627	220		17,298
June	7,946	5,483	46	451	183		14,109
July	7,902	4,881	25	441	160		13,409
August	9,096	5,716	74	502	178		16,166
September	10,575	7,603	46	593	237		19,054
October	11,492	9,869	39	656	281		22,337
November	11,586	9,640	60	622	297		22,205
December	11,089	9,746	48	735	309		21,927

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

TABLE 489.—*Oleomargarine: Materials used in manufacture, 1915–1923*

[Thousand pounds—i. e., 000 omitted]

Material	Year beginning July								
	1915	1916	1917	1918	1919	1920	1921	1922	1923
Oleo oil	68,989	96,652	96,378	97,464	89,842	49,676	40,980	46,645	52,265
Coconut oil	563	19,763	61,773	69,640	80,784	103,112	57,394	65,656	83,065
Cottonseed oil	49,960	63,652	36,454	37,846	39,450	18,533	15,420	18,757	20,640
Milk	21,331	24,410	61,128	68,000	76,000	79,716	53,939	59,835	69,090
Peanut oil	5,335	10,498	21,593	38,764	48,346	16,332	11,625	6,922	5,656
Salt	4,088	6,115	18,279	21,432	24,864	25,365	16,262	17,998	20,593
Oleo stearine	2,036	2,494	3,427	2,456	2,132	4,858	4,574	4,815	5,317
Neutral lard	33,446	42,401	45,702	45,764	38,456	29,268	27,057	29,568	32,210
Oleo stock	397	3,458	7,526	6,342	5,804	2,065	2,143	2,332	2,756
Butter	2,152	3,303	4,548	5,080	6,845	1,499	1,107	1,576	1,900
Vegetable oil						6,569			
Corn oil	147	859	60	40	35	926			457
Soybean oil						461			
Edible tallow						233			23
Mustard-seed oil						110			38
Mutton oil		149	14	11	14				
Coloring						26	11	11	26
Miscellaneous						3,217	3,417	2,918	437
Total	188,444	273,754	356,882	393,439	412,572	341,956	233,929	257,023	294,463

Division of Statistical and Historical Research. 1915–1919, Institute Margarin Manufacturers; 1920–1923, Annual reports of the Bureau of Internal Revenue.

TABLE 490.—*Oleomargarine: Production in the United States, 1908–1923*

[Thousand pounds—i. e., 000 omitted]

COLORED

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1908	393	335	360	468	463	587	526	497	586	543	507	447	5,710
1909	381	433	487	519	521	634	525	518	619	595	542	403	6,177
1910	414	433	469	473	610	587	524	501	606	463	389	362	5,831
1911	359	454	393	477	539	594	663	630	614	588	538	387	6,236
1912	449	394	439	530	501	616	602	618	638	701	586	446	6,520
1913	477	493	532	635	606	615	610	503	608	477	433	395	6,384
Av. 1909–1913	416	441	464	527	555	609	585	554	617	565	498	399	6,230
1914	422	509	488	480	472	583	807	1,082	1,131	598	526	497	7,595
1915	472	436	443	548	557	597	560	569	684	677	652	554	6,749
1916	447	569	643	719	741	759	703	628	742	738	731	592	8,012
1917	496	512	573	677	542	521	508	471	615	582	587	511	6,595
1918	408	433	538	608	552	747	1,111	1,642	2,243	2,716	1,930	921	13,849
1919	1,705	1,807	681	1,087	1,719	1,626	1,540	960	1,250	1,139	1,114	996	15,624
1920	934	1,019	1,484	1,378	1,368	1,046	936	816	950	823	518	328	11,600
Av. 1914–1920	698	755	693	785	850	840	881	881	1,088	1,039	865	628	10,003
1921	424	500	577	692	693	656	556	482	595	498	513	418	6,604
1922	415	420	488	565	670	790	772	801	917	854	906	662	8,260
1923	641	710	864	956	1009	1996	1104	1157	1229	1102	872	805	11,548

UNCOLORED

1908	4,394	4,669	5,812	7,907	8,266	8,463	8,470	8,453	9,697	7,976	6,707	5,759	86,573
1909	5,499	6,386	9,809	12,497	13,313	15,314	15,516	12,639	13,456	12,747	10,175	8,334	135,685
1910	6,902	9,307	12,702	12,627	13,823	13,002	10,885	8,936	9,676	6,866	5,424	5,182	115,332
1911	4,788	6,701	7,816	9,245	11,228	12,652	15,639	13,738	11,654	10,988	10,620	7,287	122,365
1912	6,785	8,526	9,397	13,807	12,623	14,802	13,199	13,213	13,139	13,892	11,036	8,288	138,707
1913	7,947	8,754	12,790	14,786	13,777	14,277	14,485	12,888	12,317	9,724	8,305	7,587	137,637
Av. 1909–1913	6,384	7,935	10,503	12,592	12,953	14,009	13,945	12,283	12,048	10,843	9,114	7,336	129,945
1914	7,847	9,502	12,036	13,120	13,310	14,063	12,516	12,371	12,910	10,785	10,319	9,436	138,215
1915	8,711	9,183	10,491	12,394	11,782	13,380	11,993	13,034	15,243	13,974	13,746	11,130	145,761
1916	8,948	11,272	15,516	19,246	21,899	23,287	18,272	19,593	22,128	22,740	24,314	17,943	225,158
1917	16,490	19,519	26,181	33,374	29,009	30,227	32,496	35,855	31,512	22,912	23,410	18,949	319,934
1918	19,888	17,959	28,428	43,543	32,434	36,602	40,166	19,741	27,431	31,448	29,135	18,533	345,368
1919	22,700	25,168	28,424	34,357	35,502	39,005	35,312	31,701	36,337	30,667	34,760	23,726	375,659
1920	23,625	25,516	29,899	29,918	29,089	24,705	22,630	20,773	22,532	18,685	13,537	8,572	269,481
Av. 1914–1920	15,458	16,874	21,282	26,566	24,718	25,904	24,769	21,867	24,013	21,602	21,317	15,670	269,939
1921	10,581	16,612	16,920	20,588	17,985	17,754	15,610	14,139	15,375	13,432	13,356	11,994	184,346
1922	11,866	12,623	13,684	17,380	18,615	20,269	20,105	17,889	20,137	18,083	16,690	13,582	200,923
1923	12,633	15,966	18,258	21,521	21,473	21,052	23,597	21,805	21,189	19,359	16,800	14,497	228,150

Division of Statistical and Historical Research. Compiled from annual reports of the Bureau of Internal Revenue

OLEO OIL

TABLE 491.—*Oleo oil: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30	Belgium	Germany	Italy	Netherlands	Sweden	United Kingdom	Other Europe	Total Europe	Canada	Newfoundland and Labrador	Other countries	Total
1910[1]	720	29,792	595	47,115	2,178	21,147	20,518	122,065	-------	2,526	1,301	125,892
1911	1,741	28,571	766	67,691	2,140	9,255	24,613	134,777	-------	1,532	2,388	138,697
1912	2,720	18,042	903	66,894	3,128	9,960	20,725	122,372	-------	1,712	2,383	126,467
1913	1,590	17,481	402	46,337	2,145	8,009	14,633	90,597	54	1,372	827	92,850
1914	2,819	16,180	434	47,414	1,989	9,244	16,221	94,301	339	1,244	1,133	97,017
1915	545	1,001	337	32,768	4,190	14,362	25,599	78,802	226	1,030	424	80,482
1916	-------	-------	3,234	29,762	9,234	30,658	26,099	98,987	37	1,896	1,726	102,646
1917	-------	-------	760	8,082	2,248	31,761	21,498	64,349	476	1,761	524	67,110
1918	-------	-------	68	-------	13	48,244	2,028	50,353	4,347	1,624	279	56,603
1919	6,759	768	74	30	3,860	27,920	16,769	56,180	-------	1,612	1,500	59,292
1920	2,083	2,982	539	13,819	3,315	19,227	25,847	67,812	2,671	1,993	2,053	74,529
1921	1,370	15,983	798	36,107	3,945	14,273	29,195	101,671	852	1,662	2,230	106,415
1922	1,472	14,878	514	46,630	2,677	11,082	35,928	113,181	234	1,168	2,591	117,174
1923	1,666	13,987	892	47,053	2,383	14,967	20,552	101,500	275	1,522	1,659	104,956
1924	1,844	11,218	980	41,650	1,223	12,177	20,615	89,707	198	1,282	1,778	92,965

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918, Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923, and reports of the Bureau of Foreign and Domestic Commerce.

[1] Includes "Neutral lard."

CATTLE DISEASES

TABLE 492.—*Cattle: Tuberculin testing under accredited herd plan, 1917–1924*

Year ended June 30	Cattle tested [1]	Number of reactors	Per cent of reactors	Accredited		Passed one test	
				Herds	Cattle	Herds	Cattle
1917	20,101	645	3.2	-------	-------	-------	-------
1918	134,143	6,544	4.9	204	6,945	883	22,212
1919	329,878	13,528	4.1	578	12,076	5,652	95,031
1920	700,670	28,709	4.1	2,588	63,965	10,064	80,334
1921	1,366,358	53,768	3.9	4,831	110,634	33,215	445,656
1922	2,384,236	82,569	3.5	8,015	170,282	111,719	904,950
1923	3,460,849	113,844	3.3	12,310	251,254	150,748	1,176,314
1924	5,312,364	171,559	3.2	19,747	305,214	216,737	2,048,339
Total	13,708,599	471,166	3.4	48,273	920,370	529,018	4,772,836

Bureau of Animal Industry.

[1] Includes testing under area plan.

TABLE 493.—*Cattle: Status of tuberculosis eradication work, by States, June 30, 1924*

State	Accredited		Passed one test		Eradication from areas [1]				Total tuberculin tests, 1917 to June 30, 1924		
	Herds	Cattle	Herds	Cattle	Counties having completed one or more tests of all cattle	Counties intensively engaged in testing cattle	Total counties engaged	Total cattle tested [2]	Total cattle	Reactors	
										Number	Per cent
Alabama	176	8,328	1,267	8,587					140,080	1,603	1.1
Arizona	10	575	2,155	40,882		2	2	42,397	31,300	1,105	3.5
Arkansas	45	1,397	834	6,044					28,139	1,040	3.7
California	25	1,439	2,004	95,916		3	3	121,699	139,507	1,076	0.8
Colorado	27	583	1,091	8,291				8,007	16,583	564	3.4
Connecticut	468	9,579	1,445	26,681					120,811	15,275	12.6
Delaware	741	3,469	1,391	5,387					49,436	5,198	10.5
District of Columbia	10	341	270	654	1		1	1,741	10,003	118	1.2
Florida	300	11,390	4,937	37,075	3		3	1,627	127,209	2,053	1.6
Georgia	44	3,247	3,752	60,290					108,310	1,999	1.8
Idaho	98	3,524	14,826	149,161	3	4	7	192,221	267,303	2,548	1.0
Illinois	636	14,905	1,635	35,974	1	42	43	433,155	604,599	31,296	5.2
Indiana	7,001	77,779	25,096	178,496	6	8	14	182,106	551,161	12,608	2.3
Iowa	3,559	85,983	27,451	384,453	1	24	25	460,526	1,009,835	39,231	3.9
Kansas	915	28,450	5,621	80,010	3		3	80,940	244,505	3,948	1.6
Kentucky	271	7,972	24,034	143,143		3	3	144,689	234,974	3,879	1.7
Louisiana	111	4,653	1,513	15,481					95,897	3,247	3.4
Maine	1,467	15,576	12,477	86,947		11	11	121,662	199,939	3,635	1.8
Maryland	1,125	21,550	1,794	19,469	1	2	3	61,737	186,925	14,548	7.8
Massachusetts	149	4,959	519	6,248					74,090	9,115	12.3
Michigan	289	6,859	46,292	341,448	18	4	22	696,551	894,338	22,308	2.5
Minnesota	3,943	85,538	8,543	171,348	3		3	154,497	739,972	21,857	3.0
Mississippi	118	3,760	456	15,780	3	1	4	6,306	148,128	795	0.5
Missouri	363	14,605	45,763	429,902	12	6	18	312,160	625,526	5,675	0.9
Montana	144	9,026	16,665	239,677	2	3	5	226,370	401,134	4,929	1.2
Nebraska	354	13,511	6,819	82,896	6	1	7	237,661	381,198	9,272	2.4
Nevada	15	2,364	1,748	14,827				35,398	63,008	1,402	2.2
New Hampshire	665	9,624	1,861	16,537				21,422	93,781	7,768	8.3
New Jersey	269	4,628	605	4,235					101,310	8,536	8.4
New Mexico	4	129	1,958	18,256				17,733	20,040	91	0.5
New York	7,467	93,789	13,490	277,705	2	20	22	478,347	866,361	107,702	12.4
North Carolina	61	2,782	101,034	276,155	19	19	38	260,849	329,493	2,482	0.8
North Dakota	2,408	52,063	13,723	227,229	1		1	227,217	512,648	9,703	1.9
Ohio	1,528	28,035	19,909	122,902	3	9	12	131,554	338,357	13,256	3.9
Oklahoma	407	12,593	241	8,048					129,420	3,258	2.5
Oregon	491	5,559	22,789	182,383	10	5	15	163,130	352,850	6,112	1.7
Pennsylvania	2,586	43,056	15,968	129,543		3	3	148,191	427,151	17,427	4.1
Rhode Island	23	506	31	750					8,002	576	7.2
South Carolina	174	5,697	745	7,302					83,113	1,017	1.2
South Dakota	357	11,234	458	13,915					109,586	4,294	3.9
Tennessee	376	13,097	151	4,506	3		3	76,858	203,585	1,403	0.7
Texas	228	10,368	602	20,814					144,934	1,849	1.3
Utah	102	3,120	8,881	48,524	2	3	5	91,101	150,784	1,800	1.2
Vermont	2,612	47,186	1,785	30,119					366,025	21,943	6.0
Virginia	1,211	28,753	977	13,424	1	2	3	23,658	268,716	6,814	2.5
Washington	137	4,938	23,292	200,185	3	16	19	180,950	374,298	8,012	2.1
West Virginia	493	5,742	4,756	32,759	1		1	26,823	103,739	2,040	2.0
Wisconsin	4,261	95,423	30,759	397,831	14	5	19	426,397	1,144,270	23,893	2.1
Wyoming	9	686	4,605	54,647				58,390	81,327	682	0.8
Indian schools [3]									413	27	6.5
Purebred herds in United States [3]									4,486	157	3.5
Total	48,273	920,370	529,018	4,772,836	122	196	318	5,854,160	13,708,599	471,166	3.4

Bureau of Animal Industry.

[1] Accredited herd work begun in 1917; area work in 1921.
[2] Includes area testing in units smaller than counties.
[3] Testing in 1917 before work was organized by States.

TABLE 494.—*Cattle: Tick eradication, progress and status of the work June 30, 1924*

State	Counties quarantined July 1 1906	Counties quarantined June 30, 1924	Released counties			Cattle dipped year ending June 30, 1924	
			Released counties tick free	Released counties with one or more infested herds	Total counties released.	Herds	Cattle
Alabama	67	7	26	34	60	680, 808	4, 419, 545
Arkansas	75	39	21	15	36	307, 956	1, 809, 394
California	15	0	15	0	15		
Florida	58	54	3	1	4	89, 882	670, 562
Georgia	157	4	119	34	153	223, 040	2, 943, 630
Kentucky	2	0	2	0	2		
Louisiana	65	36	3	26	29	298, 347	3, 482, 056
Mississippi	81	23	47	11	58	126, 604	1, 589, 072
Missouri	4	0	4	0	4		
North Carolina	75	13	46	16	62	128, 425	436, 891
Oklahoma	61	6	47	8	55	149, 199	1, 191, 389
South Carolina	44	2	35	7	42	135, 377	733, 160
Tennessee	42	0	41	1	42	6, 017	26, 183
Texas	199	100	49	50	99	858, 463	22, 591, 755
Virginia	30	4	(2)	(2) 26	26	437	1, 552
Total	975	288	458	229	687	3, 004, 555	39, 845, 189

Bureau of Animal Industry.

[1] More than 28,000 vats were in use for official dipping during the year.
[2] No bureau cooperation in 1924.

SWINE.

TABLE 495.—*Swine: Number and value on farms, United States, January 1, 1910–1925*

Jan. 1—	Number	Price per head Jan. 1	Farm value Jan. 1	Jan. 1—	Number	Price per head Jan. 1	Farm value Jan. 1
	Thousands	*Dollars*	*Thousand dollars*		*Thousands*	*Dollars*	*Thousand dollars*
1910, Apr. 1	*58, 186*	9. 17	533, 309	1919	74, 584	22. 02	1, 642, 598
1911	65, 620	9. 37	615, 170	1920	59, 344	19. 07	1, 131, 674
1912	65, 410	8. 00	523, 328				
1913	61, 178	9. 86	603, 109	Av. 1914–1920	66, 247	14. 61	967, 776
1914	58, 933	10. 40	612, 951				
1915	64, 618	9. 87	637, 479	1921	56, 097	12. 97	727, 380
1916	67, 766	8. 40	569, 573	1922	58, 327	10. 10	589, 202
1917	67, 503	11. 75	792, 898	1923	68, 427	11. 58	792, 565
1918	70, 978	19. 54	1, 387, 261	1924	60, 130	9. 75	644, 496
				1925 [1]	54, 234	12. 34	669, 402

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Preliminary.

TABLE 496.—*Swine: Yearly losses per 1,000 from disease, 1888–1924*

Year ended Apr. 30—	Losses per 1,000	Year ended Apr. 30—	Losses per 1,000	Year ended Apr. 30—	Losses per 1,000	Year ended Apr. 30—	Losses per 1,000
1888	77. 5	1898	92. 8	1908	52. 4	1918	42. 1
1889	61. 7	1899	82. 1	1909	51. 0	1919	41. 4
1890	76. 1	1900	64. 4	1910	45. 1	1920	49. 8
1891	83. 7	1901	74. 7	1911	44. 8	1921	43. 0
1892	54. 4	1902	51. 5	1912	89. 2	1922	54. 4
1893	63. 1	1903	58. 2	1913	110. 1	1923	51. 3
1894	48. 6	1904	57. 9	1914	118. 9	1924	52. 9
1895	92. 3	1905	50. 8	1915			
1896	127. 0	1906	51. 1	1916	66. 2		
1897	144. 0	1907	48. 9	1917	48. 6		

Division of Crop and Livestock Estimates. As reported by crop reporters May 1 for year ending Apr. 30.

TABLE 497.—*Swine: Number and value on farms, by States, January 1, 1923–1925*

State	Number Jan. 1—			Average price per head Jan. 1—			Farm value Jan. 1—		
	1923	1924	1925 [1]	1923	1924	1925	1923	1924	1925 [1]
	Thousand	*Thousand*	*Thousand*	*Dollars*	*Dollars*	*Dollars*	*Thousand dollars*	*Thousand dollars*	*Thousand dollars*
Maine	68	70	63	18.30	17.00	18.50	1,244	1,190	1,166
New Hampshire	30	31	28	17.00	16.00	18.00	510	496	504
Vermont	59	62	50	14.00	13.80	14.00	826	856	700
Massachusetts	72	65	55	17.00	17.00	17.00	1,224	1,105	935
Rhode Island	12	11	8	18.10	18.00	20.00	217	198	160
Connecticut	45	44	35	17.70	18.00	22.00	796	792	770
New York	546	557	446	15.50	14.70	17.00	8,463	8,188	7,582
New Jersey	132	133	113	17.50	17.00	17.50	2,310	2,261	1,978
Pennsylvania	1,200	1,212	994	16.00	14.50	16.00	19,200	17,574	15,904
Delaware	43	44	40	11.00	10.50	14.00	473	462	560
Maryland	299	299	254	13.00	11.25	12.90	3,887	3,364	3,277
Virginia	689	655	576	10.50	9.90	10.70	7,234	6,484	6,163
West Virginia	316	300	261	12.30	11.00	12.00	3,887	3,300	3,132
North Carolina	1,195	1,111	1,000	13.30	12.50	12.00	15,894	13,888	12,000
South Carolina	612	569	484	11.00	11.30	11.40	6,732	6,430	5,518
Georgia	1,878	1,650	1,485	7.80	8.00	9.00	14,648	13,200	13,365
Florida	703	633	570	7.50	7.00	6.50	5,272	4,431	3,705
Ohio	3,205	3,077	2,462	12.10	10.00	12.25	38,780	30,770	30,160
Indiana	4,000	3,880	3,143	11.90	9.80	11.90	47,600	38,024	37,402
Illinois	5,422	5,368	4,348	12.50	10.10	13.60	67,775	54,217	59,133
Michigan	1,177	1,165	932	12.50	10.00	14.00	14,712	11,650	13,048
Wisconsin	1,725	1,725	1,294	13.10	9.90	13.00	22,[illegible]	17,078	16,822
Minnesota	3,800	3,800	3,116	13.20	10.30	14.00	50,160	39,140	43,624
Iowa	11,094	10,539	8,958	12.80	10.30	15.00	142,003	108,552	134,370
Missouri	4,698	4,463	3,481	9.80	8.50	9.30	46,040	37,936	32,373
North Dakota	506	651	586	13.50	10.00	12.50	7,641	6,510	7,325
South Dakota	2,970	3,208	2,727	13.50	10.10	13.20	40,095	32,401	35,996
Nebraska	5,330	5,543	4,545	12.00	10.00	13.20	63,960	55,430	59,994
Kansas	3,104	2,980	2,146	11.00	9.00	12.00	34,144	26,820	25,752
Kentucky	1,205	1,145	859	8.80	7.00	9.00	10,604	8,015	7,731
Tennessee	1,654	1,373	1,071	9.30	7.40	9.00	15,382	10,160	9,639
Alabama	1,281	1,089	893	9.30	8.80	9.40	11,913	9,583	8,394
Mississippi	1,207	1,063	850	8.00	7.40	8.40	9,656	7,866	7,140
Louisiana	756	665	565	7.80	7.60	8.40	5,897	5,054	4,746
Texas	2,092	1,904	1,542	8.80	9.00	10.00	18,410	17,136	15,420
Oklahoma	1,401	1,121	841	8.80	6.70	9.40	12,329	7,511	7,905
Arkansas	1,058	952	847	6.90	6.10	8.00	7,300	5,807	6,776
Montana	225	292	292	13.20	11.20	12.00	2,970	3,270	3,504
Wyoming	99	129	119	12.50	10.00	10.50	1,238	1,290	1,250
Colorado	592	622	466	10.50	9.50	11.00	6,216	5,909	5,126
New Mexico	89	71	60	10.00	9.00	11.00	890	639	660
Arizona	57	57	48	13.00	9.50	11.00	741	542	528
Utah	108	121	97	10.90	10.10	11.50	1,177	1,222	1,116
Nevada	25	28	25	14.00	9.00	12.00	350	252	300
Idaho	315	378	340	11.50	9.40	10.50	3,622	3,553	3,570
Washington	217	221	201	14.80	13.00	13.00	3,212	2,873	2,613
Oregon	214	220	209	11.20	10.50	11.00	2,397	2,310	2,299
California	842	834	709	11.80	10.50	10.25	9,936	8,757	7,267
United States	68,427	66,130	54,234	11.58	9.75	12.34	792,565	644,496	669,402

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 498.—*Hogs on farms: Cumulative percentage changes, 1920–1924* [1]

Item	To Feb. 1	To Mar. 1	To Apr. 1	To May 1	To June 1	To July 1	To Aug. 1	To Sept. 1	To Oct. 1	To Nov. 1	To Dec. 1	To Jan. 1 of succeeding year
Increases:												
Births [2]—	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1920	5.8	14.5	36.0	64.4	83.1	93.3	102.0	113.6	129.4	140.7	147.3	152.8
1921	5.8	14.5	38.0	67.4	86.1	95.9	105.2	118.4	136.6	148.8	156.9	163.4
1922	5.3	14.2	41.8	70.8	88.5	99.4	107.6	121.4	142.2	156.0	163.5	168.9
1923	6.2	17.2	44.5	76.0	95.2	105.1	113.6	127.2	147.8	158.4	164.1	168.3
1924	3.1	10.6	33.1	60.4	77.3	84.5	90.1	98.2	111.7	------	------	------
Brought on farms [2]—												
1920	3.3	6.2	9.2	11.9	14.9	17.1	19.2	22.1	25.4	28.8	32.0	35.0
1921	3.0	6.6	9.9	12.7	15.0	16.7	18.7	21.1	24.1	28.1	31.5	35.1
1922	3.2	6.6	9.7	12.9	16.5	19.0	21.6	24.0	27.1	31.2	34.9	39.5
1923	3.4	5.9	8.7	11.7	14.0	16.0	17.3	19.2	21.0	24.3	27.7	30.2
1924	1.7	3.4	5.0	6.3	7.6	8.7	9.6	10.5	11.8	------	------	------
Total increase [1]—												
1920	9.1	20.7	45.2	76.3	98.0	110.4	121.2	135.7	154.8	169.5	179.3	187.8
1921	8.8	21.1	47.9	80.1	101.1	112.6	123.9	139.5	160.7	176.9	188.4	198.5
1922	8.5	20.8	51.5	83.7	105.0	118.4	129.2	145.4	169.3	187.2	198.4	208.4
1923	9.6	23.1	53.2	87.7	109.2	121.1	130.9	146.4	168.8	182.7	191.8	198.5
1924	4.8	14.0	38.1	66.7	84.9	93.2	99.7	108.7	123.5	------	------	------
Decreases:												
Moved off—												
1920	11.7	20.7	30.2	40.7	53.3	62.9	70.4	79.6	90.6	102.3	115.9	129.4
1921	10.8	21.8	31.9	42.8	53.3	62.3	70.2	79.6	90.9	103.2	117.3	130.6
1922	10.4	20.6	31.4	41.5	53.6	64.2	71.8	81.5	91.5	105.2	118.4	131.9
1923	11.1	20.4	31.6	42.8	53.4	62.6	69.7	77.4	84.3	97.1	111.6	126.4
1924	11.0	20.5	29.5	37.3	46.1	54.0	60.1	65.5	72.5	------	------	------
Slaughtered on farms—												
1920	6.1	10.0	11.7	12.8	13.5	13.9	14.4	15.1	15.6	17.1	22.4	35.2
1921	6.8	10.6	12.2	13.0	13.4	13.7	14.1	14.6	15.3	16.6	21.9	33.2
1922	6.3	9.3	10.9	11.7	12.5	12.7	13.1	13.4	13.8	15.3	19.4	30.5
1923	5.7	9.2	10.9	11.8	12.3	12.7	13.1	13.4	14.1	15.4	19.6	30.2
1924	4.6	6.8	8.1	8.5	8.7	8.9	9.1	9.2	9.4	------	------	------
Died—												
1920	2.0	4.8	8.1	12.6	15.2	17.3	19.4	21.5	24.1	26.5	28.5	30.2
1921	2.0	3.9	7.2	10.8	13.3	15.6	17.6	20.0	23.6	26.6	29.3	31.3
1922	2.2	4.4	9.6	14.5	18.0	20.6	22.7	25.6	29.7	32.8	34.9	37.2
1923	2.1	5.7	12.9	19.2	23.5	26.6	29.4	32.9	37.1	40.2	42.8	45.4
1924	2.0	4.4	9.4	13.1	16.0	17.9	19.7	21.5	23.7	------	------	------
Total decreases—												
1920	19.8	35.5	50.0	66.1	82.0	94.1	104.2	116.2	130.3	145.9	166.8	194.8
1921	19.6	36.3	51.3	66.6	80.0	91.6	101.9	114.2	129.8	146.4	168.5	195.1
1922	18.9	34.3	51.9	67.7	84.1	97.5	107.6	120.5	135.0	153.3	172.7	199.6
1923	18.9	35.3	55.4	73.8	89.2	101.9	112.2	123.7	135.5	152.7	174.0	202.0
1924	17.6	31.7	47.0	58.9	70.8	80.8	88.9	96.2	105.6	------	------	------
Net change:												
1920	−10.7	−14.8	−4.8	+10.2	+16.0	+16.3	+17.0	+19.5	+24.5	+23.6	+12.5	−7.0
1921	−10.8	−15.2	−3.4	+13.5	+21.1	+21.0	+22.0	+25.3	+30.9	+30.5	+19.9	+3.4
1922	−10.4	−13.5	−0.4	+16.0	+20.9	+20.9	+21.6	+24.9	+34.3	+33.9	+25.7	+8.8
1923	−9.3	−12.2	−2.2	+13.9	+20.0	+19.2	+18.7	+22.7	+33.3	+30.0	+17.8	−3.5
1924	−12.8	−17.7	−8.9	+ 7.8	+14.1	+12.4	+10.8	+12.5	+17.9	------	------	------
On hand compared with Jan. 1 [1]—												
1920	89.3	85.2	95.2	110.2	116.0	116.3	117.0	119.5	124.5	123.6	112.5	93.0
1921	89.2	84.8	98.6	113.5	121.1	121.0	122.0	125.3	130.9	130.5	119.9	103.4
1922	89.6	86.5	99.6	116.0	120.9	120.9	121.6	124.9	134.3	133.9	125.7	108.8
1923	90.7	87.8	97.8	113.9	120.0	119.2	118.7	122.7	133.3	130.0	117.8	96.5
1924	87.2	82.3	91.1	107.8	114.1	112.4	110.8	112.5	117.9	------	------	------

Division of Crop and Livestock Estimates. Based on reports of about 7,500 farmers reporting monthly for their own farms.

[1] Number on hand, January 1, each year=100%.
[2] Corrective factor 0.905 applied to births and brought on farms figures prior to January, 1924.

TABLE 499.—*Hogs: Summary of spring and fall pig surveys*

Sows farrowed						Average number of pigs saved per litter [1]				Intended farrowing [2] (Sows bred or to be bred)					
						1923		1924							
Spring, 1922, compared with spring 1921	Fall, 1922, compared with fall, 1921	Spring, 1923, compared with spring 1922	Fall, 1923, compared with fall, 1922	Spring, 1924, compared with spring, 1923	Fall, 1924, compared with fall, 1923	Spring	Fall	Spring	Fall	Fall, 1922, compared with actual 1921	Spring, 1923, compared with actual 1922	Fall, 1923, compared with actual 1922	Spring, 1924, compared with actual 1923	Fall, 1924, compared with actual 1923	Spring, 1925, compared with actual 1924
Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*					*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
.....	117.0	82.0	125.8	87.5	101.0	6.1	6.7	5.7	6.2	.....	137.4	160.2	130.3	119.3	107.2
.....	160.1	103.6	158.4	83.7	89.4	6.2	5.3	5.9	6.7	.....	146.6	192.2	111.0	117.9	113.9
.....	120.9	127.2	112.8	89.1	75.0	5.5	6.9	6.7	7.1	.....	128.3	165.8	124.0	112.1	104.4
.....	85.4	90.2	132.9	107.0	92.9	5.8	6.4	5.9	5.9	.....	115.3	134.4	134.4	130.5	111.2
.....	72.7	100.0	124.2	60.0	41.5	6.5	6.0	6.5	7.5	.....	64.9	165.2	92.3	137.5	176.5
.....	152.2	108.1	114.8	75.5	67.0	5.0	5.4	5.7	7.2	.....	96.2	111.6	90.8	101.6	79.6
102.8	100.3	105.9	113.9	77.6	80.9	5.8	6.4	6.1	6.3	124.0	110.4	149.3	117.3	105.1	107.4
.....	106.9	98.6	106.8	82.3	87.2	5.2	5.7	5.1	6.1	.....	119.1	128.9	104.4	113.2	100.4
107.3	114.2	107.4	103.8	83.0	88.9	5.7	5.9	5.5	5.9	125.2	119.2	137.4	109.4	108.8	95.2
.....	98.7	104.1	117.4	98.1	76.7	5.4	5.1	5.2	6.4	.....	96.1	112.4	112.2	113.6	76.2
104.9	107.4	95.7	108.9	86.8	79.1	5.9	6.0	5.5	6.1	118.4	107.2	137.0	106.1	90.9	84.1
.....	97.5	98.9	100.7	87.7	84.7	5.8	5.8	5.9	5.8	.....	106.3	127.6	98.9	106.5	97.3
.....	114.1	99.8	110.1	78.6	88.0	6.2	6.5	6.2	6.4	.....	101.2	125.9	108.5	108.7	90.7
.....	90.4	92.6	97.3	84.5	82.4	5.6	5.4	5.3	5.3	.....	102.7	133.8	113.3	124.1	102.3
.....	89.1	102.6	86.3	82.5	82.9	5.1	4.8	4.7	4.8	.....	106.7	140.7	124.2	103.5	106.5
112.5	88.3	85.5	75.2	77.9	74.4	4.9	4.5	4.7	5.1	134.0	102.5	118.9	111.0	113.7	115.2
.....	86.0	89.5	84.0	74.4	79.1	4.7	4.0	4.6	5.1	.....	110.1	127.3	117.9	112.4	125.7
116.8	111.4	107.0	97.7	83.9	74.6	5.4	5.6	5.5	6.1	131.7	112.6	123.2	93.8	91.7	85.8
122.0	109.1	107.0	96.3	81.4	68.2	5.0	5.5	5.2	5.7	137.1	119.4	119.6	92.4	89.8	86.4
122.3	125.5	108.3	94.9	76.3	65.6	4.9	5.0	5.1	5.4	149.3	120.7	122.3	91.6	81.9	92.3
122.3	122.6	115.8	104.7	78.5	72.6	5.5	6.0	5.7	6.3	148.2	107.4	131.8	98.0	88.7	92.8
110.5	128.8	106.6	101.9	75.8	61.5	5.3	5.4	5.4	5.8	141.2	106.7	123.9	94.7	80.9	92.4
122.3	132.5	105.1	93.7	81.6	69.4	4.9	4.7	5.0	5.5	149.3	109.6	119.5	96.7	92.1	93.7
120.7	149.2	116.9	93.7	81.8	66.4	4.5	4.8	4.9	5.4	148.1	111.9	112.4	95.3	82.4	92.4
125.0	117.1	108.1	90.6	75.7	64.2	5.0	5.1	5.0	5.6	144.4	117.7	124.3	92.7	88.6	82.7
.....	84.1	116.0	112.7	92.2	105.0	5.0	4.9	4.9	5.5	.....	138.9	203.0	121.8	140.2	90.1
130.5	111.9	111.4	90.4	82.9	81.5	4.6	4.4	4.7	4.7	173.1	119.5	150.4	99.3	103.0	93.5
126.5	133.9	109.0	86.5	80.6	75.1	4.5	4.5	4.7	5.1	159.7	118.2	142.0	97.3	88.9	88.5
139.8	131.7	114.8	89.3	69.9	64.1	5.1	5.0	5.1	5.6	165.0	123.2	132.4	87.0	91.2	83.0
122.8	127.4	108.3	93.9	79.7	69.4	4.9	5.0	5.0	5.5	149.3	115.9	125.5	94.6	88.6	89.6

Kentucky		102.5	101.2	91.[illegible]	84.8	76.2	6.0	5.5	5.2	5.8		110.0	115.2	86.1	79.4	92.1
Tennessee		108.6	97.7	79.0	63.8	68.6	5.5	5.3	5.2	5.7		107.4	129.9	91.2	95.8	95.4
Alabama	100.0	91.0	85.0	75.6	82.9	84.1	5.0	5.0	4.5	4.6	124.4	96.0	129.1	112.1	111.6	119.9
Mississippi	100.6	88.8	89.7	85.5	74.8	75.9	4.9	4.5	4.5	5.2	124.8	99.9	134.1	113.3	111.8	113.7
Louisiana		85.7	79.5	74.2	76.8	81.4	4.4	5.0	4.5	4.3		90.5	122.1	117.7	117.7	121.2
Texas		80.2	76.7	81.8	66.4	74.6	5.1	4.8	4.8	5.1		97.1	130.4	97.0	107.2	106.2
Oklahoma		110.0	93.8	70.8	49.9	59.1	5.0	5.1	5.1	5.6		109.9	133.5	82.6	90.5	93.2
Arkansas		88.2	90.1	75.1	71.8	68.3	5.2	4.9	4.8	4.9		107.3	147.0	115.2	105.7	108.7
Montana		172.5	120.2	106.9	127.0	95.7	5.4	5.9	5.2	5.4		117.1	173.8	128.7	140.3	96.0
Wyoming		183.1	131.2	132.0	115.2	95.1	5.4	5.4	5.2	5.1		179.6	222.4	110.0	127.3	106.7
Colorado		148.6	117.6	100.1	73.5	69.6	4.8	4.8	5.0	5.2		127.2	153.9	111.1	110.6	108.4
New Mexico		168.0	65.5	66.7	81.8	59.0	5.0	5.0	5.3	7.0		101.0	110.5	78.3	116.4	121.7
Arizona		78.3	116.5	91.9	96.6	50.0	6.2	5.2	4.6	5.7		183.4	110.4	115.7	108.0	114.3
Utah		146.3	130.9	112.8	73.5	65.9	6.0	6.5	5.8	6.4		136.8	232.1	133.3	102.6	131.5
Nevada		93.4	130.0	138.5	98.6	64.7	5.4	6.0	6.1	6.7		140.6	158.0	140.0	134.5	86.1
Idaho		133.2	130.5	109.3	96.7	82.5	5.2	4.9	5.6	6.1		127.1	161.2	111.8	126.4	92.9
Washington		123.3	126.0	107.8	97.4	78.7	5.7	6.2	6.1	6.3		118.5	145.7	133.0	136.0	99.0
Oregon		128.7	113.6	95.3	91.9	92.4	6.2	6.4	6.2	6.4		111.9	124.0	111.8	105.8	93.0
California		144.3	122.8	74.2	85.9	81.4	5.8	5.7	5.7	5.4		132.9	140.0	101.4	85.7	116.5
United States		118.6	103.9	91.3	78.8	71.8	5.0	5.1	5.1	5.5		113.1	128.3	98.8	94.1	94.3

Division of Crop and Livestock Estimates. Based on reports of about 140,000 farmers gathered in cooperation with Post Office Department through the rural mail carriers. Periods covered: December 1 to June 1 (spring), June 1 to December 1 (fall).

[1] Total pigs saved divided by sows farrowed as reported by farmers.
[2] Intentions are as of the close of the preceding 6 months period; for example, those for spring farrowing 1925 were intentions expressed as of December 1, 1924.
[3] Total of 12 States immediately preceding, i.e. Ohio to Kansas.
[4] Not including North Dakota.

TABLE 503.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

[Thousands—i. e., 000 omitted]

STOCKER AND FEEDER SHIPMENTS

Market	1916	1917	1918	1919	1920	1921	1922	1923	1924
Amarillo, Tex.			(1)	(1)	1				
Atlanta, Ga.			4	4	8	5		1	1
Augusta, Ga.		(1)	1	1	(1)	(1)	1	(1)	(1)
Buffalo, N. Y.		2	1	(1)	(1)	(1)			
Chattanooga, Tenn.			2	1					
Chicago, Ill.		45	25	14	1	2	3	2	1
Cincinnati, Ohio.			2	1	3	4	2	4	2
Dayton, Ohio.			(1)						
Denver, Colo.	9	22	17	32	30	22	26	93	54
Detroit, Mich.	(1)	1	2	8	5	5	(1)	(1)	1
East St. Louis, Ill.	13	12	77	98	47	44	63	41	11
El Paso, Tex.		(1)	8	4	3	8	5	2	1
Evansville, Ind.		12	10	10	4	4	9	6	3
Fort Wayne, Ind.								1	5
Fort Worth, Tex.		27	89	55	24	52	34	22	6
Fostoria, Ohio.		2	5	3	1	2	4	4	3
Indianapolis, Ind.		35	45	41	17	21	17	18	15
Jacksonville, Fla.	1	(1)	3	1	2		(1)		1
Kansas City, Mo.	22	18	175	244	200	94	162	283	134
Knoxville, Tenn.		(1)	1	1	(1)	1	2		
Lafayette, Ind.	(1)	5	1	3	5	7	5	3	1
Laredo, Tex.								(1)	
Los Angeles, Calif.								17	2
Louisville, Ky.			17	28	11	8	19	2	2
Marion, Ohio.			1	4	2	2	3	2	2
Memphis, Tenn.	(1)			(1)	4	1	2	6	5
Milwaukee, Wis.		(1)	(1)	(1)					
Montgomery, Ala.		1	1	22	15	9	12	10	1
Moultrie, Ga.						3	1	1	4
Nashville, Tenn.	23		36	28	18	2	1	1	1
Newark, N. J.								(1)	(1)
New Orleans, La.		4	3	3	3	1	1	3	2
North Salt Lake, Utah.	1	5	1	4	3	2	1	1	1
Ogden, Utah.		1	1	13	11	2	5	4	6
Oklahoma, Okla.	18	70	60	43	21	13	9	17	7
Omaha, Nebr.	26	73	13	8	7	4	6	14	10
Pasco, Wash.			1						
Peoria, Ill.		1	4	(1)	3	8	5	7	4
Philadelphia, Pa.			1						
Portland, Oreg.	3	14	18	15	17	11	17	18	20
Pueblo, Colo.			(1)		(1)	(1)			
Richmond, Va.			(1)	1	(1)	(1)	(1)	2	1
St. Joseph, Mo.	11	33	34	27	24	9	11	17	13
St. Paul, Minn.	23	232	173	103	161	104	109	151	127
San Antonio, Tex.	29	1	2	2	2	4	13	10	7
Seattle, Wash.			2	2	3	1	1	3	3
Sioux City, Iowa.	8	109	41	33	28	19	9	9	(1)
Sioux Falls, S. Dak.		5	3	2	2	3	4	4	1
Spokane, Wash.		8	9	15	12	6	7	9	12
Toledo, Ohio.			1	2	2	(1)		(1)	
Wichita, Kans.	6	44	87	20	23	13	20	32	27
Discontinued[2]	1	6	3	6	5	3	4	(1)	
Total	194	788	989	902	728	499	593	820	497

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Not over 500. [2] Includes only those markets which have been totally discontinued.

TABLE 504.—*Feeding swine: Shipments from public stockyards, by months, 1924*

Origin and destination	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
MARKET ORIGIN	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*
Denver, Colo.	975	993	622	294	625	598	697	567	211	1,245	1,047	642	8,516
Fort Worth, Tex.	1,142	1,206	874	894	741	480	441	830	701	627	566	596	9,098
Indianapolis, Ind.	728	920	824	2,322	2,060	2,084	1,342	925	533	1,163	1,422	935	15,258
Kansas City, Kans.	11,347	10,752	12,342	21,572	11,702	7,910	2,186	5,409	11,098	14,058	5,576	4,901	118,823
Los Angeles, Calif.	441	182	549							119			1,261
Nat'l Stockyards, Ill.	844	710	2,531	4,671	2,299	2,331	1,328	2,416	1,007	1,885	616	1,043	21,681
Oklahoma, Okla.	1,620	688	596	774	485	397	487	1,603	1,098	287	750	793	9,578
Omaha, Nebr.	1,867	2,937	2,365	1,795	1,657	1,651	200	710	1,290	1,645	2,972	2,178	21,267
Portland, Oreg.	1,036	1,764	2,579	1,701	1,511	2,181	1,707	1,762	796	2,853	1,455	1,101	20,446
Sioux City, Iowa	112	392	26		61	104	73	251	412	1,066	2,118	185	4,800
South St. Joseph, Mo.	144	31		241	487	74	463	177		61	541	279	2,498
South St. Paul, Minn.	7,660	8,456	10,082	9,311	10,518	5,944	4,342	3,248	6,156	18,519	16,972	16,592	117,794
Wichita, Kans.	3,517	2,647	3,064	5,340	2,508	1,038	1,640	1,148	2,297	1,431	1,096	779	26,505
All other inspected	3,591	2,297	3,622	2,580	2,139	2,564	3,963	3,558	4,064	3,815	1,712	2,161	36,066
Total	34,964	33,969	40,076	51,495	36,793	27,356	18,869	22,604	29,663	48,774	36,843	32,185	413,591
STATE DESTINATION													
California	609	182	549	341	91					119			1,891
Colorado	975	993	195	148	485	598	697	475	211	285	370	179	5,611
Illinois	3,663	2,511	3,849	5,574	3,456	2,187	1,183	1,820	4,056	7,505	3,789	4,720	44,313
Indiana	1,146	920	1,176	3,614	2,485	2,839	1,342	1,664	805	1,365	1,759	1,070	20,116
Iowa	5,896	7,375	10,710	12,162	8,747	3,224	1,685	2,085	7,010	8,636	3,807	2,803	74,140
Kansas	2,937	1,723	1,707	3,015	873	551	651	522	438	1,235	1,201	1,774	16,627
Michigan	573	2,139	1,327	1,508	1,018	734	711	1,171	688	2,529	1,615	1,397	15,410
Minnesota	2,100	2,735	1,569	1,708	3,856	2,359	2,043	931	2,135	5,774	7,694	6,638	39,542
Missouri	3,681	4,219	4,923	8,626	4,324	2,246	697	1,800	789	2,685	1,194	1,287	36,471
Nebraska	2,758	3,641	3,368	3,274	2,496	3,111	787	1,486	2,045	3,908	4,371	2,859	34,104
Ohio	417	192	294	1,397	644	1,123	148	44	1,190	419	1,382	522	7,772
Oklahoma	1,295	802	444	902	485	397	970	1,704	1,359	287	750	1,570	10,965
Oregon	976	1,590	2,311	1,414	1,397	1,819	1,666	1,662	737	2,753	1,037	1,080	18,442
Tennessee	919	313	338	224	216	933	207	221	584	458	434	554	5,401
Texas	3,457	2,525	1,109	3,416	1,753	1,636	1,940	2,049	1,949	1,578	2,448	2,073	25,924
All other	3,562	2,109	6,216	4,172	4,467	3,599	4,142	4,970	5,667	9,298	5,001	3,659	56,862
Total	34,964	33,969	40,076	51,495	36,793	27,356	18,869	22,604	29,663	48,774	36,843	32,185	413,591

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry inspection records.

TABLE 505.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*

[Thousands—i. e., 000 omitted]

Stockyard	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Baltimore, Md.:													
Receipts	175	148	147	127	128	108	90	92	95	117	143	143	1,513
Local slaughter	141	120	117	98	104	84	74	76	71	89	117	106	1,197
Buffalo, N. Y.:													
Receipts	170	158	142	134	128	130	100	105	120	139	160	170	1,656
Local slaughter	89	66	63	75	70	75	52	53	50	67	85	104	849
Chicago, Ill.:													
Receipts	1,274	1,073	874	701	688	782	776	591	518	668	1,062	1,436	10,443
Local slaughter	881	685	589	521	506	614	578	457	385	493	719	1,023	7,451
Stocker and feeder shipments			(1)		(1)	(1)	(1)			(1)	(1)	(1)	(1)
Cincinnati, Ohio:													
Receipts	137	117	105	114	117	108	105	85	100	117	117	143	1,365
Local slaughter	80	79	69	75	74	69	74	51	58	65	69	91	854
Stocker and feeder shipments		(1)	1	(1)	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2
Cleveland, Ohio:													
Receipts	128	89	125	108	111	98	82	70	84	102	121	151	1,269
Local slaughter	109	76	103	85	88	80	62	51	57	72	88	116	987
Denver, Colo.:													
Receipts	70	57	46	53	55	57	46	34	33	35	32	51	569
Local slaughter	58	46	39	48	49	45	34	23	22	27	26	42	459
Stocker and feeder shipments	11	10	8	4	8	1	2	3	1	2	2	2	54

[1] Not over 500.

TABLE 505.—*Hogs: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*—Continued

[Thousands—i. e., 000 omitted]

Stockyards	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Detroit, Mich.:													
Receipts	71	42	50	65	50	36	22	18	32	45	54	65	556
Local slaughter	43	23	34	41	30	21	15	12	20	29	37	45	350
Stocker and feeder shipments	(1)	(1)	(1)	------	------	1	------	------	(1)	(1)	(1)	(1)	1
East St. Louis, Ill.:													
Receipts	499	453	388	388	392	361	319	285	312	379	355	449	4,580
Local slaughter	203	170	123	120	113	138	118	79	84	112	125	185	1,570
Stocker and feeder shipments	1	1	1	2	2	1	1	(1)	(1)	1	------	1	11
Fort Worth, Tex.:													
Receipts	53	43	45	37	31	21	24	20	26	24	26	42	392
Local slaughter	46	36	40	32	29	18	23	19	21	20	24	41	349
Stocker and feeder shipments	1	1	(1)	1	1	(1)	(1)	(1)	(1)	1	1	(1)	6
Indianapolis, Ind.:													
Receipts	323	234	179	200	212	251	245	192	188	195	275	371	2,865
Local slaughter	189	122	104	107	113	146	117	106	91	109	152	221	1,577
Stocker and feeder shipments	1	1	1	2	2	2	1	1	1	1	1	1	15
Jersey City, N. J.:													
Receipts	60	47	45	50	37	33	30	35	33	53	54	58	535
Local slaughter	60	47	45	50	37	33	30	35	33	53	54	58	535
Kansas City, Mo.:													
Receipts	331	250	223	233	237	236	205	180	186	266	242	344	2,933
Local slaughter	208	158	127	134	153	162	129	116	103	172	169	241	1,872
Stocker and feeder shipments	12	12	14	22	13	8	3	7	12	18	6	7	134
Los Angeles, Calif.:													
Receipts	28	25	19	12	20	20	24	16	18	25	29	34	270
Local slaughter	26	25	20	11	21	19	24	16	17	25	30	34	268
Stocker and feeder shipments	1	(1)	1	------	------	------	------	------	------	(1)	------	(1)	2
Milwaukee, Wis.:													
Receipts	62	38	37	45	33	27	24	19	24	64	80	70	523
Local slaughter	62	37	37	45	32	27	24	19	24	63	76	69	515
Oklahoma, Okla.:													
Receipts	37	25	28	26	25	20	14	17	38	35	24	36	325
Local slaughter	31	21	22	21	21	18	12	12	34	30	20	32	274
Stocker and feeder shipments	2	2	(1)	1	(1)	1	(1)	1	------	(1)	(1)	------	7
Omaha, Nebr.:													
Receipts	405	426	428	340	339	373	378	241	202	177	232	437	3,978
Local slaughter	339	319	327	269	275	294	273	172	163	149	170	359	3,109
Stocker and feeder shipments	1	2	1	1	1	1	------	(1)	(1)	1	2	------	10
Pittsburgh, Pa.:													
Receipts	315	283	254	241	264	200	187	169	209	263	315	338	3,038
Local slaughter	69	64	48	54	55	53	47	40	45	55	66	78	674
Portland, Oreg.:													
Receipts	35	34	35	31	33	31	26	18	26	31	27	30	357
Local slaughter	22	10	15	14	14	18	18	11	13	13	13	19	180
Stocker and feeder shipments	1	2	2	2	1	2	2	2	1	3	1	1	20
St. Joseph, Mo.:													
Receipts	244	206	172	158	179	194	166	141	116	154	210	294	2,234
Local slaughter	187	144	115	105	120	136	112	88	67	117	171	243	1,605
Stocker and feeder shipments	1	1	1	1	1	1	1	1	1	1	2	1	13
St. Paul, Minn.:													
Receipts	484	359	336	299	285	258	246	130	126	285	361	582	3,751
Local slaughter	373	279	259	228	222	212	202	100	102	226	280	436	2,919
Stocker and feeder shipments	10	10	13	11	10	6	6	3	6	19	17	16	127
Sioux City, Iowa:													
Receipts	361	381	393	298	296	322	387	247	157	174	238	478	3,732
Local slaughter	186	184	212	191	188	203	209	168	128	139	166	253	2,227
Stocker and feeder shipments	(1)	(1)	(1)	(1)	------	------	(1)	(1)	(1)	(1)	------	------	(1)
Wichita, Kans.:													
Receipts	93	75	58	75	66	66	47	40	42	50	53	69	734
Local slaughter	86	70	53	68	63	64	44	38	38	48	51	66	689
Stocker and feeder shipments	4	3	3	5	2	1	2	1	2	2	1	1	27

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Local slaughter data from stockyards.

[1] Not over 500.

TABLE 506.—*Hogs: Monthly average live weight at Chicago, Kansas City, and Omaha, 1900–1924*

CHICAGO

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1900	229	226	223	223	228	229	236	246	247	234	240	238
1901	227	222	222	226	227	231	229	238	248	236	218	202
1902	203	208	216	214	219	223	230	243	241	227	224	217
1903	208	209	215	222	227	231	235	248	257	241	228	219
1904	206	205	206	208	214	221	226	239	244	230	232	228
1905	213	209	211	216	219	222	228	236	241	234	230	221
1906	217	215	218	221	226	226	231	241	248	237	229	225
1907	223	222	228	234	235	236	240	250	253	235	209	214
1908	215	212	212	219	218	217	222	224	219	207	213	211
1909	203	204	206	212	216	219	225	232	232	227	225	214
1910	210	213	218	227	239	242	246	255	259	253	232	224
1911	226	230	239	241	242	236	233	239	224	212	208	213
1912	212	217	218	227	232	235	239	240	235	226	222	223
1913	226	230	240	242	242	244	243	233	222	209	207	213
Av. 1909–1913	215	219	224	230	234	235	237	240	234	225	219	217
1914	216	224	233	233	236	237	244	248	242	229	218	226
1915	223	224	231	233	233	231	238	246	235	204	187	190
1916	195	204	214	219	220	226	231	232	223	210	195	193
1917	199	204	209	213	217	225	232	233	231	212	209	211
1918	216	231	238	242	238	235	243	243	247	233	226	223
1919	228	232	230	230	232	233	242	251	254	237	226	234
1920	239	239	244	248	245	243	252	258	258	247	234	230
Av. 1914–1920	217	223	228	231	232	233	240	244	241	225	214	214
1921	234	234	241	242	239	241	250	259	262	243	225	226
1922	231	236	244	246	244	247	259	268	265	243	231	234
1923	239	241	247	249	242	242	250	253	254	247	234	231
1924	227	229	237	239	239	241	251	255	254	235	220	214

KANSAS CITY

1900	230	218	210	207	213	210	206	219	214	213	216	218
1901	213	210	207	207	210	205	187	187	185	199	179	173
1902	172	176	188	194	196	198	205	209	208	217	223	224
1903	224	220	218	223	215	211	213	216	232	223	211	220
1904	222	222	216	210	211	208	206	210	206	195	192	194
1905	203	203	215	215	212	205	203	210	207	208	213	214
1906	219	214	210	212	209	204	204	204	211	214	215	212
1907	220	221	221	219	212	207	209	212	216	208	199	206
1908	216	215	208	213	206	197	195	191	189	181	194	199
1909	202	204	199	201	198	198	200	203	192	194	198	198
1910	205	202	208	209	210	209	206	206	217	213	217	223
1911	226	225	225	223	213	197	188	201	195	185	182	182
1912	189	199	193	205	203	203	205	204	199	198	206	205
1913	213	212	213	216	208	206	202	193	190	185	178	178
Av. 1909–1913	207	208	208	211	206	203	200	201	199	195	196	197
1914	185	193	200	195	197	193	196	192	192	191	186	188
1915	201	204	201	204	204	197	199	202	198	192	194	203
1916	204	199	203	204	202	202	204	188	181	171	172	183
1917	189	189	192	191	193	196	190	180	183	195	198	206
1918	218	221	213	218	213	208	206	191	172	173	185	194
1919	200	201	191	194	193	194	194	193	181	175	187	189
1920	223	227	229	228	211	213	221	226	222	216	218	225
Av. 1914–1920	203	205	204	205	202	200	201	196	190	188	191	198
1921	236	236	233	229	224	211	223	225	216	222	216	223
1922	226	215	213	220	215	211	216	217	211	206	208	212
1923	222	221	221	215	207	216	222	228	225	206	212	218
1924	222	224	229	229	226	221	227	237	234	220	219	221

TABLE 506.—*Hogs: Monthly average live weight at Chicago, Kansas City, and Omaha, 1900–1924*—Continued

OMAHA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1900	257	237	243	236	239	239	234	240	249	245	253	252
1901	234	231	232	232	234	242	231	236	246	250	235	212
1902	209	211	220	228	230	2.2	233	242	253	259	262	256
1903	242	235	236	247	248	253	254	265	273	278	268	265
1904	250	231	235	236	232	233	232	244	252	251	267	265
1905	256	236	239	236	237	241	233	238	245	251	252	248
1906	234	226	228	230	232	232	233	246	253	254	248	246
1907	244	237	244	252	250	250	254	260	263	260	244	249
1908	233	228	230	233	228	226	227	229	226	222	238	237
1909	231	223	227	233	232	229	236	239	240	242	248	234
1910	229	226	231	235	249	249	250	259	278	284	274	262
1911	245	243	254	255	254	245	242	253	265	265	243	225
1912	217	222	222	231	233	234	232	238	241	235	235	238
1913	234	229	238	241	244	245	247	244	249	233	219	218
Av. 1909-1913	231	229	234	239	242	240	241	247	255	252	244	235
1914	224	232	238	242	247	250	255	261	268	265	253	242
1915	241	238	244	252	256	248	249	264	274	265	252	230
1916	216	216	224	228	232	236	243	247	249	249	224	211
1917	218	223	226	229	233	239	245	245	256	257	260	243
1918	240	243	249	242	246	248	261	260	264	264	240	227
1919	229	235	236	245	238	244	245	255	275	281	271	249
1920	242	242	250	251	247	247	256	263	272	271	260	248
Av. 1914-1920	230	233	238	241	243	245	251	256	265	265	251	236
1921	248	246	252	260	259	255	260	274	288	274	244	232
1922	235	238	247	255	257	258	267	280	286	276	249	238
1923	241	244	253	260	255	256	260	263	269	272	262	247
1924	239	239	245	249	250	250	255	266	264	259	238	217

Division of Statistical and Historical Research. Figures prior to 1920 compiled from yearbooks of stockyard companies. Subsequent figures compiled from reports of packer and shipper purchases, reporting service of the Livestock, Meats, and Wool Division.

TABLE 507.—*Hogs: Monthly average live weight at East St. Louis, 1910–1924*

EAST ST. LOUIS

1910	178	165	171	176	198	206	184	193	215	205	205	191
1911	188	195	202	197	170	180	190	185	186	173	169	159
1912	158	162	167	165	191	196	174	181	196	182	178	176
1913	182	180	170	179	181	183	185	183	182	182	178	169
1914	169	177	174	180	174	177	174	174	173	169	175	166
1915	170	174	176	175	175	180	180	186	183	165	169	174
1916	172	173	171	171	178	180	181	176	168	162	184	172
1917	175	179	175	171	175	173	177	175	182	181	181	185
1918	190	190	189	186	181	180	182	174	174	178	182	188
1919	189	184	173	176	182	182	181	183	181	176	183	181
1920	186	188	182	190	185	180	182	186	184	177	176	181
Av. 1914-1920	179	181	177	178	179	179	180	179	178	173	179	178
1921	211	210	200	198	198	201	204	206	196	196	205	207
1922	209	198	197	188	194	190	200	196	170	189	193	208
1923	211	206	198	197	193	200	203	205	201	192	200	207
1924	211	213	215	220	208	212	212	213	210	201	205	206

Division of Statistical and Historical Research. Figures prior to 1921 compiled from yearbooks of stockyard companies. Subsequent figures compiled from reports of packer and shipper purchases, reporting service of the Livestock, Meats, and Wool Division.

TABLE 508.—*Live hogs: Exports from the United States, by months, 1910–1925*

Year ended June 30—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
1910	283	136	253	304	166	101	340	31	77	810	1,126	783	4,410
1911	484	103	25	41	29	170	67	18	758	1,989	1,807	3,060	8,551
1912	1,823	1,230	662	437	182	1,213	2,100	2,147	3,508	2,335	2,314	1,087	19,038
1913	305	271	617	868	216	1,710	2,420	2,597	2,530	2,256	1,223	310	15,332
1914	174	130	101	123	173	72	1,401	1,304	1,770	1,697	1,240	1,937	10,122
1915	1,488	426	286	211	526	113	73	220	570	1,476	1,536	865	7,799
1916	579	147	379	346	448	613	2,116	4,299	9,300	1,977	584	1,260	22,048
1917	2,388	683	671	1,416	1,170	2,437	3,207	2,520	2,136	2,827	1,540	931	21,926
1918	559	403	105	403	205	752	594	411	919	2,028	1,267	1,634	9,280
1919	747	393	310	838	379	788	1,757	2,615	1,651	2,983	2,840	2,089	17,390
1920	755	413	1,117	1,893	3,840	2,792	2,093	2,279	3,520	4,934	6,027	6,444	36,107
1921	5,890	2,959	4,813	6,718	4,624	4,949	10,643	10,369	13,129	13,008	13,987	12,102	103,192
1922	6,006	8,072	6,316	7,581	10,079	11,774	10,841	9,711	8,805	8,389	6,036	4,145	97,755
1923	4,639	4,840	4,305	6,049	5,221	4,780	6,182	6,228	9,061	8,000	9,304	7,490	76,099
1924	7,629	7,403	4,577	7,336	7,271	7,163	10,065	8,714	11,303	6,799	9,868	7,281	95,409
1925	7,375	4,473	3,629	3,380	4,413	5,546							

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

TABLE 509.—*Hogs: Corn and hog ratios,*[1] *United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
1910	12.2	12.0	13.6	14.4	13.3	12.9	12.2	11.7	13.0	14.2	15.1	14.9	13.3
1911	15.3	14.4	13.7	12.1	10.7	9.8	9.4	9.9	9.9	9.3	9.3	9.2	11.1
1912	9.1	8.8	8.6	9.0	8.4	8.1	8.3	9.1	10.1	12.0	13.2	14.1	9.9
1913	13.6	13.9	14.4	14.4	12.7	12.3	12.1	11.1	10.2	10.4	10.5	10.3	12.2
1914	10.8	11.3	11.2	10.9	10.3	9.9	10.1	10.3	10.2	10.0	10.4	10.2	10.5
1915	9.5	8.6	8.4	8.5	8.7	8.7	8.7	8.5	9.2	10.8	10.6	10.1	9.2
1916	9.8	10.5	11.4	11.5	11.4	11.0	10.9	10.6	11.1	10.4	10.1	9.8	10.7
1917	9.9	10.5	11.5	10.3	8.8	8.3	7.4	7.7	9.0	10.1	11.2	12.0	9.7
1918	11.2	10.3	10.1	10.2	10.3	10.0	9.9	10.1	10.8	11.0	11.5	11.3	10.6
1919	11.1	11.3	11.2	11.1	10.8	10.2	10.5	10.2	9.3	9.7	9.2	9.2	10.3
1920	9.3	9.2	8.9	8.4	7.6	7.1	7.8	8.5	10.1	13.0	15.0	13.2	9.8
1921	13.5	13.5	14.3	13.0	12.5	11.0	13.1	14.8	14.0	15.9	16.0	15.2	14.0
1922	15.4	16.5	15.8	15.7	15.0	14.7	14.7	13.7	13.4	13.4	12.8	11.7	14.4
1923	11.1	10.9	10.2	9.8	8.8	7.9	7.5	7.7	8.5	8.8	8.2	9.0	9.0
1924	9.0	8.5	8.6	8.6	8.5	8.1	6.7	8.0	7.7	8.7	8.7	7.9	8.2

Division of Crop and Livestock Estimates.

[1] Number of bushels of corn required to buy 100 pounds of live hogs, based on averages of farm prices of corn and of hogs for the month.

TABLE 510.—*Hogs: Farm price per 100 pounds, 15th of month, United States, 1910–1924*

Year beginning November	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Weighted average
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1910	7.61	7.16	7.44	7.04	6.74	6.17	5.72	5.66	5.92	6.54	6.53	6.09	6.61
1911	5.86	5.72	5.74	5.79	5.94	6.78	6.79	6.65	6.64	7.11	7.47	7.70	6.43
1912	7.05	6.89	6.77	7.17	7.62	7.94	7.45	7.61	7.81	7.79	7.68	7.60	7.39
1913	7.33	7.16	7.45	7.75	7.80	7.80	7.60	7.43	7.72	8.11	8.11	7.43	7.60
Av. 1910–1913	6.96	6.73	6.85	6.94	7.02	7.17	6.89	6.84	7.02	7.39	7.45	7.20	7.01
1914	7.00	6.67	6.57	6.34	6.33	6.48	6.77	6.80	6.84	6.61	6.79	7.18	6.69
1915	6.35	6.02	6.32	7.07	7.86	8.21	8.37	8.21	8.40	8.61	9.22	8.67	7.61
1916	8.74	8.76	9.16	10.33	12.32	13.61	13.72	13.50	13.35	14.24	15.69	16.15	12.10
1917	15.31	15.73	15.26	15.03	15.58	15.76	15.84	15.37	15.58	16.89	17.50	16.50	15.78
1918	15.92	15.82	15.69	15.53	16.13	17.39	18.00	17.80	19.22	19.30	15.81	13.88	16.60
1919	13.36	12.66	13.36	13.62	13.59	13.73	13.44	13.18	13.65	13.59	13.98	13.57	13.43
1920	11.64	8.90	8.72	8.58	9.13	7.96	7.62	7.22	8.09	8.73	7.51	7.31	8.52
Av. 1914–1920	11.19	10.65	10.73	10.93	11.56	11.88	11.97	11.73	12.16	12.57	12.36	11.89	11.53
1921	6.66	6.52	6.89	8.24	9.08	8.83	9.05	9.11	9.12	8.54	8.23	8.33	8.10
1922	7.78	7.63	7.77	7.65	7.52	7.45	7.13	6.37	6.68	6.85	7.81	7.23	7.34
1923	6.66	6.39	6.59	6.54	6.63	6.70	6.68	6.55	6.60	8.54	8.50	9.45	7.06
1924	8.62	8.39											

Division of Crop and Livestock Estimates.

TABLE 511.—*Hogs: Farm price per 100 pounds, 15th of month, by States, 1924*

State	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Aver.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	8.50	8.50	8.70	8.60	8.30	8.10	8.00	8.50	8.60	9.50	10.00	9.50	8.73
New Hampshire	8.20	8.00	7.90	8.20	8.00	8.50	8.50	8.60	8.30	10.00	10.00	10.50	8.72
Vermont	7.20	7.20	7.50	7.40	7.00	6.80	6.60	8.10	8.00	10.00	9.50	9.00	7.86
Massachusetts	8.00	8.70	8.70	8.90	8.50	8.30	8.00	8.80	9.00	10.30	10.00	9.70	8.91
Rhode Island	9.70	9.00	8.90	8.60	8.30	------	------	------	9.50	10.00	10.50	11.00	9.50
Connecticut	9.20	9.80	9.20	------	8.30	8.50	8.80	10.00	10.00	10.20	10.00	10.60	9.51
New York	7.50	7.60	8.00	8.00	7.60	7.70	7.70	8.80	8.80	9.60	9.50	10.00	8.40
New Jersey	9.00	9.40	9.00	9.10	9.10	------	------	10.00	10.80	11.00	11.00	10.20	9.86
Pennsylvania	8.40	8.10	8.10	8.10	7.80	7.80	7.80	9.50	9.30	10.00	10.20	10.00	8.76
Delaware	10.00	9.80	9.20	8.70	8.50	9.00	------	------	9.70	10.20	10.30	10.60	9.60
Maryland	7.90	8.20	7.90	7.80	7.70	7.50	7.60	9.20	9.30	10.00	9.80	9.70	8.55
Virginia	7.80	7.70	7.70	7.80	7.40	7.60	7.60	8.50	8.60	9.40	10.00	9.60	8.31
West Virginia	7.70	8.00	8.20	7.80	8.00	7.80	7.90	8.70	8.80	9.60	10.00	9.10	8.47
North Carolina	9.20	9.50	9.80	9.20	9.30	9.50	9.50	10.00	10.10	10.40	10.50	10.40	9.78
South Carolina	8.20	8.50	8.10	8.50	8.40	8.30	8.50	9.00	8.90	9.20	9.60	9.40	8.72
Georgia	7.20	7.00	6.70	7.00	7.10	7.00	7.10	7.80	7.90	8.50	8.70	8.90	7.58
Florida	7.00	6.70	7.00	6.90	6.50	6.50	6.50	7.00	7.00	8.00	8.00	8.10	7.10
Ohio	6.90	6.90	7.00	7.10	7.10	7.00	7.00	9.30	9.60	10.40	9.10	8.70	8.01
Indiana	6.70	6.70	6.80	7.00	7.00	6.80	6.90	9.50	9.30	10.40	9.00	8.60	7.89
Illinois	6.60	6.50	6.70	6.80	6.80	6.70	6.60	8.90	8.70	9.90	8.70	8.50	7.62
Michigan	6.60	6.70	6.80	6.70	7.00	6.80	6.60	8.60	8.30	9.60	8.60	8.50	7.57
Wisconsin	6.20	6.40	6.40	6.60	6.50	6.40	6.30	8.50	8.70	9.50	8.20	7.80	7.29
Minnesota	6.20	6.10	6.30	6.30	6.40	6.20	6.20	8.60	8.30	9.10	8.40	8.00	7.18
Iowa	6.40	6.30	6.50	6.70	6.60	6.40	6.50	8.70	8.70	10.00	8.50	8.20	7.46
Missouri	6.10	6.10	6.10	6.10	6.20	6.00	6.40	8.40	8.30	9.70	8.40	8.10	7.16
North Dakota	5.50	5.70	5.60	5.80	5.70	5.70	5.60	7.30	7.30	8.10	7.50	7.10	6.41
South Dakota	6.10	6.00	6.00	6.20	6.20	6.10	6.00	8.20	8.10	9.00	8.00	7.80	6.98
Nebraska	6.10	6.00	6.30	6.30	6.30	6.10	6.30	8.20	8.30	9.30	8.30	8.10	7.13
Kansas	6.00	6.10	6.30	6.30	6.40	6.20	6.40	8.60	8.60	9.50	8.50	8.40	7.28
Kentucky	6.30	6.70	6.50	6.50	6.40	6.30	6.50	8.90	8.50	9.50	8.90	8.60	7.47
Tennessee	6.60	6.70	6.60	6.70	6.60	6.20	6.30	8.30	8.10	8.60	8.70	8.40	7.32
Alabama	7.20	7.00	7.30	7.10	7.20	7.00	7.00	7.60	7.80	7.80	8.60	8.70	7.52
Mississippi	7.00	6.50	6.50	6.30	6.20	6.00	6.00	7.70	7.80	8.00	8.30	8.10	7.03
Louisiana	6.90	7.10	6.90	6.60	7.00	7.10	7.10	7.50	7.60	7.70	8.00	8.50	7.33
Texas	6.80	6.40	6.30	6.10	6.30	6.40	6.30	7.70	7.40	8.30	8.40	8.50	7.08
Oklahoma	5.70	5.70	5.60	5.80	5.70	5.80	5.80	8.00	7.80	8.80	8.50	8.00	6.77
Arkansas	6.00	6.10	5.80	5.90	5.60	5.70	5.60	6.20	6.30	7.40	7.00	6.90	6.21
Montana	6.30	6.30	6.30	6.20	6.40	6.30	6.10	7.50	8.00	8.00	7.60	7.70	6.89
Wyoming	5.80	6.40	6.10	6.50	6.30	6.00	6.00	7.50	7.50	7.20	6.80	7.20	6.61
Colorado	6.30	6.00	6.10	6.30	6.10	6.00	6.00	8.30	8.00	8.70	8.20	7.80	6.98
New Mexico	6.50	6.10	6.40	6.80	7.00	6.60	6.60	7.60	8.00	------	------	7.50	6.91
Arizona	7.90	7.90	7.30	7.60	7.80	7.50	7.30	8.50	8.60	9.00	9.00	8.20	8.05
Utah	6.00	6.10	6.50	6.70	6.50	6.70	6.80	7.30	7.50	8.00	8.60	7.90	7.05
Nevada	8.00	7.50	7.90	7.50	7.00	7.00	6.70	8.10	8.50	9.00	9.50	8.50	7.93
Idaho	6.60	6.40	6.30	6.50	6.60	6.50	6.50	8.10	8.50	8.70	8.10	8.10	7.24
Washington	7.70	7.20	7.30	7.50	7.60	7.70	7.80	9.50	9.60	9.70	9.20	8.80	8.30
Oregon	7.30	7.30	7.20	7.30	7.50	7.30	7.20	7.60	7.80	8.20	7.70	8.50	7.58
California	8.00	7.70	7.50	7.50	7.40	7.20	7.00	8.70	9.00	9.50	9.50	9.40	8.20
United States	6.59	6.54	6.63	6.70	6.68	6.55	6.60	8.54	8.50	9.45	8.62	8.39	7.48

Division of Crop and Livestock Estimates.

TABLE 512.—*Hogs: Average price per 100 pounds at Chicago, by months, 1901–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls*	*Dolls.*	*Dolls.*	*Dolls.*
1901	5.25	5.35	5.85	5.90	5.80	5.90	5.90	5.95	6.60	6.10	5.65	5.95	5.85
1902	6.20	6.10	6.35	6.95	7.00	7.35	7.65	7.15	7.55	7.00	6.30	6.20	6.85
1903	6.40	6.75	7.30	7.20	6.45	6.00	5.55	5.45	5.85	5.55	4.65	4.45	6.00
1904	4.90	5.15	5.35	5.10	4.65	5.05	5.40	5.30	5.75	5.40	4.80	4.50	5.15
1905	4.65	4.85	5.15	5.45	5.40	5.35	5.65	5.95	5.50	5.25	4.85	4.90	5.25
1906	5.40	6.00	6.30	6.55	6.45	6.55	6.65	6.25	6.25	6.40	6.20	6.25	6.25
1907	6.60	7.05	6.65	6.65	6.50	6.10	6.05	6.00	6.00	6.15	4.90	4.70	6.10
1908	4.40	4.45	6.00	5.85	5.50	5.80	6.50	6.55	6.85	5.95	5.80	5.65	5.70
1909	6.10	6.35	6.70	7.20	7.30	7.65	7.85	7.75	8.20	7.75	8.00	8.35	7.35
1910	8.55	9.05	10.55	9.90	9.55	9.45	8.75	8.35	8.90	8.50	7.60	7.65	8.90
1911	7.95	7.40	6.85	6.25	6.00	6.25	6.70	7.30	6.90	6.45	6.30	6.40	6.70
1912	6.25	6.20	7.10	7.80	7.65	7.50	7.65	8.25	8.45	8.75	7.75	7.40	7.55
1913	7.45	8.15	8.90	9.05	8.55	8.65	9.05	8.35	8.30	8.20	7.75	7.70	8.35
Av. 1909–1913	7.26	7.43	8.02	8.04	7.81	7.90	8.00	8.00	8.15	7.93	7.48	7.50	7.77
1914	8.30	8.60	8.70	8.65	8.45	8.20	8.70	9.00	8.85	7.65	7.50	7.10	8.30
1915	6.90	6.80	6.75	7.30	7.60	7.60	7.75	6.90	7.25	7.90	6.65	6.40	7.10
1916	7.20	8.20	9.65	9.75	9.85	9.70	9.80	10.30	10.70	9.80	9.60	9.95	9.60
1917	10.90	12.45	14.80	15.75	15.90	15.50	15.20	16.90	18.20	17.15	17.40	16.85	15.10
1918	16.30	16.65	17.10	17.45	17.45	16.60	17.75	19.00	19.65	17.70	17.70	17.55	17.45
1919	17.60	17.65	19.10	20.40	20.60	20.40	21.85	20.00	17.45	14.35	14.20	13.60	17.85
1920	14.97	14.55	14.94	14.79	14.28	14.68	14.84	14.74	15.88	14.17	11.83	9.55	13.91
Av. 1914–1920	11.74	12.13	13.01	13.44	13.45	13.24	13.70	13.83	14.00	12.67	12.13	11.57	12.76
1921	9.41	9.42	10.00	8.50	8.35	8.19	9.69	9.26	7.61	7.72	7.01	6.92	8.51
1922	8.02	9.90	10.43	10.31	10.48	10.33	9.70	8.01	8.75	8.80	8.07	8.18	9.22
1923	8.29	8.02	8.18	8.08	7.53	6.92	7.04	7.65	8.35	7.42	6.85	6.87	7.55
1924	7.10	7.06	7.35	7.36	7.34	7.04	7.68	9.38	9.57	9.91	8.97	9.38	8.11

Division of Statistical and Historical Research. Figures prior to 1920 from Chicago Drovers Journal Yearbook; subsequent figures compiled from reports of packer and shipper purchases of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 513.—*Hogs: Average and top price per 100 pounds, at six markets, by months, 1924*

CHICAGO

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	7.23	7.18	7.41	7.42	7.46	7.26	8.26
Mediumweight (200–250 pounds)	7.18	7.14	7.40	7.41	7.40	7.18	8.29
Common to choice—							
Lightweight (160–200 pounds)	7.01	7.00	7.27	7.26	7.23	6.90	8.07
Light lights (130–160 pounds)	6.69	6.52	6.80	6.67	6.65	6.32	7.54
Packing hogs:							
Smooth	6.73	6.38	6.71	6.86	6.85	6.57	7.44
Rough	6.53	6.15	6.50	6.69	6.68	6.33	7.05
Slaughter pigs (130 pounds down), medium to choice	5.85	5.42	5.62	5.62	5.83	5.62	6.84
Bulk of sales	7.11	7.08	7.36	7.36	7.34	7.06	7.89
Top	7.65	7.50	7.70	7.75	7.75	7.55	11.15

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Butcher, bacon, and shipper hogs:						
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	9.82	9.84	10.62	9.56	10.11	8.51
Mediumweight (200–250 pounds)	9.96	10.00	10.58	9.36	9.69	8.47
Common to choice—						
Lightweight (160–200 pounds)	9.64	9.61	9.85	8.52	8.89	8.10
Light lights (130–160 pounds)	9.15	8.88	8.83	7.48	7.89	7.45
Packing hogs:						
Smooth	8.71	8.85	9.60	8.90	9.50	7.76
Rough	8.24	8.40	9.26	8.64	9.19	7.47
Slaughter pigs (130 pounds down), medium to choice	8.41	8.14	8.15	6.82	7.11	6.62
Bulk of sales	9.42	9.53	10.08	8.96	9.53	8.23
Top	10.65	10.90	11.85	10.25	11.00	[1] 11.85

[1] Top price for year.

TABLE 513.—*Hogs: Average and top price per 100 pounds, at six markets, by months, 1924*—Continued

EAST ST. LOUIS

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	7.30	7.26	7.45	7.42	7.35	7.26	8.44
Mediumweight (200–250 pounds)	7.28	7.25	7.49	7.49	7.42	7.23	8.43
Common to choice—							
Lightweight (160–200 pounds)	7.04	7.06	7.23	7.32	7.25	7.02	8.25
Light lights (130–160 pounds)	6.62	6.64	6.81	6.89	6.76	6.48	7.70
Packing hogs:							
Smooth	6.36	6.18	6.52	6.58	6.48	6.28	7.08
Rough	6.14	5.99	6.30	6.40	6.30	6.10	6.87
Slaughter pigs (130 pounds down), medium to choice	6.19	6.11	6.17	6.35	6.18	5.94	7.02
Feeder and stocker pigs (70–130 pounds), common to choice	5.62	5.49	5.38	5.76	5.68	5.54	5.92
Bulk of sales	7.23	7.22	7.45	7.43	7.36	7.16	8.40
Top	7.80	7.75	7.80	7.85	7.75	7.55	11.10

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Butcher, bacon, and shipper hogs:						
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	9.88	9.96	10.61	9.57	10.06	8.55
Mediumweight (200–250 pounds)	10.00	10.16	10.66	9.48	9.98	8.57
Common to choice—						
Lightweight (160–200 pounds)	9.87	10.00	10.15	9.00	9.41	8.30
Light lights (130–160 pounds)	9.34	9.38	9.34	8.16	8.33	7.70
Packing hogs:						
Smooth	8.10	8.44	9.19	8.36	9.05	7.38
Rough	7.90	8.15	8.87	8.09	8.79	7.16
Slaughter pigs (130 pounds down), medium to choice	8.52	8.66	8.57	7.40	7.46	7.05
Feeder and stocker pigs (70–130 pounds), common to choice		7.67	7.82	6.98	6.88	6.24
Bulk of sales	10.00	10.15	10.45	9.27	9.77	8.49
Top	10.75	10.95	12.00	10.50	11.00	[1]12.00

FORT WORTH

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	7.15	7.07	7.06	7.23	7.24	7.09	8.09
Mediumweight (200–250 pounds)	7.16	7.05	7.17	7.34	7.35	7.18	8.16
Common to choice—							
Lightweight (160–200 pounds)	6.62	6.50	6.58	6.85	6.90	6.75	7.86
Light lights (130–160 pounds)	6.04	5.98	6.12	6.51	6.69	6.54	7.43
Packing hogs:							
Smooth	6.18	6.26	6.36	6.38	6.38	6.31	6.86
Rough	5.32	5.76	5.86	5.88	5.88	5.75	6.23
Slaughter pigs (130 pounds down), medium to choice	4.51	4.65	4.70	5.35	5.53	5.71	6.40
Bulk of sales	7.11	7.06	7.10	7.26	7.31	7.08	8.07
Top	7.80	7.65	7.60	7.65	7.75	7.50	10.75

Kind and grade	Aug.	Sept	Oct.	Nov.	Dec.	Average
Butcher, bacon, and shipper hogs:						
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls*
Heavyweight (250–350 pounds)	9.62	9.47	10.08	9.40	9.87	8.28
Mediumweight (200–250 pounds)	9.72	9.56	10.16	9.47	9.95	8.36
Common to choice—						
Lightweight (160–200 pounds)	9.51	9.41	9.96	9.21	9.55	7.98
Light lights (130–160 pounds)	8.79	8.70	9.33	8.40	8.46	7.42
Packing hogs:						
Smooth	8.07	8.14	8.98	8.52	8.95	7.28
Rough	7.58	7.50	8.31	7.82	8.05	6.66
Slaughter pigs (130 pounds down), medium to choice	7.80	7.60	8.41	7.60	7.51	6.31
Bulk of sales	9.52	9.46	10.06	9.41	9.88	8.28
Top	10.25	10.20	11.35	10.50	11.10	[1]11.35

TABLE 513.—*Hogs: Average and top price per 100 pounds, at six markets, by months, 1924*—Continued

KANSAS CITY

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	7.01	6.99	7.19	7.19	7.19	6.96	8.05
Mediumweight (200–250 pounds)	6.95	6.92	7.10	7.17	7.16	6.92	8.04
Common to choice—							
Lightweight (160–200 pounds)	6.62	6.51	6.77	6.82	6.87	6.65	7.83
Light lights (130–160 pounds)	6.24	5.88	6.20	6.33	6.32	6.11	7.20
Packing hogs:							
Smooth	6.45	6.21	6.34	6.53	6.61	6.32	7.19
Rough	6.27	6.05	6.18	6.35	6.46	6.19	7.00
Slaughter pigs (130 pounds down), medium to choice	5.74	5.53	5.92	6.09	5.94	5.56	6.32
Feeder and stocker pigs (70–130 pounds), common to choice	4.73	4.52	5.25	5.39	5.19	5.08	6.06
Bulk of sales	6.90	6.80	7.10	7.09	7.11	6.86	7.94
Top	7.30	7.50	7.45	7.50	7.50	7.25	10.75

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Butcher, bacon, and shipper hogs:						
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	9.50	9.58	10.21	9.19	9.75	8.23
Mediumweight (200–250 pounds)	9.59	9.68	10.24	9.13	9.68	8.22
Common to choice—						
Lightweight (160–200 pounds)	9.54	9.64	10.04	8.64	9.04	7.91
Light lights (130–160 pounds)	8.84	8.86	9.09	7.66	8.35	7.26
Packing hogs:						
Smooth	8.29	8.55	9.33	8.47	9.28	7.46
Rough	8.08	8.34	9.00	8.22	9.08	7.27
Slaughter pigs (130 pounds down), medium to choice	7.58	7.91	8.25	6.68	6.97	6.54
Feeder and stocker pigs (70–130 pounds), common to choice	7.55	7.26	7.22	6.41	6.03	5.88
Bulk of sales	9.38	9.44	10.00	8.93	9.56	8.10
Top	10.30	10.35	11.70	9.80	10.60	11.70

OMAHA

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	6.91	6.86	7.13	7.08	7.04	6.84	7.78
Mediumweight (200–250 pounds)	6.85	6.74	7.02	7.04	6.94	6.69	7.69
Common to choice—							
Lightweight (160–200 pounds)	6.64	6.46	6.75	6.79	6.63	6.37	7.48
Light lights (130–160 pounds)	6.00	5.91	6.36	6.55	6.38	6.08	6.93
Packing hogs:							
Smooth	6.63	6.38	6.52	6.61	6.52	6.28	7.20
Rough	6.45	6.20	6.35	6.42	6.34	6.07	6.91
Slaughter pigs (130 pounds down), medium to choice					4.94	4.74	4.83
Feeder and stocker pigs (70–130 pounds), common to choice	5.19	4.81	4.91	5.65	5.43	4.99	5.35
Bulk of sales	6.79	6.74	7.02	7.02	6.93	6.67	7.53
Top	7.35	7.15	7.35	7.50	7.35	7.15	10.50

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Butcher, bacon, and shipper hogs:						
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	9.20	9.37	9.97	8.96	9.60	8.06
Mediumweight (200–250 pounds)	9.30	9.48	9.96	8.86	9.45	8.00
Common to choice—						
Lightweight (160–200 pounds)	9.08	9.19	9.37	8.21	8.93	7.66
Light lights (130–160 pounds)	8.64	8.69	8.85	7.53	7.98	7.16
Packing hogs:						
Smooth	8.47	8.80	9.55	8.53	9.20	7.56
Rough	8.14	8.52	9.30	8.30	8.99	7.33
Slaughter pigs (130 pounds down), medium to choice				6.35	6.55	
Feeder and stocker pigs (70–130 pounds), common to choice	6.98	6.67	6.99	5.96	5.99	5.74
Bulk of sales	8.83	9.10	9.69	8.68	9.28	7.86
Top	10.00	10.30	11.25	9.60	10.50	11.25

TABLE 513.—*Hogs: Average and top prices per 100 pounds, at six markets, by months, 1924*—Continued

SOUTH ST. PAUL

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Butcher, bacon, and shipper hogs:							
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	6.75	6.78	6.99	7.00	7.01	6.77	7.78
Mediumweight (200–250 pounds)	6.75	6.77	6.98	7.01	7.00	6.73	7.74
Common to choice—							
Lightweight (160–200 pounds)	6.67	6.70	6.92	7.00	6.92	6.66	7.64
Light lights (130–160 pounds)	6.40	6.42	6.62	6.87	6.72	6.44	7.26
Packing hogs:							
Smooth	6.17	6.07	6.22	6.49	6.44	6.08	6.97
Rough	6.01	5.86	5.98	6.12	6.25	5.86	6.69
Slaughter pigs (130 pounds down), medium to choice	5.84	5.73	5.83	6.41	6.16	5.89	-------
Feeder and stocker pigs (70–130 pounds), common to choice	4.92	4.86	5.04	6.12	5.94	5.70	6.20
Bulk of sales	6.70	6.76	6.98	7.03	7.00	6.67	7.35
Top	7.15	7.10	7.20	7.35	7.35	7.10	10.65

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Butcher, bacon, and shipper hogs:						
Medium to choice—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Heavyweight (250–350 pounds)	9.36	9.53	9.81	8.72	9.29	7.98
Mediumweight (200–250 pounds)	9.42	9.56	9.85	8.63	9.16	7.97
Common to choice—						
Lightweight (160–200 pounds)	9.34	9.45	9.65	8.34	8.71	7.83
Light lights (130–160 pounds)	8.85	8.84	9.01	7.62	7.84	7.41
Packing hogs:						
Smooth	8.25	8.76	9.29	8.36	8.75	7.32
Rough	8.00	8.49	9.01	8.10	8.50	7.07
Slaughter pigs (130 pounds down), medium to choice	-------	-------	6.61	6.19	6.55	6.13
Feeder and stocker pigs (70–130 pounds), common to choice	7.77	7.54	7.18	5.82	6.30	6.12
Bulk of sales	9.05	9.18	9.54	8.44	8.95	7.80
Top	10.00	10.35	11.15	9.35	10.50	[1]11.15

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Top price for year.

TABLE 514.—*Hogs: Trend of average farm prices and average market prices per 100 pounds, at Chicago, 1910–1924*

Year	Weighted average farm price	Average market price at Chicago	Price relatives 1913=100		Year	Weighted average farm price	Average market price at Chicago	Price relatives 1913=100	
			Farm price	Market price				Farm price	Market price
	Dollars	*Dollars*				*Dollars*	*Dollars*		
1910	8.12	8.90	108.1	106.6	1918	15.82	17.45	212.6	209.0
1911	6.29	6.70	84.5	80.2	1919	16.04	17.85	215.6	213.8
1912	6.64	7.55	89.2	90.4	1920	12.85	13.91	172.7	166.6
1913	7.44	8.35	100.0	100.0	1921	7.85	8.51	105.5	101.9
1914	7.51	8.30	100.9	99.4	1922	8.32	9.22	111.8	110.4
1915	6.56	7.10	88.2	85.0	1923	7.11	7.55	95.6	90.4
1916	8.11	9.60	109.0	115.0	1924	7.46	8.11	100.3	97.1
1917	13.41	15.10	180.2	180.8					

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 515.—*Swine: Slaughter in United States, by States, 1909, 1914, 1919, and 1921* [1]

State	1909				1914 [2]
	In wholesale slaughtering and meat packing establishments	Retail slaughter	On farms and ranges	Total slaughter	In wholesale slaughtering and meat packing establishments
	Number	*Number*	*Number*	*Number*	*Number*
California	344,319	134,523	82,270	561,112	400,306
Colorado	276,618	34,340	52,081	363,039	259,821
Illinois	7,293,544	410,221	762,545	8,466,310	7,205,510
Indiana	1,751,454	256,527	646,581	2,654,562	1,840,811
Iowa	2,487,251	139,525	507,167	3,133,943	2,304,061
Kansas	4,191,927	73,184	377,566	4,642,677	2,825,764
Maryland	554,761	110,163	180,406	845,330	622,626
Massachusetts	1,501,456	67,576	27,754	1,596,786	1,263,238
Michigan	444,756	150,426	381,247	976,429	761,380
Minnesota	1,063,655	88,733	314,597	1,466,985	1,559,491
Missouri	2,471,658	128,490	949,318	3,549,466	2,793,439
Nebraska	2,103,602	59,303	261,515	2,424,420	2,105,510
New Jersey	1,210,849	390,730	73,709	1,675,288	1,297,313
New York	1,802,669	214,157	386,264	2,303,090	1,725,688
Ohio	1,725,285	275,983	768,195	2,769,463	1,911,608
Pennsylvania	1,222,880	120,616	675,939	2,019,435	1,573,974
Texas	939,674	135,301	885,260	1,960,235	570,182
Washington	239,352	51,877	92,600	383,829	373,321
West Virginia	124,914	22,383	206,701	353,998	171,897
Wisconsin	1,078,361	114,993	386,243	1,579,597	1,110,449
All other States	1,041,631	991,984	7,360,559	9,394,174	1,675,524
Total	33,870,616	3,970,435	15,378,517	53,219,568	34,441,913

State	1919 [3]			1920 [2]
	In wholesale slaughtering and meat packing establishments	On farms and ranges	Total wholesale and farm slaughter	In wholesale slaughtering and meat packing establishments
	Number	*Number*	*Number*	*Number*
California	500,123	109,582	609,705	630,512
Colorado	396,876	104,330	501,206	370,532
Illinois	9,976,191	723,838	10,700,029	7,827,427
Indiana	2,104,268	579,941	2,684,209	1,766,426
Iowa	3,302,333	537,961	3,840,294	3,092,725
Kansas	4,538,052	348,435	4,886,487	3,149,278
Maryland	654,438	189,898	844,336	930,303
Massachusetts	1,422,449	36,413	1,458,862	980,645
Michigan	881,030	348,798	1,229,828	893,399
Minnesota	2,197,152	379,611	2,576,763	2,759,604
Missouri	3,506,211	796,082	4,302,293	3,235,758
Nebraska	2,995,220	268,025	3,263,245	2,032,331
New Jersey	1,242,798	64,745	1,307,543	1,431,551
New York	1,614,479	404,104	2,018,583	1,862,042
Ohio	2,542,304	732,636	3,274,940	2,811,198
Pennsylvania	1,663,910	693,406	2,357,316	2,292,709
Texas	696,255	918,246	1,614,501	449,602
Washington	301,429	128,467	429,896	395,560
West Virginia	316,827	245,855	562,682	318,602
Wisconsin	1,444,115	438,831	1,882,946	1,288,792
All other States	2,224,266	8,751,026	10,975,292	2,207,784
Total	44,520,726	16,800,230	61,320,956	40,726,780

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Census.

[1] In addition there were 2,898,994 hogs slaughtered on a custom basis in 1914 and 2,290,539 for 1919. No corresponding data for 1909 or 1921.

[2] No data collected by Bureau of the Census for 1914 or 1921 on farm or retail slaughter.

[3] No data obtainable for retail slaughter in 1919.

TABLE 516.—*Hogs: Prices of live hogs in Chicago, and wholesale and retail prices of certain pork products, 1913–1924*

Year	Price of live hogs, Chicago (Per 100 lbs.)	Hams				Bacon			
		Smoked, wholesale		Retail [1]		Short clear sides, wholesale		Retail	
		Chicago, (Price per pound)	Per cent of live hog price	In leading cities (Price per pound)	Per cent of live hog price	Chicago, (Price per pound)	Per cent of live hog price	In leading cities (Price per pound)	Per cent of live hog price
	Dollars	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*
1913	8.35	16.6	199	26.9	322	12.7	152	27.0	323
1914	8.30	16.7	201	27.3	329	13.2	159	27.5	331
1915	7.10	15.3	215	26.1	368	11.6	163	26.9	379
1916	9.60	18.5	193	29.4	306	14.9	155	28.7	299
1917	15.10	25.2	167	38.2	253	24.8	164	41.0	272
1918	17.45	31.8	182	47.9	274	27.9	160	52.9	303
1919	17.85	34.3	192	53.4	299	29.1	163	55.4	310
1920	13.91	33.4	240	55.5	399	20.7	149	52.3	376
1921	8.51	26.8	315	48.8	573	13.5	159	42.7	502
1922	9.22	26.5	287	48.8	529	14.1	153	39.8	432
1923	7.55	21.2	281	45.5	603	12.0	159	39.1	518
1924	8.11	20.2	249	45.3	559	14.4	178	37.7	465
1924									
January	7.10	19.3	272	44.6	628	10.8	152	37.2	524
February	7.06	18.4	261	44.0	623	10.8	153	36.6	518
March	7.35	18.9	257	43.6	593	10.9	148	36.3	494
April	7.36	19.0	258	43.8	595	10.9	148	36.2	492
May	7.34	19.4	264	44.3	604	11.4	155	36.1	492
June	7.04	19.6	278	44.6	634	12.1	172	36.2	514
July	7.68	20.4	266	44.7	582	13.1	171	36.4	474
August	9.38	22.2	237	46.5	496	17.5	187	38.3	408
September	9.57	22.3	233	46.9	490	17.4	182	39.3	411
October	9.91	21.6	218	47.2	476	19.1	193	40.1	405
November	8.97	20.5	228	46.9	523	19.1	213	40.1	447
December	9.38	20.7	221	46.6	497	19.5	208	39.9	425

Year	Fresh pork				Lard			
	Pork loins, wholesale		Pork chops, retail		Prime contract, wholesale		Retail	
	Chicago, (Price per pound)	Per cent of live hog price	In leading cities (Price per pound)	Per cent of live hog price	New York, (Price per pound)	Per cent of live hog price	In leading cities (Price per pound)	Per cent of live hog price
	Cents	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*	*Cents*	*Per cent*
1913	14.9	178	21.0	251	11.0	132	15.8	189
1914	15.4	186	22.0	265	10.4	125	15.6	188
1915	14.3	201	20.3	286	9.4	132	14.8	208
1916	16.2	169	22.7	236	13.5	141	17.5	182
1917	24.4	162	31.9	211	21.7	144	27.6	183
1918	29.5	169	39.0	223	25.5	146	33.3	191
1919	31.5	176	42.3	237	29.0	162	36.9	207
1920	30.7	221	42.3	304	20.0	144	29.5	212
1921	22.5	264	34.9	410	11.1	130	18.0	212
1922	21.7	235	33.0	358	11.5	125	17.0	184
1923	18.0	238	30.4	403	12.3	163	17.7	234
1924	19.1	236	30.8	380	13.3	164	19.0	234
1924								
January	14.4	203	27.4	386	12.8	180	18.7	263
February	13.9	197	26.7	378	11.7	166	18.0	255
March	15.6	212	26.9	366	11.6	158	17.5	238
April	18.3	249	28.7	390	11.3	154	17.2	234
May	19.0	259	29.9	407	11.0	150	17.1	233
June	18.1	257	30.2	429	11.1	158	16.9	240
July	18.0	234	30.3	395	12.6	164	17.1	223
August	24.8	264	34.8	371	14.3	152	19.3	206
September	27.3	285	35.8	374	14.4	150	20.0	209
October	25.4	256	37.5	378	16.5	166	21.4	216
November	17.3	193	31.6	352	15.3	171	22.4	250
December	16.6	177	29.3	312	16.9	180	22.1	239

Division of Statistical and Historical Research. Wholesale prices of ham, bacon, and pork loins in Chicago and of lard in New York. Retail prices in leading cities throughout the United States. Price of live hogs, Bureau of Agricultural Economics; other prices from Bureau of Labor Statistics.

1 Mostly on sliced ham.

TABLE 517.—*Hogs: Monthly slaughter under Federal inspection, 1907–1924*

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1907	3,409,531	2,920,505	2,665,112	2,667,170	3,317,281	3,240,786	2,928,806	2,300,785	1,988,210	2,218,979	2,134,622	3,093,590	32,885,377
1908	4,961,421	3,889,864	3,111,115	2,304,271	3,087,525	3,093,889	2,415,570	2,231,182	2,230,684	3,368,060	3,802,740	4,146,780	38,643,101
1909	3,875,858	2,653,412	3,012,659	2,342,999	2,629,418	2,718,569	2,097,241	1,821,934	1,955,445	2,397,039	2,800,080	3,090,242	31,394,896
1910	2,692,780	2,323,582	1,891,000	1,778,410	2,206,472	2,612,116	1,988,403	1,824,006	1,563,846	1,850,765	2,455,654	2,826,749	26,013,783
1911	2,742,393	2,632,530	2,972,692	2,589,454	3,007,507	3,462,063	2,560,236	2,031,911	2,171,798	2,719,927	3,639,269	3,602,875	34,132,955
1912	4,146,732	3,301,955	2,700,401	2,411,926	2,843,878	2,835,470	2,353,889	1,875,336	1,701,088	2,454,931	3,020,326	3,406,795	33,052,727
1913	3,708,086	2,843,947	2,333,602	2,486,664	3,045,926	3,056,948	2,557,054	2,268,333	2,132,735	2,681,399	3,165,206	3,918,685	34,198,585
1914	3,489,384	2,722,763	2,547,752	2,311,724	2,569,035	2,925,635	2,259,540	1,799,032	1,907,397	2,681,852	3,047,127	4,270,600	32,531,841
1915	4,273,788	3,885,177	3,445,787	2,563,081	2,868,655	3,245,822	2,493,385	2,040,506	1,890,484	2,493,831	3,738,879	5,441,833	38,381,228
1916	5,387,333	4,275,567	3,430,145	2,853,326	3,274,941	3,162,569	2,530,249	2,517,259	2,287,330	3,327,029	4,770,913	5,267,042	43,083,703
1917	4,628,613	3,484,014	2,984,959	2,645,077	3,083,518	2,684,844	2,411,436	1,704,852	1,321,674	2,195,291	3,042,827	3,722,599	33,909,704
1918	3,960,892	3,998,084	3,925,986	3,290,489	3,092,325	2,782,792	2,940,491	2,283,083	1,980,008	3,018,084	4,280,126	5,661,890	41,214,250
1919	5,845,696	4,266,317	3,443,330	3,207,671	3,743,463	3,728,230	2,884,325	1,949,413	1,997,149	2,685,711	3,270,172	4,790,353	41,811,830
1920	5,078,521	3,103,530	3,481,680	2,590,208	3,584,781	3,566,071	2,643,772	2,190,821	1,978,602	2,486,940	3,328,633	3,985,125	38,018,684
1921	4,347,306	3,798,687	3,047,424	3,003,290	3,274,114	3,618,152	2,820,616	2,530,459	2,422,350	2,866,133	3,447,027	3,806,797	38,982,355
1922	3,984,704	3,479,907	3,350,214	2,945,757	3,716,170	4,046,304	3,104,322	2,887,755	2,747,467	3,331,587	4,318,005	5,201,437	43,113,629
1923	5,134,029	4,230,575	4,837,791	4,179,438	4,325,130	4,302,533	3,983,435	3,556,039	3,212,350	4,327,951	5,340,678	5,903,759	53,333,708
1924	5,911,242	5,006,290	4,536,372	4,073,248	4,277,565	4,287,552	4,113,814	3,070,206	2,856,960	3,498,135	4,640,944	6,600,306	52,872,634

Bureau of Animal Industry.

PORK AND PORK PRODUCTS

TABLE 518.—*Pork: Stocks of frozen, dry salt, and pickled, cured and in process of cure in cold-storage warehouses and meat-packing establishments, 1915–1924*

[Thousand pounds—i. e., 000 omitted]

Year beginning November	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1
1915			420,736	556,369	666,263	646,097	617,668	615,386	643,959	641,667	550,013	430,762
1916	352,006	426,392	559,041	642,755	701,258	662,323	675,782	694,521	729,185	732,258	596,907	435,238
1917	328,883	379,293	563,600	725,085	876,378	967,040	995,786	1,009,882	892,871	844,365	720,374	579,991
1918	517,310	560,728	722,556	968,715	999,756	1,004,109	999,288	987,853	959,387	882,448	770,504	691,915
1919	568,921	513,982	597,638	776,763	903,350	968,639	960,706	959,338	982,454	933,028	807,011	616,441
1920	472,708	426,677	533,980	669,832	837,158	842,906	802,190	801,387	799,261	727,569	623,967	471,901
1921	359,656	355,589	415,096	484,898	547,450	591,223	594,241	635,655	707,385	683,451	619,671	483,096
1922	395,171	419,498	570,510	688,924	783,680	864,674	940,071	908,771	908,505	866,159	754,262	613,143
1923	505,946	577,496	708,869	800,890	878,086	932,408	908,332	891,109	872,638	810,586	710,871	565,173
1924	407,731	427,520										

Division of Statistical and Historical Research. From reports of the cold storage report section.

TABLE 519.—*Hogs, pork, and pork products: Statement of the livestock and meat situation, by months, 1924*

Item	Unit	Jan.	Feb.	Mar.	Apr.	May	June	July
Inspected slaughter, hogs	Thousands	5,911	5,006	4,537	4,073	4,278	4,288	4,114
Carcasses condemned	do	23	20	18	16	18	17	17
Average live weight	Pounds	217	221	223	224	224	229	237
Average dressed weight	do	166	169	169	170	169	173	179
Total dressed weight (carcass, not including condemned)	1,000 pounds	976,966	843,874	765,700	690,514	720,999	737,102	731,931
Lard, per 100 pounds live weight	Pounds	17	17	18	18	17	18	17
Storage first of month:								
Fresh pork	1,000 pounds	126,718	164,491	199,044	227,284	215,767	201,728	186,566
Cured pork	do	582,151	636,399	679,042	705,124	692,565	689,381	686,072
Lard	do	49,340	54,130	68,610	85,722	102,317	127,949	152,520
Exports:[1]								
Fresh pork	do	6,559	3,831	2,649	1,983	1,522	1,256	1,822
Cured pork	do	81,822	84,109	69,455	59,877	47,536	46,151	56,136
Canned pork	do	124	354	361	362	220	68	221
Sausage	do	1,036	1,109	1,299	1,015	1,205	914	951
Lard	do	136,154	102,396	102,955	75,348	65,480	61,860	89,155
Imports, fresh pork	do	63	146	119	179	86	163	170
Receipts of hogs[2]	Thousands	6,253	5,335	4,833	4,374	4,321	4,296	4,091
Stocker and feeder shipments[2]	do	50	47	52	57	46	29	23
Prices per 100 pounds:								
Average cost for slaughter	Dollars	7.09	7.07	7.19	7.24	7.26	6.98	7.60
At Chicago—Live hogs, medium weight.	do	7.18	7.14	7.40	7.41	7.40	7.18	8.29
At eastern markets—								
Fresh pork loins, 10-14 pounds	do	13.93	13.27	13.88	16.52	17.28	16.87	16.36
Shoulders, skinned	do	10.29	9.93	10.17	10.54	10.96	10.60	10.82
Picnics, 6-8 pounds	do	9.33	8.80	8.58	9.34	9.98	9.40	9.50
Butts, Boston style	do	12.34	12.40	12.84	13.54	14.13	14.00	14.42
Bacon, breakfast	do	19.83	19.87	19.67	19.70	20.00	19.85	20.21
Hams, smoked, 10-12 pounds	do	20.55	20.15	20.25	20.31	20.87	21.08	21.28
Lard, tierces	do	13.66	12.27	11.93	12.14	11.85	11.70	12.98
Hogs on farms Jan. 1	Thousands	65,301						

[1] Including reexports.

[2] At public stockyards.

TABLE 519.—*Hogs, pork, and pork products: Statement of the livestock and meat situation, by months, 1924*—Continued

Item	Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Inspected slaughter, hogs	Thousands	3,070	2,857	3,498	4,641	6,600	52,873
Carcasses condemned	do	13	12	13	16	20	203
Average live weight	Pounds	239	232	220	212	209	[1] 224
Average dressed weight	do	180	173	161	156	156	[1] 168
Total dressed weight (carcass, not including condemned)	1,000 pounds	548,940	492,898	560,043	723,213	1,027,375	8,819,555
Lard, per 100 pounds live weight	Pounds	16	15	14	14	15	[1] 16
Storage first of month:							
Fresh pork	1,000 pounds	164,049	121,816	77,986	42,561	48,781	[2]148,066
Cured pork	do	646,536	589,055	487,187	365,170	378,739	[2]594,785
Lard	do	149,672	124,676	84,198	31,706	35,713	[2] 88,879
Exports: [3]							
Fresh pork	do	1,952	1,531	1,540	2,847	5,311	32,803
Cured pork	do	55,231	45,491	48,102	36,984	35,366	666,260
Canned pork	do	165	361	199	339	500	3,274
Sausage	do	980	947	891	946	804	12,097
Lard	do	77,737	67,273	62,112	51,560	79,430	971,460
Imports, fresh pork	do	527	947	2,223	478	582	5,683
Receipts of hogs [4]	Thousands	3,197	3,216	3,990	4,904	6,604	55,414
Stocker and feeder shipments [4]	do	25	35	55	40	38	497
Prices per 100 pounds:							
Average cost for slaughter	Dollars	9.47	9.63	10.03	9.01	9.17	[1] 8.14
At Chicago—Live hogs, medium weight	do	9.96	10.00	10.58	9.36	9.69	[2] 8.47
At eastern markets—							
Fresh pork loins, 10–14 pounds	do	21.78	22.54	23.40	17.80	16.03	[2] 17.47
Shoulders, skinned	do	14.54	14.92	16.90	14.73	13.36	[2] 12.31
Picnics, 6–8 pounds	do	12.28	13.10	14.80	12.95	12.24	[2] 10.86
Butts, Boston style	do	17.98	19.10	22.03	16.95	16.11	[2] 15.49
Bacon, breakfast	do	23.94	24.67	25.20	[5]	[5]	
Hams, smoked, 10–12 pounds	do	24.35	23.98	23.97	[5]	[5]	
Lard, tierces	do	15.49	15.85	17.31	17.67	17.60	[2] 14.20

Division of Statistical and Historical Research.

Inspected slaughter from reports of Bureau of Animal Industry. Weights and storage holdings from reports of the cold storage report section; receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division, and number on farms from Division of Crop and Livestock Estimates. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Weighted average.
[2] Simple average, not total.
[3] Including reexports.
[4] At public stockyards.
[5] Classification changed in November. Prices are not comparable with those formerly quoted.

TABLE 520.—*Lard: Total stocks in cold-storage warehouses and meat-packing establishments, 1915–1924* [1]

[Thousand pounds—i. e., 000 omitted]

Year beginning November	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1
1915			63,304	92,342	111,897	97,237	108,731	85,113	87,127	95,991	82,028	71,570
1916	56,929	58,950	80,977	86,208	88,460	65,179	61,640	72,365	95,197	112,249	102,172	69,929
1917	37,095	44,367	54,539	59,310	65,355	89,854	103,373	106,194	107,871	102,411	104,668	90,398
1918	76,124	81,676	104,274	138,353	125,410	112,469	112,409	83,096	92,132	100,478	87,947	76,456
1919	66,036	49,147	62,614	97,649	111,975	132,993	141,819	152,307	193,316	191,531	170,774	109,258
1920	47,329	36,683	59,319	83,549	117,690	128,614	152,428	181,992	204,301	194,490	149,886	85,115
1921	48,850	42,001	47,541	61,202	61,297	86,031	96,055	123,798	154,254	143,084	119,755	75,338
1922	36,750	32,506	48,808	56,266	59,101	66,743	85,251	84,530	123,896	143,379	115,860	72,608
1923	35,225	35,327	49,340	54,130	68,610	85,722	102,317	127,949	152,520	149,672	124,676	84,198
1924	31,706	35,713										

Division of Statistical and Historical Research. From reports of the Cold Storage Report Secion.

[1] Lard includes all prime steam, kettle-rendered, neutral, and other pure lards. It does not include lard substitutes nor compounds.

TABLE 521.—*Pork and pork products: International trade, calendar year, average 1911–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1911–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	1,977	9	48	18,477	34	19,202	89	4,841
Australia	923	6,294	[1] 141	[1] 5,774				
Brazil	3,767	278	13	14,235	13	6,428		31,931
Canada	29,189	47,694	63,699	110,759	62,767	103,915	54,602	108,273
Chile	3,195	9	511	1,350	94	54		
China		7,679		20,357		9,828		8,515
Denmark	7,124	298,086	8,274	203,289	8,633	264,657	4,943	420,325
Netherlands	88,143	139,916	42,923	105,188	23,508	119,099	33,230	133,061
New Zealand	248	1,049	991	656	46	2,040	3	4,562
Russia		28,871						
Sweden	6,736	19,445	16,686	32,423	19,560	24,470	19,725	33,179
United States	171	1,019,561	816	1,679,444	818	1,503,929	1,101	1,995,920
PRINCIPAL IMPORTING COUNTRIES								
Austria			76,511	617	94,502	681	102,106	618
Austria-Hungary	14,338	3,343						
Belgium	22,232	16,254	46,453	18,613	48,933	10,210	44,512	12,023
Cuba	85,973		133,646		130,840			
Czechoslovakia			56,492		106,123	484	132,734	
Finland	[2]	[2]	12,416	1,071	12,263	2,379	15,724	275
France	59,824	24,668	88,333	10,625	88,120	6,577	147,005	5,522
Germany	265,669	3,532	546,203	[3] 444	243,600	1,168	419,087	1,412
Italy	74,861	[2]	28,137	473	5,079	4,527	23,333	3,230
Norway	9,751	26	18,937	6	20,906	60	25,688	
Peru	[2]	[2]	5,738	8	9,388	[4]	9,391	18
Philippine Islands	4,414		9,128		6,684		6,207	
Spain	553	641	3,161	1,089	429	1,407	3,877	797
Switzerland	21,976	105	24,931	13	13,086	1,102	15,922	40
Union of South Africa	8,249	30	500	704	775	474	1,378	184
United Kingdom	875,929	15,820	1,026,046	2,033	1,165,248	2,834	1,435,996	5,928
Other countries	47,140	4,835	66,277	6,635	65,723	12,975	58,231	6,611
Total	1,632,382	1,638,145	2,277,011	2,234,283	2,127,172	2,098,500	2,554,884	2,777,265

Division of Statistical and Historical Research. Official sources.

[1] Year beginning July 1.
[2] Not separately stated.
[3] Eight months, May–December.
[4] Less than 500 pounds.

TABLE 522.—*Pork: Exports from the United States, by months, 1910–1925*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	July	August	September	October	November	December	January	February	March	April	May	June	Total
1910	65,364	68,289	60,183	55,362	62,726	65,638	75,401	66,675	60,599	34,227	42,229	50,415	707,108
1911	60,183	67,351	56,685	49,280	50,136	71,512	75,067	79,351	85,076	87,486	100,768	96,562	879,457
1912	83,514	82,387	107,082	79,551	77,114	97,067	93,601	102,591	104,742	85,895	92,609	65,800	1,071,953
1913	73,295	77,105	77,964	64,987	65,696	79,611	91,808	106,956	96,771	82,836	83,993	76,476	976,498
1914	81,962	82,726	73,628	77,309	79,717	86,597	101,683	73,958	70,046	60,788	66,067	67,436	921,912
1915	53,086	54,215	59,388	73,414	73,756	73,691	106,325	118,657	169,112	113,501	89,263	121,772	1,108,180
1916	95,029	90,128	100,207	113,464	107,744	143,262	133,222	162,376	119,963	133,534	148,245	112,361	1,459,535
1917	76,567	93,101	106,329	95,287	113,579	156,723	199,397	122,571	167,861	137,772	127,193	103,093	1,499,473
1918	45,502	71,295	79,460	54,037	99,189	90,333	92,864	114,347	306,011	285,763	281,335	169,305	1,691,441
1919	252,767	170,647	114,555	132,237	123,266	205,601	197,965	236,421	341,295	348,040	180,890	400,393	2,704,077
1920	240,961	179,503	117,762	117,943	131,663	144,799	137,438	147,133	185,348	87,591	134,208	137,330	1,761,679
1921	94,117	67,701	102,470	123,102	132,698	187,091	161,695	151,361	143,065	118,192	111,040	128,941	1,521,493
1922	171,555	174,916	173,989	99,186	90,240	106,449	127,613	138,047	124,411	90,125	99,440	119,855	1,515,826
1923	133,426	127,667	120,124	125,716	124,574	155,944	196,139	163,745	185,197	164,288	165,543	131,780	1,794,143
1924	141,665	162,948	170,631	158,196	158,908	188,695	224,658	190,690	175,420	137,570	114,758	109,335	1,933,474
1925	147,465	135,104	114,652	11,954	91,730	120,607							

Division of Statistical and Historical Research. Compiled from reports of Bureau of Foreign and Domestic Commerce.

These figures include exports of fresh, canned, and pickled pork, cured hams and shoulders, bacon, lard, and neutral lard.

TABLE 523.—*Bacon: Exports from the United States, by months, 1910–1925*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1910	18,112	15,061	15,535	13,422	16,585	14,978	16,343	11,474	10,755	6,342	5,528	8,028	152,163
1911	10,894	13,746	12,642	9,437	8,646	14,435	12,876	10,752	11,038	16,091	17,008	19,110	156,675
1912	17,006	18,857	25,038	16,368	15,864	18,104	18,152	16,954	17,468	17,934	16,270	10,559	208,574
1913	16,518	18,688	15,360	13,681	13,870	16,567	19,819	20,325	20,880	17,051	14,423	13,812	200,994
1914	16,555	19,551	16,358	17,968	16,688	19,367	20,814	17,518	13,618	12,603	11,618	11,306	193,964
1915	10,905	14,405	17,596	13,838	18,825	21,221	27,156	37,177	66,828	41,692	33,598	43,477	346,718
1916	38,503	37,579	43,371	53,410	45,876	55,472	50,087	63,810	41,892	53,443	58,343	38,023	579,809
1917	30,074	43,954	49,223	41,284	48,785	73,932	91,812	51,993	67,502	57,310	60,676	50,600	667,151
1918	19,462	28,311	35,501	29,363	43,571	42,021	53,851	60,904	155,604	127,400	142,012	87,294	815,294
1919	119,894	68,858	41,540	58,132	72,862	126,437	102,679	114,840	151,086	141,814	67,664	172,441	1,238,247
1920	117,679	84,151	57,209	56,462	65,288	58,963	77,501	75,891	75,003	24,356	50,413	60,731	803,667
1921	31,523	23,333	41,372	49,839	57,931	68,784	43,202	31,637	35,349	32,852	38,464	35,012	489,298
1922	48,172	45,340	44,719	23,601	15,642	21,366	26,108	30,794	31,180	20,490	19,070	24,067	350,549
1923	32,584	32,591	30,448	28,850	26,170	39,486	43,352	36,296	40,549	34,790	34,577	28,641	408,334
1924	27,581	33,004	45,161	46,689	39,027	47,131	46,014	43,771	34,002	29,533	16,942	14,645	423,500
1925	23,794	26,489	24,455	22,844	15,200	16,413							

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

TABLE 524.—*Lard: Exports from the United States, by months, 1910–1925*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1910	28,639	33,906	26,203	27,287	27,529	34,619	39,686	38,878	32,574	17,213	26,418	29,976	362,928
1911	31,658	34,171	26,987	24,625	27,856	38,790	40,688	47,595	55,043	48,726	54,685	45,284	476,108
1912	35,446	34,912	53,670	43,003	40,829	52,548	45,465	54,143	54,797	40,179	44,900	32,364	532,256
1913	32,536	33,142	43,273	36,746	40,157	45,591	44,281	61,211	49,226	42,114	48,787	41,961	519,025
1914	39,567	41,025	37,383	39,466	42,661	48,497	56,432	35,916	38,001	29,890	35,101	37,519	481,458
1915	24,987	25,292	28,538	48,241	42,053	36,046	55,520	56,133	67,259	38,336	22,293	30,834	475,532
1916	21,555	25,146	28,774	28,256	30,776	46,404	34,040	41,262	37,146	39,017	48,773	45,862	427,011
1917	26,088	22,891	32,707	21,242	31,470	46,162	65,091	39,558	59,081	45,602	30,621	24,257	444,770
1918	9,364	23,553	22,145	9,639	30,742	13,069	20,706	31,683	68,721	53,885	79,751	29,248	392,506
1919	68,600	51,921	33,268	46,025	27,285	37,724	37,850	68,973	97,239	86,556	55,001	114,329	724,771
1920	68,192	49,033	36,960	41,017	42,106	63,646	38,824	36,645	69,430	40,758	55,544	45,070	587,225
1921	47,061	31,021	46,326	54,174	57,316	90,080	76,185	91,841	82,617	53,276	48,604	67,656	746,157
1922	83,329	87,411	104,741	56,886	51,854	64,542	73,194	75,520	64,377	42,459	50,817	57,249	812,379
1923	66,058	68,907	61,120	66,333	62,321	78,596	107,786	89,055	109,187	85,475	93,199	64,605	952,642
1924	69,479	83,758	83,630	76,378	74,251	98,578	132,758	99,910	100,726	73,307	62,648	59,475	1,014,898
1925	86,788	75,937	65,810	60,813	49,120	76,803							

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Foreign and Domestic Commerce.

TABLE 525.—*Pork, fresh: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	France	United Kingdom	Other Europe	Total Europe	Bermuda	Canada	Panama	Mexico	Philippine Islands	Cuba	Other countries	Total
1910		395		395	26	78	231	1	51	235	23	1,040
1911		75	44	119	31	207	440	(1)	48	89	421	1,355
1912		968		968	15	891	565	(1)	76	82	1	2,598
1913		758		758	50	580	685	4	257	99	25	2,458
1914		1,354	10	1,364	13	232	687	1	153	151	67	2,668
1915	324	2,832	22	3,178	72	46	370	4	77	137	24	3,908
1916	2,270	26,403	165	28,838	103	32,962	380	7	22	338	356	63,006
1917	920	23,787		24,707	115	24,833	398	8	60	178	137	50,436
1918	642	8,235	522	9,399	9	11,396	44	4	43	372	128	21,390
1919	38	2,036	707	2,781	26	16,328	41	10		379	79	19,644
1920	59	3,146	10,551	13,756	37	7,158	171	14	22	373	5,694	27,225
1921	268	15,099	18,130	33,497	36	17,058	394	89	44	653	5,304	57,075
1922		4,697	6,162	10,859	48	12,281	353	93	60	2,147	70	25,911
1923	1	22,995	3,056	26,052	83	14,588	500	82	157	2,204	106	43,772
1924	79	27,742	9,183	37,004	97	8,828	552	106	141	2,181	204	49,113

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 526.—*Pork, pickled: Exports from the United States by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	Norway	United Kingdom	Other Europe	Total Europe	Canada	Panama	Newfoundland and Labrador	Haiti	Cuba	Other countries	Total
1910	139	703	8,679	1,424	10,945	8,085	1,424	4,445	1,257	5,830	8,046	40,082
1911	159	787	8,754	2,397	12,097	9,084	1,238	5,001	1,360	7,383	9,571	45,729
1912	348	278	13,501	1,466	15,593	11,157	1,420	6,571	2,335	9,989	9,256	56,321
1913	458	261	14,620	1,881	17,220	9,437	1,438	5,673	2,626	9,141	8,214	53,749
1914	166	355	5,572	1,408	7,501	12,826	1,020	7,912	1,513	4,091	10,080	45,543
1915	------	174	6,534	11,466	18,174	8,500	1,304	5,244	636	3,875	7,923	45,656
1916	1,014	825	13,124	5,445	20,408	17,835	1,116	7,070	949	7,847	8,236	63,461
1917	163	325	6,059	878	7,425	16,929	618	6,262	772	7,700	7,287	46,993
1918	------	(1)	1,903	474	2,377	13,689	277	3,221	481	8,935	4,242	33,222
1919	1,209	956	2,981	1,515	6,661	8,189	105	5,706	625	6,694	3,524	31,504
1920	554	2,753	3,142	4,243	10,692	14,500	229	5,560	790	5,775	4,097	41,643
1921	698	336	2,908	3,039	6,981	13,644	212	4,147	929	2,458	4,915	33,286
1922	628	1,258	4,914	3,071	9,871	10,857	248	4,756	1,223	1,319	5,236	33,510
1923	328	1,568	5,853	5,378	13,127	13,349	329	5,266	1,270	1,379	6,214	40,934
1924	724	2,349	4,106	6,438	13,617	8,437	321	5,155	1,305	4,412	4,222	37,469

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 527.—*Pork, canned: Exports from the United States by countries, 1910–1924*

[Thousands pounds—i. e., 000 omitted]

Year ended June 30—	France	Italy	United Kingdom	Other Europe	Total Europe	Canada	Panama	Mexico	Cuba	Argentina	Other countries	Total
1910	120	5	3,156	258	3,539	9	29	23	14	122	326	4,062
1911	51	14	3,109	202	3,376	1	37	65	16	103	413	4,011
1912	104	5	4,905	230	5,244	5	32	57	91	163	248	5,840
1913	33	2	3,211	229	3,475	85	63	54	27	214	230	4,148
1914	28	1	2,369	184	2,582	10	19	25	92	233	113	3,074
1915	257	4	3,757	61	4,079	45	27	11	77	80	325	4,644
1916	645	3	7,843	324	8,815	28	3	18	123	128	496	9,611
1917	1,103	259	3,355	109	4,826	393	4	74	51	52	496	5,896
1918	2,423	139	2,044	(1)	4,606	132	10	31	73	53	280	5,194
1919	950	389	2,244	1,040	4,623	245	4	67	13	33	288	5,273
1920	159	179	2,318	161	2,817	51	1	31	79	30	253	3,262
1921	------	------	829	54	883	61	------	45	33	24	73	1,119
1922	9	------	1,924	15	1,948	77	1	39	33	61	104	2,263
1923	6	------	2,383	16	2,405	142	10	29	26	24	63	2,699
1924	1	115	2,220	63	2,399	49	1	31	55	1	155	2,691

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce ,June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 528.—*Bacon: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	France	Italy	Netherlands	Norway	United Kingdom	Other Europe	Total Europe	Canada	Cuba	Other countries	Total
1910	2,206	23	1,605	1,065	330	133,995	956	140,180	1,838	7,046	3,099	152,163
1911	3,547	1,711	6,529	4,351	3,784	116,405	9,750	146,077	1,691	6,224	2,683	156,675
1912	4,503	9,418	8,156	7,271	4,560	147,449	15,598	196,955	3,342	4,823	3,454	208,574
1913	9,141	2,007	11,781	7,639	4,054	138,133	11,426	184,271	6,868	6,658	3,197	200,994
1914	5,110	197	9,732	1,718	5,459	132,820	11,881	166,917	11,083	13,734	2,230	193,964
1915	5,737	44,712	1,629	8,285	11,518	201,043	48,896	321,820	10,025	13,360	1,513	346,718
1916	60,161	52,501	10,532	12,846	22,387	339,341	26,611	524,379	39,591	13,543	2,296	579,809
1917	65,220	77,036	19,378	10,625	8,296	346,758	3,952	531,265	118,710	14,915	2,262	667,152
1918	68,670	73,532	74,460	.....	25	533,135	1,057	750,879	42,837	20,294	1,284	815,294
1919	109,591	220,391	80,552	22,477	18,182	657,048	93,630	1,201,871	26,186	9,154	1,036	1,238,247
1920	37,654	27,997	13,398	122,984	12,869	411,285	134,116	760,303	21,639	19,567	2,158	803,667
1921	29,448	5,369	14,991	43,421	6,681	244,716	104,912	449,538	12,718	25,302	1,740	489,298
1922	16,743	9,363	2,481	20,847	9,147	184,703	69,993	313,277	11,022	23,462	2,788	350,549
1923	23,215	7,758	9,259	30,972	12,269	188,274	99,009	370,756	9,925	24,830	2,823	408,334
1924	16,089	14,941	38,399	37,112	10,427	161,028	105,988	383,984	9,976	26,055	3,485	423,500

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 529.—*Hams and shoulders: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	France	Netherlands	United Kingdom	Other Europe	Total Europe	Canada	Cuba	Mexico	Panama	Other countries	Total
1910	5,305	8	109	130,303	364	136,089	2,557	2,879	903	940	3,517	146,885
1911	9,092	26	226	135,433	720	145,497	2,918	3,876	640	1,103	3,675	157,709
1912	15,018	258	256	169,675	1,295	186,502	6,282	5,085	938	1,088	4,149	204,044
1913	5,822	316	131	134,017	560	140,846	6,785	6,002	782	1,029	4,101	159,545
1914	4,081	122	95	146,007	412	150,717	4,007	5,638	350	761	4,409	165,882
1915	6,596	609	1,689	179,377	2,839	191,110	1,515	6,842	249	623	3,362	203,701
1916	2,793	7,898	570	251,026	591	262,878	2,674	11,493	463	976	3,725	282,209
1917	.....	25,864	1	217,435	2,028	245,328	5,617	9,868	821	630	4,393	266,657
1918	.....	18,436	.....	372,723	842	392,001	14,287	9,990	465	221	2,608	419,572
1919	32,583	112,813	4,020	415,620	83,703	648,739	6,974	7,641	951	181	2,754	667,240
1920	6,489	29,870	6,112	182,563	25,146	250,180	5,669	14,185	833	332	4,257	275,456
1921	6,891	1,473	1,832	134,038	1,662	145,896	8,441	12,489	1,055	434	3,697	172,012
1922	9,690	894	196	233,566	2,438	246,784	10,664	9,071	890	473	3,760	271,642
1923	13,979	2,142	937	259,353	4,259	280,670	19,536	12,784	1,028	631	4,620	319,269
1924	21,185	4,587	3,709	307,771	5,920	343,262	16,779	14,249	1,063	984	5,227	381,564

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, December 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 526.—*Pork, pickled: Exports from the United States by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	Norway	United Kingdom	Other Europe	Total Europe	Canada	Panama	Newfoundland and Labrador	Haiti	Cuba	Other countries	Total
1910	139	703	8,679	1,424	10,945	8,085	1,424	4,445	1,257	5,830	8,046	40,032
1911	159	787	8,754	2,397	12,097	9,084	1,233	5,001	1,360	7,383	9,571	45,729
1912	348	278	13,501	1,466	15,593	11,157	1,420	6,571	2,335	9,989	9,256	56,321
1913	458	261	14,620	1,881	17,220	9,437	1,438	5,673	2,626	9,141	8,214	53,749
1914	166	355	5,572	1,408	7,501	12,826	1,620	7,912	1,513	4,091	10,080	45,543
1915	------	174	6,534	11,466	18,174	8,500	1,304	5,244	636	3,875	7,923	45,656
1916	1,014	825	13,124	5,445	20,408	17,835	1,116	7,070	949	7,847	8,236	63,461
1917	163	325	6,059	878	7,425	16,929	618	6,262	772	7,700	7,287	46,993
1918	------	(1)	1,903	474	2,377	13,689	277	3,221	481	8,935	4,242	33,222
1919	1,209	956	2,981	1,515	6,661	8,189	105	5,706	625	6,694	3,524	31,504
1920	554	2,753	3,142	4,243	10,692	14,500	229	5,560	790	5,775	4,097	41,643
1921	698	336	2,908	3,039	6,981	13,644	212	4,147	929	2,458	4,915	33,286
1922	628	1,258	4,914	3,071	9,871	10,857	248	4,756	1,223	1,319	5,236	33,510
1923	328	1,568	5,853	5,378	13,127	13,349	329	5,266	1,270	1,379	6,214	40,934
1924	724	2,349	4,106	6,438	13,617	8,437	321	5,155	1,305	4,412	4,222	37,469

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce, June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 527.—*Pork, canned: Exports from the United States by countries, 1910–1924*

[Thousands pounds—i. e., 000 omitted]

Year ended June 30—	France	Italy	United Kingdom	Other Europe	Total Europe	Canada	Panama	Mexico	Cuba	Argentina	Other countries	Total
1910	120	5	3,156	258	3,539	9	29	23	14	122	326	4,062
1911	51	14	3,109	202	3,376	1	37	65	16	103	413	4,011
1912	104	5	4,905	230	5,244	5	32	57	91	163	248	5,840
1913	33	2	3,211	229	3,475	85	63	54	27	214	230	4,148
1914	28	1	2,369	184	2,582	10	19	25	92	233	113	3,074
1915	257	4	3,757	61	4,079	45	27	11	77	80	325	4,644
1916	645	3	7,843	324	8,815	28	3	18	123	128	496	9,611
1917	1,103	259	3,355	109	4,826	393	4	74	51	52	496	5,896
1918	2,423	139	2,044	(1)	4,606	132	10	31	73	53	289	5,194
1919	950	389	2,244	1,040	4,623	245	4	67	13	33	288	5,273
1920	159	179	2,318	161	2,817	51	1	31	79	30	253	3,262
1921	------	------	829	54	883	61	------	45	33	24	73	1,119
1922	9	------	1,924	15	1,948	77	1	39	33	61	104	2,263
1923	6	------	2,383	16	2,405	142	10	29	26	24	63	2,699
1924	1	115	2,220	63	2,399	49	1	31	55	1	155	2,691

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910-1918; Monthly Summaries of Foreign Commerce ,June 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

[1] Less than 500 pounds.

TABLE 528.—*Bacon: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	France	Italy	Netherlands	Norway	United Kingdom	Other Europe	Total Europe	Canada	Cuba	Other countries	Total
1910	2,206	23	1,605	1,065	330	133,995	956	140,180	1,838	7,046	3,099	152,163
1911	3,547	1,711	6,529	4,351	3,784	116,405	9,750	146,077	1,691	6,224	2,683	156,675
1912	4,503	9,418	8,156	7,271	4,560	147,449	15,598	196,955	3,342	4,823	3,454	208,574
1913	9,141	2,097	11,781	7,639	4,054	138,133	11,426	184,271	6,868	6,658	3,197	200,994
1914	5,110	197	9,732	1,718	5,459	132,820	11,881	166,917	11,083	13,734	2,230	193,964
1915	5,737	44,712	1,629	8,285	11,518	201,043	48,896	321,820	10,025	13,360	1,513	346,718
1916	60,161	52,501	10,532	12,846	22,387	339,341	26,611	524,379	39,591	13,543	2,296	579,809
1917	65,220	77,036	19,378	10,625	8,296	346,758	3,952	531,265	118,710	14,915	2,262	667,152
1918	68,670	73,532	74,460	.....	25	533,135	1,057	750,879	42,837	20,294	1,284	815,294
1919	109,591	220,391	80,552	22,477	18,182	657,048	93,630	1,201,871	26,186	9,154	1,036	1,238,247
1920	37,654	27,997	13,398	122,984	12,869	411,285	134,116	760,303	21,639	19,567	2,158	803,667
1921	29,448	5,369	14,991	43,421	6,681	244,716	104,912	449,538	12,718	25,302	1,740	489,298
1922	16,743	9,363	2,481	20,847	9,147	184,703	69,993	313,277	11,022	23,462	2,788	350,549
1923	23,215	7,758	9,259	30,972	12,269	188,274	99,009	370,756	9,925	24,830	2,823	408,334
1924	16,089	14,941	38,399	37,112	10,427	161,028	105,988	383,984	9,976	26,055	3,485	423,500

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 529.—*Hams and shoulders: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	France	Netherlands	United Kingdom	Other Europe	Total Europe	Canada	Cuba	Mexico	Panama	Other countries	Total
1910	5,305	8	109	130,303	364	136,089	2,557	2,879	903	940	3,517	146,885
1911	9,092	26	226	135,433	720	145,497	2,918	3,876	640	1,103	3,675	157,709
1912	15,018	258	256	169,675	1,295	186,502	6,282	5,085	938	1,088	4,149	204,044
1913	5,822	316	131	134,017	560	140,846	6,785	6,002	782	1,029	4,101	159,545
1914	4,081	122	95	146,007	412	150,717	4,007	5,638	350	761	4,409	165,882
1915	6,506	609	1,689	179,377	2,839	191,110	1,515	6,842	249	623	3,362	203,701
1916	2,793	7,898	570	251,026	591	262,878	2,674	11,493	463	976	3,725	282,209
1917	.....	25,864	1	217,435	2,028	245,328	5,617	9,868	821	630	4,393	266,657
1918	.....	18,436	.....	372,723	842	392,001	14,287	9,990	465	221	2,608	419,572
1919	32,583	112,813	4,020	415,620	83,703	648,739	6,974	7,641	951	181	2,754	667,240
1920	6,489	29,870	6,112	182,563	25,146	250,180	5,669	14,185	833	332	4,257	275,456
1921	6,891	1,473	1,832	134,038	1,662	145,896	8,441	12,489	1,055	434	3,697	172,012
1922	9,690	894	196	233,566	2,438	246,784	10,664	9,071	890	473	3,760	271,642
1923	13,979	2,142	937	259,353	4,259	280,670	19,536	12,784	1,028	631	4,620	319,269
1924	21,185	4,587	3,799	307,771	5,920	343,262	16,779	14,249	1,063	984	5,227	381,564

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, December 1920, 1922, and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 530.—*Lard: Exports from the United States, by countries, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Belgium	Denmark	Germany	Italy	Netherlands	United Kingdom	Other Europe	Total Europe	Canada	Cuba	Other countries	Total
1910	9,060	4,503	93,393	2,263	23,758	161,331	3,742	298,050	9,310	33,239	22,329	362,928
1911	19,900	1,496	151,620	5,781	33,221	165,412	25,083	402,513	6,556	34,969	32,070	476,108
1912	21,744	3,130	159,474	3,171	38,675	186,125	32,764	445,083	7,968	42,549	36,656	532,256
1913	18,762	1,812	160,862	6,106	43,384	168,380	21,178	420,484	11,080	46,526	40,935	519,025
1914	15,915	1,464	146,209	5,959	43,470	164,633	8,067	385,717	15,996	49,610	30,135	481,458
1915	5,129	72,057	3,878	4,123	22,245	189,350	98,640	395,422	7,722	45,349	27,039	475,532
1916	70,132	2,874	.....	3,488	13,282	192,076	48,903	330,755	6,330	53,812	36,114	427,011
1917	96,761	841	.....	4,982	20,446	178,111	57,559	358,700	5,376	48,733	31,961	444,770
1918	116,154	75	.....	2,137	.....	159,959	46,471	324,796	894	52,574	14,242	392,506
1919	190,770	22,256	9,579	1	17,683	286,451	145,016	671,756	3,565	25,572	23,878	724,771
1920	55,970	13,528	49,733	16,502	78,354	165,374	100,058	479,519	11,618	68,734	27,354	587,225
1921	57,963	9,527	231,528	14,172	113,868	169,464	36,415	632,937	12,226	59,939	41,055	746,157
1922	43,591	6,923	260,716	9,051	42,831	244,465	59,300	666,877	8,852	73,926	62,724	812,379
1923	50,472	5,700	328,112	29,571	47,802	241,144	53,396	756,197	14,318	87,898	94,229	952,642
1924	40,634	7,365	329,793	77,210	71,570	240,008	57,838	824,418	15,231	92,083	83,166	1,014,898

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1910–1918; Monthly Summaries of Foreign Commerce, June, 1920, 1922 and 1923; and records of the Bureau of Foreign and Domestic Commerce.

TABLE 531.—*Lard, pure: Average price per 100 pounds, Chicago, by months, 1905–1923*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1905	6.73	6.74	6.92	7.12	7.18	7.20	7.09	7.70	7.51	7.12	7.08	7.51	7.16
1906	7.44	7.55	8.03	8.59	8.49	8.74	8.93	8.66	7.79	9.33	9.36	8.75	8.47
1907	9.29	9.70	9.03	8.68	8.95	8.69	8.91	8.89	8.98	8.86	8.16	7.98	8.84
1908	7.70	7.21	7.67	8.19	8.42	8.66	9.30	9.33	9.94	9.62	9.31	9.23	8.72
1909	9.57	9.52	10.05	10.32	10.60	11.54	11.52	11.66	12.23	12.17	12.93	13.12	11.27
1910	12.43	12.50	14.08	12.33	12.95	12.27	11.85	11.82	12.44	12.93	10.82	10.31	12.23
1911	10.32	9.50	8.83	7.93	8.03	8.17	8.30	8.97	9.32	8.85	9.07	9.00	8.86
1912	9.24	8.90	9.37	10.06	10.77	10.87	10.57	10.73	11.08	11.47	11.15	10.46	10.39
1913	9.88	10.50	10.66	11.00	11.05	10.99	11.53	11.28	11.15	10.60	10.63	10.68	10.83
Av. 1909–1913	10.29	10.18	10.60	10.33	10.68	10.77	10.75	10.89	11.24	11.20	10.92	10.71	10.72
1914	10.89	10.67	10.52	10.23	9.95	10.03	10.08	9.69	9.68	10.22	10.89	10.05	10.24
1915	10.69	10.53	9.84	9.95	9.71	9.39	8.05	7.92	8.13	9.07	8.94	9.47	9.31
1916	10.32	9.99	10.79	11.77	12.80	12.87	13.12	13.44	14.47	15.34	16.91	16.66	13.21
1917	15.66	17.00	19.30	21.00	22.30	21.41	20.77	22.40	24.03	24.29	27.13	25.46	21.73
1918	24.39	26.05	26.07	25.44	24.53	24.50	26.09	26.78	26.98	26.66	26.69	25.31	25.79
1919	23.46	24.83	27.35	30.09	33.58	34.15	34.76	30.01	26.19	27.41	25.86	23.11	28.40
1920	23.52	23.14	22.93	22.71	22.75	22.98	21.71	21.16	22.58	23.28	22.07	18.15	22.25
Av. 1914–1920	16.99	17.46	18.11	18.74	19.37	19.33	19.23	18.77	18.87	19.47	19.78	18.32	18.70
1921	16.03	14.91	14.48	13.07	11.88	12.03	13.94	13.65	13.51	12.16	11.62	11.25	13.21
1922	11.19	12.59	13.50	12.62	13.15	13.22	13.06	13.30	13.00	14.12	13.78	13.31	13.07
1923	13.20	13.25	13.87	13.42	13.12	13.18	12.84	12.83	15.06	15.22	15.72	15.04	13.90
1924	14.52	13.03	12.84	12.50	12.19	12.13	13.65	15.94	16.25	18.05	16.68	18.00	14.65

Division of Statistical and Historical Research. Prior to February, 1920, figures compiled from the National Provisioner; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 532.—*Pork, carcass: Average prices per pound in Great Britain, 1909–1924*

FIRST QUALITY FRESH BRITISH PORK

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	12.8	12.8	12.9	13.0	12.7	12.9	13.2	13.2	13.5	14.2	14.8	15.2	13.5
1910	15.1	15.0	15.0	14.8	14.7	14.1	13.9	14.6	15.0	15.4	15.3	14.9	14.8
1911	14.5	14.2	14.2	14.0	13.2	14.6	12.2	12.2	12.7	13.2	12.8	12.5	13.2
1912	12.7	12.7	12.8	12.8	12.5	12.6	12.8	13.0	14.4	15.1	15.1	15.7	13.5
1913	16.1	16.3	16.3	16.1	15.8	15.5	15.5	15.6	16.0	16.4	16.7	17.1	16.1
Av. 1909–1913	14.2	14.2	14.2	14.1	13.8	13.9	13.5	13.7	14.3	14.9	14.9	15.1	14.2
1914	16.8	16.2	16.2	15.8	14.5	13.9	13.3	14.5	15.1	16.5	16.4	16.3	15.5
1915	15.8	15.9	16.4	17.2	17.0	16.8	16.7	16.9	18.8	20.0	21.4	21.4	17.9
1916	20.1	21.6	21.6	23.6	21.9	21.7	21.7	21.7	23.8	25.4	25.0	26.1	22.8
1917	26.9	27.2	27.7	28.2	26.4	27.2	28.6	25.5	29.1	28.2	28.2	28.2	27.6
1918	28.2	28.2	28.2	31.8	31.8	31.7	31.7	31.8	31.8	34.2	35.7	35.7	31.7
1919	32.1	31.8	31.2	31.0	31.1	30.8	29.5	28.5	27.9	27.8	27.2	26.3	29.6
1920	26.8	[1]31.0	[1]36.0	41.0	37.2	36.1	37.6	35.4	36.3	36.4	34.9	34.2	35.2
Av. 1914–1920	23.8	24.6	25.3	26.9	25.7	25.5	25.6	24.9	26.1	26.9	27.0	26.9	25.8
1921	32.5	29.7	29.7	30.5	29.0	24.9	22.9	23.5	24.5	22.8	22.5	23.2	26.3
1922	22.5	23.9	24.4	25.3	25.0	23.0	23.9	24.7	26.6	27.3	28.5	30.3	24.5
1923	29.6	28.0	27.0	26.8	30.7	24.5	20.7	20.4	22.4	23.0	22.3	21.5	24.7
1924	20.4	19.2	18.5	19.2	18.1	16.6	14.1	18.1	19.0	20.2	20.5	21.0	------

FIRST QUALITY FROZEN PORK [2]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1909	12.7	11.7	11.9	12.0	11.9	12.1	12.6	12.7	13.5	14.5	14.7	13.4	12.8
1910	14.5	14.0	14.9	15.2	14.7	14.2	14.2	14.3	14.7	14.9	14.5	14.2	14.6
1911	13.7	13.2	14.0	13.6	12.5	11.4	11.2	11.3	12.4	11.9	11.9	12.1	12.4
1912	11.7	12.2	12.5	13.2	12.9	13.2	13.4	13.0	15.4	14.7	14.9	15.1	13.5
1913	15.0	15.4	15.8	15.3	15.0	15.0	14.6	14.8	14.9	14.5	14.2	14.5	14.9
Av. 1909–1913	13.5	13.3	13.8	13.9	13.4	13.2	13.2	13.2	14.2	14.1	14.0	13.9	13.6
1914	15.1	14.3	14.5	14.1	13.6	13.3	11.8	13.5	12.8	14.8	14.6	14.9	13.9
1915	15.0	15.8	16.7	------	------	------	------	------	------	------	------	------	------
1916	15.8	16.3	16.6	18.6	17.6	18.4	17.9	18.1	19.8	21.0	20.2	20.6	18.4
1917	20.5	21.6	21.8	22.2	21.4	20.8	22.1	23.7	25.2	25.2	25.2	25.2	22.9
1918	[1]25.2	25.2	26.9	31.8	31.8	31.7	31.7	31.8	[1]31.8	35.7	[1]35.7	[1]35.7	31.2
1919	32.1	31.8	[1]31.2	31.0	[1]31.1	[1]30.8	26.3	[1]25.3	24.8	24.8	24.2	22.4	28.0
1920	21.8	20.0	22.4	23.2	22.8	23.4	24.3	25.0	28.8	28.7	28.4	27.3	24.6
1921	24.2	21.3	20.2	20.0	19.6	18.2	[1]17.2	[1]16.2	16.2	16.2	14.4	13.8	18.1
1922	13.4	13.7	13.7	13.8	13.9	13.9	16.7	16.8	18.4	[1]18.8	19.2	19.5	16.0
1923	18.1	16.1	14.7	15.2	14.3	14.7	15.6	15.1	14.8	15.7	16.2	15.2	15.5
1924	14.4	14.5	13.8	13.6	13.6	13.3	[3]	[3]	[3]	[3]	[3]	[3]	------

Division of Statistical and Historical Research. Compiled from Agricultural Statistics 1909–1922, and Agricultural Market Report, 1923 and 1924, Ministry of Agriculture and Fisheries, Great Britain. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Interpolated. [2] Designated "Foreign" prior to 1917. [3] No quotations.

TABLE 533.—*Hams: Price per pound in Liverpool, 1909–1924*

AMERICAN, SHORT CUT, GREEN, FIRSTS [1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1909	11.2	10.8	11.3	12.4	12.7	12.9	12.7	14.0	12.9	13.9	14.8	14.1	12.8
1910	14.9	14.9	16.6	15.7	17.0	17.5	17.3	16.0	16.0	14.7	15.5	14.9	15.9
1911	14.2	12.6	12.6	12.4	13.3	15.9	16.1	16.7	13.3	12.4	12.8	12.0	13.7
1912	12.5	11.6	12.7	13.8	14.0	12.9	14.3	14.3	14.3	15.2	15.2	15.4	13.8
1913	15.5	15.3	15.7	16.0	17.0	17.7	18.6	17.5	16.0	15.3	15.3	15.2	16.3
Av. 1909–1913	13.7	13.0	13.8	14.1	14.8	15.4	15.8	15.7	14.5	14.3	14.7	14.3	14.5
1914	15.2	14.4	15.1	14.9	14.5	16.2	16.5	18.3	17.2	15.6	16.3	16.1	15.9
1915	15.8	14.2	13.7	13.5	15.4	15.6	14.9	15.1	16.1	17.3	19.2	21.1	16.0
1916	20.1	18.1	19.4	19.8	19.4	19.5	20.4	22.5	22.5	22.9	22.3	21.2	20.7
1917	24.0	27.4	27.6	28.2	28.9	27.4	28.2	29.1	29.1	29.1	34.4	35.4	29.1
1918	35.4	35.4	35.4	35.5	35.5	35.4	37.9	37.9	37.9	37.9	37.9	37.9	36.7
1919	37.9	37.9	37.5	37.6	37.8	39.3	38.1	36.8	36.4	36.3	37.5	32.8	37.2
1920	31.9	29.4	31.1	34.1	32.5	33.3	38.1	35.8	34.9	34.5	34.3	35.0	33.8
Av. 1914–1920	25.8	25.3	25.7	26.2	26.3	26.7	27.7	27.9	27.7	27.7	28.8	28.5	27.0
1921	30.2	31.2	31.5	27.0	23.1	28.6	34.9	30.0	21.1	20.4	25.7	24.1	27.3
1922	24.5	26.5	25.4	26.0	28.4	29.4	27.8	23.3	20.4	21.0	21.6	20.2	24.5
1923	19.9	18.9	19.1	18.7	19.4	20.7	24.1	22.2	20.3	20.5	22.1	19.5	20.4
1924	18.9	17.9	16.8	16.8	17.7	18.0	19.9	20.7	18.8	21.9	22.7	23.1	19.4

AMERICAN, LONG CUT, GREEN, FIRSTS [1]

1909	10.5	10.3	11.4	12.4	13.1	13.8	13.6	14.9	14.2	15.1	14.4	14.4	13.2
1910	14.5	14.9	17.7	17.0	17.7	18.6	18.3	17.0	17.3	17.6	16.1	14.3	16.8
1911	14.1	12.6	12.6	12.7	13.9	15.9	15.9	16.7	13.3	13.5	13.3	12.0	13.9
1912	11.6	11.6	12.5	13.6	14.7	14.0	13.9	13.9	14.1	15.2	14.9	15.1	13.8
1913	15.5	15.7	16.6	16.8	18.1	18.6	18.8	18.1	16.4	15.2	15.2	14.8	16.6
Av. 1909–1913	13.2	13.0	14.2	14.5	15.5	16.2	16.1	16.1	15.1	15.3	14.8	14.1	14.9
1914	14.8	14.5	15.1	15.1	15.0	16.5	16.9	18.5	16.9	15.6	16.9	16.1	16.0
1915	15.6	14.2	13.9	13.7	16.0	16.6	15.7	15.1	16.1	18.4	19.6	20.7	16.3
1916	19.1	18.1	18.6	19.4	18.8	19.1	19.8	22.3	22.9	23.8	24.4	22.0	20.7
1917	22.7	25.9	27.2	27.8	28.7	26.7	28.2	29.1	29.1	29.1	35.0	36.1	28.8
1918	36.1	36.1	36.1	36.1	36.1	36.1	37.9	37.9	37.9	37.9	37.9	37.9	37.0
1919	37.9	37.9	37.5	38.0	38.2	39.5	38.1	36.8	36.4	36.3	37.5	32.8	37.2
1920	31.9	29.4	31.1	34.1	32.5	33.3	38.1	35.8	34.9	34.5	34.3	35.0	33.7
Av. 1914–1920	25.4	25.2	25.6	26.3	26.5	26.8	27.8	27.9	27.7	27.9	29.4	28.7	27.1
1921	31.1	32.1	32.4	27.0	22.6	28.3	34.9	31.0	23.3	20.7	23.9	21.5	27.4
1922	21.1	25.3	25.4	27.2	[2]30.2	[2]30.8	28.0	23.7	20.2	20.0	20.4	19.6	24.3
1923	19.1	18.9	19.3	[2]21.9	21.1	21.4	22.6	22.6	21.9	20.8	22.7	18.5	20.9
1924	17.4	16.2	15.7	15.7	15.8	16.8	18.7	------	19.6	20.4	------	23.6	------

Division of Statistical and Historical Research. Compiled from Return of Market Prices, Great Britain Ministry of Agriculture and Fisheries. Average for the last week of the month. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Short cut, regular American commercial ham; long cut, longer both in the butt and shank. Green, cured in pickle or salt but not smoked.

[2] Average of London and Bristol prices, and closely approximates Liverpool price.

TABLE 534.—*Bacon Wiltshire sides,[1] green, firsts: Average price per pound at Bristol, England, 1909–1924*

Year and month	American	Canadian	Danish	Irish	British	Year and month	American	Canadian	Danish	Irish	British
	Cents	*Cents*	*Cents*	*Cents*	*Cents*		*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Av. 1909–1913	14.2	14.8	15.6	16.1	17.0	1917	30.1	------	------	33.0	33.6
1909	13.6	14.3	15.0	15.9	16.7	1918	38.5	------	------	------	30.3
1910	15.2	15.6	15.9	16.6	17.8	1919	37.1	37.9	------	38.4	38.4
1911	12.8	13.1	14.3	14.8	15.8	1920	31.6	33.1	34.2	41.7	42.8
1912	13.8	14.5	15.9	15.8	16.3	1921	21.8	26.5	32.8	34.7	36.2
1913	15.8	16.3	17.1	17.4	18.4	1922	21.2	25.2	29.7	32.5	33.3
1914	15.5	15.7	16.4	17.6	18.2	1923	17.5	20.9	26.6	25.8	27.0
1915	17.0	18.4	20.4	20.8	21.4	1924	23.5	22.8	21.3	19.2	16.6
1916	19.8	22.0	24.0	24.7	26.0						
1923						1924					
January	17.9	20.8	24.5	30.3	32.4	January	14.2	17.6	19.6	22.1	23.2
February	15.7	19.9	23.5	29.3	29.3	February	13.6	17.5	19.0	21.2	22.9
March	16.4	21.0	23.9	27.5	27.5	March	13.7	17.6	18.8	19.9	21.4
April	16.6	22.0	25.4	28.1	27.2	April	13.6	17.6	18.6	21.1	22.0
May	17.3	22.3	24.0	25.8	26.2	May	13.4	17.7	19.5	22.4	22.9
June	17.3	20.2	23.5	23.9	24.9	June	13.9	18.0	21.0	22.9	23.4
July	16.7	20.8	23.2	23.7	25.9	July	15.1	18.6	21.8	22.2	23.1
August	23.6	25.4	29.7	30.6	32.6	August	19.7	20.1	23.5	24.2	24.7
September	19.5	21.1	23.1	24.4	26.4	September	19.2	19.8	22.2	23.4	24.2
October	18.6	20.2	21.4	22.6	24.6	October	21.9	22.5	23.8	24.2	24.3
November	16.0	19.6	20.7	21.9	23.9	November	21.4	22.1	23.9	24.4	24.5
December	14.4	17.9	20.0	21.8	23.0	December	19.9	21.7	24.1	25.2	25.6

Division of Statistical and Historical Research. Compiled from Agricultural Market Report, Ministry of Agriculture and Fisheries, Great Britain, average for the last week of each month. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Entire half of hog in one piece, head off, backbone out, ribs in.

TABLE 535.—*Lard, American prime western steam: Average price per pound in Liverpool, 1909–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1909	10.7	10.6	11.2	11.4	11.8	12.7	12.8	12.8	13.4	13.6	14.7	14.9	12.6
1910	14.1	14.0	15.5	14.8	14.5	13.7	13.3	13.1	13.6	13.8	12.7	11.5	13.7
1911	11.5	11.4	10.0	9.1	9.2	9.1	9.1	9.9	10.4	9.9	10.2	10.1	10.0
1912	10.2	10.0	10.2	10.9	11.4	11.6	11.4	11.8	12.4	13.0	12.6	11.9	11.4
1913	11.2	11.8	12.2	12.4	12.3	12.2	12.7	12.7	12.6	12.1	12.2	12.1	12.2
Av. 1909–1913	11.5	11.6	11.8	11.7	11.8	11.9	11.9	12.1	12.5	12.5	12.5	12.1	12.0
1914	12.3	11.8	11.5	11.3	10.8	10.9	11.0	12.6	11.4	11.3	12.2	11.7	11.6
1915	12.0	11.6	11.1	11.2	11.1	10.6	9.3	8.3	8.9	10.2	10.8	11.7	10.6
1916	12.7	12.4	13.8	15.4	16.5	15.7	15.4	15.7	17.3	18.3	20.3	20.1	16.1
1917	20.4	[1]24.8	29.3	27.7	26.3	23.8	23.8	25.0	[2]25.9	[1]27.1	28.2	28.6	25.9
1918	28.6	------	------	------	31.7	31.7	------	------	33.2	33.0	------	------	------
1919	------	------	------	------	------	38.1	37.1	36.3	36.5	36.8	35.6	32.9	------
1920	32.0	29.5	32.9	27.2	------	27.4	26.7	------	------	------	23.8	24.2	------
1921	23.4	[2]23.3	15.7	13.2	11.7	12.1	13.6	13.4	13.2	12.2	12.6	11.7	14.7
1922	11.3	12.9	13.1	12.8	13.6	13.5	13.2	13.3	12.7	13.2	14.1	13.6	13.1
1923	13.3	13.0	13.7	13.6	12.9	13.0	12.7	12.7	14.0	14.5	15.7	15.1	13.7
1924	14.8	13.1	13.2	12.7	12.3	12.2	13.7	15.8	15.8	18.1	17.2	18.1	14.8

Division of Statistical and Historical Research. Compiled from Manchester Guardian. An average of Friday quotations. Converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] Interpolated. [2] Government control of prices began Sept. 3, 1917, and ended on Feb. 28, 1921.

HOG-CHOLERA CONTROL

TABLE 536.—*Hogs: Cholera-control work by Bureau of Animal Industry, 1918–1924*

Year beginning July and State	Bureau veterinarians engaged in work [1]	Premises investigated	Demonstrations		Autopsies performed	Farms quarantined or carded	Farms cleaned and disinfected	Outbreaks reported to bureau veterinarians
			Number	Hogs treated				
1918	180	93,512		233,987	53,586	9,564	4,382	12,336
1919	140	46,125	3,037	347,702	10,963	6,129	2,099	9,788
1920	54	29,433	3,420	67,295	3,888	2,268	656	7,951
1921	80	47,137	4,343	88,846	5,390	1,401	439	7,920
1922	70.91	52,348	5,234	108,562	5,247	1,772	741	7,204
1923								
Alabama	2	1,676	433	6,902	90			262
Arkansas	1	697	173	4,308	63		1	48
California	1	108	15	789	129	1		54
Colorado	1	65	8	398	61		1	30
Delaware	1	864	179	1,071	130	2	71	134
Florida	2	998	498	12,845	104		49	462
Georgia	2.5	1,709	269	6,891	65	1	18	226
Idaho	1	1,086	84	3,803	77	45	6	89
Illinois	2	1,221	5	175	305	247	205	566
Indiana	2	1,246	10	463	95	65	195	273
Iowa	2	918	7	812	217			399
Kansas	1	627	12	235	295		2	201
Kentucky	2	1,861	93	2,845	156		7	118
Louisiana	1	86	24	587	11			29
Maryland	2	3,706	19	307	323	308	26	630
Michigan	3	1,524	136	5,285	202	59	2	288
Mississippi	1.5	1,034	158	3,244	37			267
Missouri	1	1,493	5	751	70	14	2	397
Montana	.29	59	3	152	7	24	2	43
Nebraska	1	505	25	1,302	291		1	132
North Carolina	.5	1,387	290	4,228	45	55	10	213
North Dakota	1	309	23	1,379	106	581	209	605
Ohio	2	1,452	11	330	56			389
Oklahoma	1.75	1,464	40	1,211	125	51	2	60
South Carolina	1.08	475	416	7,627	48			224
South Dakota	1	383	18	1,634	99			526
Tennessee	1	476	33	1,334	88	54	2	133
Texas	2	172	16	578	13			51
Utah	1	366	6	67	22	1		51
Virginia	1	406	54	1,622	130	1	7	161
Washington	.6	189	13	1,246	24	12	4	50
Wisconsin	2	881	102	3,586	202	113	25	114
Total	45.22	29,443	3,178	78,007	3,686	1,634	847	7,225

Bureau of Animal Industry.

[1] Fractions denote veterinarians devoting a portion of their time to the work.

FARM ANIMALS AND THEIR PRODUCTS—PART II SHEEP, HORSES, POULTRY, AND GENERAL

SHEEP

TABLE 537.—*Sheep: Number and value on farms, United States, January 1, 1910–1925*

Jan. 1	Number	Price per head Jan. 1	Farm value Jan. 1	Jan. 1	Number	Price per head Jan. 1	Farm value Jan. 1
	Thousands	*Dollars*	*Thousand dollars*		*Thousands*	*Dollars*	*Thousand dollars*
1910, Apr. 15	*52,448*	4.12	216,030	1919	48,866	11.63	568,265
1911	53,633	3.91	209,535	1920	39,025	10.47	408,586
1912	52,362	3.46	181,170				
1913	51,482	3.94	202,779	Av. 1914–1920	47,487	7.72	366,754
1914	49,719	4.02	200,045	1921	37,452	6.30	235,855
1915	49,956	4.50	224,687	1922	36,327	4.80	174,545
1916	48,625	5.17	251,594	1923	37,223	7.51	279,464
1917	47,616	7.13	339,529	1924	38,300	7.87	301,455
1918	48,603	11.82	574,575	1925	39,134	9.53	372,909

Division of Crop and Livestock Estimates. Figures in italics are census returns.

[1] Preliminary.

TABLE 538.—*Sheep: Yearly losses per 1,000 from disease and exposure, 1890–1924*

Year ended Apr. 30	Loss per 1,000		Year ended Apr. 30	Loss per 1,000		Year ended Apr. 30	Loss per 1,000		Year ended Apr. 30	Loss per 1,000	
	From disease	From exposure		From disease	From exposure		From disease	From exposure		From disease	From exposure
1890	24.0	51.0	1899	21.0	35.0	1908	22.5	22.9	1917	21.8	32.4
1891	23.0	17.0	1900	20.0	18.0	1909	26.6	28.3	1918	19.8	19.3
1892	19.0	14.0	1901	24.0	22.0	1910	27.5	43.9	1919	19.7	24.4
1893	24.0	20.0	1902	25.0	31.6	1911	25.5	23.0	1920	23.7	34.6
1894	20.0	15.0	1903	27.8	53.6	1912	26.7	47.0	1921	23.1	15.6
1895	26.0	29.0	1904	26.0	37.7	1913	24.8	25.0	1922	21.4	26.4
1896	27.0	21.0	1905	24.6	30.8	1914	21.9	22.0	1923	22.4	24.1
1897	23.0	32.0	1906	22.2	37.0	1915			1924	20.0	17.5
1898	26.0	26.0	1907	25.6	35.4	1916	21.6	21.7			

Division of Crop and Livestock Estimates. As reported by crop reporters May 1, for year ending Apr. 30.

TABLE 539.—*Sheep, including lambs: Number and value on farms, January 1, 1923–1925*

State	Number Jan. 1			Average price per head Jan. 1			Farm value Jan. 1		
	1923	1924	1925 [1]	1923	1924	1925	1923	1924	1925 [1]
	Thousands	*Thousands*	*Thousands*	*Dollars*	*Dollars*	*Dollars*	*Thousand dollars*	*Thousand dollars*	*Thousand dollars*
Maine	90	91	94	6.70	7.10	7.60	603	646	714
New Hampshire	18	18	18	7.80	7.30	7.90	140	131	142
Vermont	43	45	48	7.00	7.40	8.30	301	333	398
Massachusetts	16	14	14	6.90	7.90	9.60	110	111	134
Rhode Island	3	3	3	7.90	8.00	9.60	24	24	29
Connecticut	8	8	8	7.80	7.90	8.80	62	63	70
New York	532	543	570	8.50	9.30	10.70	4,522	5,050	6,099
New Jersey	10	10	10	7.50	8.90	9.20	75	89	92
Pennsylvania	477	482	492	7.10	7.80	8.90	3,387	3,760	4,379
Delaware	3	3	3	7.40	7.00	9.90	22	21	30
Maryland	93	96	97	7.50	8.50	9.50	698	816	922
Virginia	338	355	362	7.60	8.10	8.90	2,569	2,876	3,222
West Virginia	504	504	514	6.90	7.30	8.20	3,478	3,679	4,215
North Carolina	81	82	82	5.60	6.40	6.20	454	525	508
South Carolina	23	22	20	4.20	4.70	4.30	97	103	86
Georgia	66	63	60	3.00	2.60	3.40	198	164	204
Florida	63	64	61	3.50	2.90	3.30	220	186	201
Ohio	2,094	2,115	2,178	7.10	7.30	8.90	14,867	15,440	19,384
Indiana	648	700	714	8.00	8.40	10.60	5,184	5,880	7,568
Illinois	516	568	540	7.90	8.20	10.40	4,076	4,658	5,616
Michigan	1,171	1,171	1,194	8.00	8.30	11.00	9,368	9,719	13,134
Wisconsin	341	341	351	7.50	8.10	10.30	2,558	2,762	3,615
Minnesota	400	428	462	7.20	8.00	10.70	2,880	3,424	4,943
Iowa	829	928	891	8.40	8.30	11.80	6,964	7,702	10,514
Missouri	1,105	1,205	1,181	7.10	7.60	9.40	7,846	9,158	11,101
North Dakota	240	254	297	7.30	7.80	9.80	1,752	1,981	2,911
South Dakota	689	696	682	7.70	7.80	10.80	5,305	5,429	7,366
Nebraska	733	660	726	8.10	7.90	10.40	5,937	5,214	7,550
Kansas	285	299	314	7.30	7.10	9.00	2,080	2,123	2,826
Kentucky	694	701	715	7.00	7.90	8.90	4,858	5,538	6,364
Tennessee	340	326	319	5.50	5.90	5.90	1,870	1,923	1,882
Alabama	90	86	90	3.40	4.00	4.30	306	344	387
Mississippi	142	135	128	2.60	2.80	2.80	369	378	358
Louisiana	122	116	108	2.90	3.10	3.20	354	360	346
Texas	2,862	3,091	3,246	5.20	5.90	7.40	14,882	18,237	24,020
Oklahoma	73	80	83	5.80	5.90	7.20	423	472	598
Arkansas	81	81	80	3.10	3.20	3.80	251	259	304
Montana	2,270	2,370	2,536	8.70	8.70	10.40	19,749	20,619	26,374
Wyoming	2,686	2,700	2,808	9.00	9.00	10.40	24,174	24,300	29,203
Colorado	2,444	2,468	2,616	7.60	7.50	9.60	18,574	18,510	25,114
New Mexico	2,062	2,248	2,360	6.40	6.50	7.70	13,197	14,612	18,172
Arizona	1,155	1,155	1,155	6.30	7.10	8.80	7,276	8,200	10,164
Utah	2,340	2,340	2,246	8.90	8.60	11.20	20,826	20,124	25,155
Nevada	1,119	1,086	1,108	8.90	9.00	11.30	9,959	9,774	12,520
Idaho	2,542	2,491	2,391	8.30	8.80	10.90	21,099	21,921	26,062
Washington	520	572	526	8.00	8.70	11.40	4,160	4,976	5,996
Oregon	1,860	1,916	2,012	6.40	8.20	9.50	11,904	15,711	19,114
California	2,402	2,570	2,621	8.10	9.00	8.70	19,456	23,130	22,803
United States	37,223	38,300	39,134	7.51	7.87	9.53	279,464	301,455	372,909

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 540.—*Sheep: Receipts and shipments at principal markets and at all markets, 1900–1924*

[Thousands—i. e., 000 omitted]

RECEIPTS

Year	Chicago	Denver	East St. Louis	Fort Worth	Kansas City	Omaha	St. Joseph	St. Paul	Sioux City	Total nine markets	All other markets reporting	Total all markets reporting
1900	3,549	306	416	(1)	860	1,277	390	490	61	7,349	(1)	(1)
1901	4,044	226	520	(1)	980	1,315	526	332	67	8,010	(1)	(1)
1902	4,516	317	523	10	1,154	1,743	561	602	61	9,487	(1)	(1)
1903	4,583	465	528	125	1,152	1,864	599	876	42	10,234	(1)	(1)
1904	4,505	519	688	104	1,004	1,754	794	773	28	10,169	(1)	(1)
1905	4,737	738	645	125	1,319	1,971	981	818	57	11,391	(1)	(1)
1906	4,805	826	579	98	1,617	2,165	827	735	64	11,716	(1)	(1)
1907	4,218	828	565	113	1,582	2,039	764	568	65	10,742	(1)	(1)
1908	4,352	675	679	120	1,641	2,106	592	359	59	10,583	(1)	(1)
1909	4,441	634	776	188	1,645	2,167	621	496	78	11,046	(1)	(1)
1910	5,229	596	736	163	1,841	2,985	560	865	151	13,126	(1)	(1)
1911	5,736	617	992	187	2,175	2,978	718	712	212	14,327	(1)	(1)
1912	6,056	777	1,031	284	2,134	2,951	729	628	207	14,797	(1)	(1)
1913	5,903	620	950	328	2,095	3,222	812	785	271	14,986	(1)	(1)
1914	5,378	692	749	408	2,002	3,114	830	795	404	14,372	(1)	(1)
1915	3,510	765	648	363	1,815	3,268	878	704	337	12,288	6,147	18,435
1916	4,291	1,409	671	431	1,758	3,171	804	623	321	13,479	7,213	20,692
1917	3,595	2,060	531	406	1,499	3,017	679	430	267	12,484	7,732	20,216
1918	4,630	1,652	536	335	1,667	3,386	827	630	387	14,050	8,435	22,485
1919	5,244	2,087	724	453	1,945	3,789	1,007	912	686	16,847	10,409	27,256
1920	4,005	2,079	605	394	1,687	2,891	843	729	358	13,591	9,947	23,538
1921	4,734	1,468	636	357	1,780	2,753	931	633	288	13,580	10,588	24,168
1922	3,874	1,867	628	325	1,574	2,533	730	499	223	12,253	10,111	22,364
1923	4,098	1,857	561	386	1,671	2,970	979	454	216	13,192	8,833	22,025
1924	4,192	2,040	489	373	1,569	2,844	1,089	476	310	13,382	8,819	22,201

SHIPMENTS

Year	Chicago	Denver	East St. Louis	Fort Worth	Kansas City	Omaha	St. Joseph	St. Paul	Sioux City	Total nine markets	All other markets reporting	Total all markets reporting
1900	487	(1)	62	(2)	(1)	552	103	404	28	1,636	(1)	(1)
1901	763	(1)	75	(1)	(1)	563	102	208	20	1,731	(1)	(1)
1902	832	(1)	72	(1)	(1)	803	129	485	25	2,406	(1)	(1)
1903	1,000	(1)	77	(1)	(1)	892	144	682	23	2,818	(1)	(1)
1904	1,362	(1)	101	(1)	(1)	819	275	622	21	3,200	(1)	(1)
1905	1,356	(1)	90	(1)	(1)	1,016	292	612	38	3,404	(1)	(1)
1906	1,341	(1)	108	(1)	(1)	1,176	195	580	27	3,427	(1)	(1)
1907	1,149	(1)	91	(1)	(1)	1,023	181	489	32	2,965	(1)	(1)
1908	1,214	(1)	119	(1)	(1)	1,098	138	241	28	2,838	(1)	(1)
1909	940	(1)	114	(1)	(1)	959	127	348	34	2,522	(1)	(1)
1910	1,494	(1)	77	(1)	(1)	1,694	137	689	79	4,170	(1)	(1)
1911	1,283	(1)	108	(1)	(1)	1,565	152	542	63	3,713	(1)	(1)
1912	1,175	(1)	97	(1)	(1)	1,343	154	431	35	3,235	(1)	(1)
1913	1,450	(1)	70	(1)	(1)	1,586	175	596	70	3,947	(1)	(1)
1914	1,273	(1)	44	(1)	(1)	1,198	170	565	87	3,337	(1)	(1)
1915	258	653	72	163	611	1,369	264	536	124	4,050	2,700	6,750
1916	829	1,291	86	259	556	1,301	181	485	114	5,102	4,091	9,193
1917	836	1,958	69	248	583	1,638	207	319	97	5,955	5,055	11,010
1918	1,205	1,484	68	175	744	1,953	248	463	178	6,518	5,686	12,204
1919	1,309	1,822	125	276	783	2,150	301	676	408	7,850	6,735	14,585
1920	1,202	1,864	140	204	623	1,474	228	416	160	6,311	6,252	12,563
1921	1,352	1,288	245	207	485	1,124	200	298	98	5,297	6,036	11,333
1922	1,273	1,093	223	244	558	1,094	154	176	69	5,484	6,193	11,677
1923	1,414	1,685	207	231	554	1,288	226	194	80	5,879	5,851	11,730
1924	1,381	1,875	177	218	524	1,242	282	157	116	5,972	5,822	11,794

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division. Prior to 1915 shipments compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from 14th Annual Report of Bureau of Animal Industry; 1907 to 1914 from Merchants' Exchange Annual Report); subsequent figures from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Figures prior to 1915 not obtainable. [2] Not in operation.

TABLE 541.—*Sheep: Receipts at all public stockyards, 1915–1924*

[Thousands—i. e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1915[1]	1,517	1,257	1,248	1,019	1,050	1,080	1,264	1,725	2,501	2,359	2,042	1,373	18,435
1916[1]	1,450	1,280	1,156	1,144	1,347	1,394	1,451	1,984	2,650	3,231	2,126	1,479	20,692
1917	1,578	1,384	1,256	1,152	1,059	1,240	1,353	1,763	2,554	3,195	2,099	1,583	20,216
1918	1,354	1,096	1,270	1,159	1,214	1,429	1,639	2,270	3,496	3,327	2,605	1,626	22,485
1919	1,594	1,157	1,268	1,438	1,468	1,775	2,287	3,360	3,854	3,754	2,845	2,456	27,256
1920	1,614	1,416	1,315	1,466	1,488	1,640	2,034	2,606	2,895	3,027	2,471	1,566	23,538
1921	1,792	1,516	1,750	1,677	1,916	1,849	1,776	2,500	2,618	3,042	2,068	1,664	24,168
1922	1,835	1,399	1,465	1,227	1,692	1,700	1,677	1,951	2,303	3,311	2,288	1,516	22,364
1923	1,636	1,366	1,430	1,447	1,794	1,426	1,661	1,800	2,659	3,464	1,816	1,526	22,025
1924	1,697	1,412	1,367	1,348	1,344	1,550	1,672	2,005	3,027	3,295	1,879	1,605	22,201

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

TABLE 542.—*Sheep: Receipts at Chicago, East St. Louis, Kansas City, and Omaha combined, 1900–1924*

[Thousands—i. e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1900	491	449	492	490	515	431	445	613	577	743	479	380
1901	455	424	462	613	562	467	588	581	749	880	652	477
1902	504	401	448	423	440	519	580	734	998	1,203	871	815
1903	559	523	562	551	482	434	546	721	1,022	1,143	936	646
1904	637	715	683	533	507	567	312	675	976	1,080	751	513
1905	623	609	643	633	668	515	604	693	1,105	1,225	784	570
1906	729	655	775	672	658	539	612	763	990	1,268	849	658
1907	755	644	658	687	514	499	575	685	1,042	1,191	638	519
1908	598	575	562	590	589	614	616	800	1,287	982	822	741
1909	576	565	700	593	465	607	636	862	1,206	1,281	841	700
1910	651	522	551	477	577	631	794	1,199	1,609	1,820	1,258	702
1911	822	686	740	686	763	796	807	1,085	1,566	2,003	1,115	810
1912	1,020	849	856	770	665	671	837	1,052	1,528	1,906	1,113	905
1913	892	750	710	770	737	732	831	963	1,869	1,848	1,089	979
Av. 1909–1913	792	674	711	659	641	687	781	1,032	1,556	1,772	1,083	819
1914	934	863	909	858	707	716	723	979	1,558	1,512	705	779
1915	799	670	723	540	469	531	637	931	1,337	1,000	868	736
1916	742	697	632	586	632	659	634	991	1,301	1,403	854	761
1917	796	693	682	592	441	470	526	650	1,111	1,210	715	756
1918	716	525	620	518	538	554	726	989	1,770	1,569	952	741
1919	780	547	564	623	612	742	1,098	1,461	1,968	1,400	951	957
1920	666	619	580	462	532	632	827	1,189	1,288	946	817	631
Av. 1914–1920	776	659	673	597	562	615	739	1,027	1,476	1,291	837	766
1921	813	700	819	754	729	725	645	1,100	1,173	1,095	686	664
1922	753	602	640	517	659	690	695	826	835	1,072	726	594
1923	782	665	735	660	672	529	711	807	1,179	1,231	612	685
1924	811	595	601	598	544	671	740	895	1,405	943	546	742

Division of Statistical and Historical Research. Prior to 1915 figures compiled from yearbooks of the stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 543.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*

[Thousands—i. e., 000 omitted]

RECEIPTS

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Albany, N. Y.		23	45	1	1	(1)	(1)	(1)		
Amarillo, Tex.	75	56	158	155	236	189	38	73	101	159
Atlanta, Ga.			2	1	2	1	2	2	5	3
Augusta, Ga.			(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Baltimore, Md.	306	279	349	359	371	367	466	306	284	288
Boston, Mass.	3	3	3	4	4	5	2	2	4	2
Buffalo, N. Y.	835	1,024	756	904	1,100	1,052	1,380	1,191	1,226	1,166
Chattanooga, Tenn.		4	2	3	3	2	3	4	2	1
Cheyenne, Wyo.			210	371	442	223	148	139	169	157
Chicago, Ill.	3,510	4,291	3,595	4,630	5,244	4,005	4,734	3,874	4,098	4,192
Cincinnati, Ohio	356	332	270	275	335	366	438	394	345	327
Cleveland, Ohio	259	254	320	370	467	420	370	360	333	365
Dallas, Tex.		1	(1)	(1)	(1)	1	1	1	(1)	(1)
Dayton, Ohio	11	4	4	5	11	9	7	8	7	8
Denver, Colo.	765	1,409	2,060	1,652	2,087	2,079	1,468	1,867	1,857	2,040
Detroit, Mich.	269	284	297	279	344	328	343	356	298	393
East St. Louis, Ill.	648	671	531	536	724	605	636	628	561	489
El Paso, Tex.	99	117	211	88	252	136	71	49	73	41
Evansville, Ind.		7	9	11	14	14	8	11	8	6
Fort Wayne, Ind.									5	18
Fort Worth, Tex.	363	431	406	335	453	394	357	325	386	373
Fostoria, Ohio	13	12	12	10	11	17	21	14	12	15
Indianapolis, Ind.	113	98	102	114	131	136	145	147	124	123
Jacksonville, Fla.		1	(1)	2	2	1	(1)	(1)	(1)	(1)
Jersey City, N. J.	1,029	1,546	1,329	1,095	1,532	1,554	1,994	1,854	1,276	1,230
Kansas City, Mo.	1,815	1,758	1,499	1,667	1,945	1,687	1,780	1,574	1,671	1,569
Knoxville, Tenn.	1	2	3	2	2	1	1	2	1	2
Lafayette, Ind.	3	2	4	5	8	8	8	4	4	6
Lancaster, Pa.	2	1	160	257	74	122	12	27	53	15
Laredo, Tex.									1	3
Los Angeles, Calif.									75	102
Louisville, Ky.	308	343	272	257	273	277	286	318	265	213
Marion, Ohio				2	32	50	15	13	11	12
Memphis, Tenn.		4	(1)	2	1	2	(1)	1	2	1
Milwaukee, Wis.	86	55	48	57	65	61	59	45	40	37
Montgomery, Ala.			1	7	7	4	2	2	3	2
Moultrie, Ga.							1		(1)	(1)
Nashville, Tenn.		47	94	114	147	129	138	152	129	116
Newark, N. J.									29	33
New Orleans, La.		4	6	9	6	6	4	4	4	2
New York, N. Y.	179	94	80	271	291	158	221	143	74	68
North Salt Lake, Utah		404	357	424	388	481	368	459	449	618
Ogden, Utah			380	423	516	603	576	704	849	565
Oklahoma, Okla.	69	115	50	32	19	15	18	18	9	9
Omaha, Nebr.	3,268	3,171	3,017	3,386	3,789	2,891	2,753	2,533	2,970	2,844
Pasco, Wash.				58	131	92	72	66	66	84
Peoria, Ill.	1	1	1	1	4	3	7	3	4	3
Philadelphia, Pa.	312	282	185	231	298	349	454	352	248	251
Pittsburgh, Pa.	419	337	563	553	767	922	1,197	1,204	1,045	979
Portland, Oreg.	197	171	141	149	215	236	329	205	179	199
Pueblo, Colo.	794	806	800	762	837	734	541	645	704	875
Richmond, Va.	7	10	8	7	10	10	13	12	9	9
Roanoke, Va.									4	(1)
St. Joseph, Mo.	878	804	679	827	1,007	843	931	730	979	1,089
St. Paul, Minn.	704	623	430	630	912	729	633	499	454	476
San Antonio, Tex.	17	26	51	41	88	70	49	66	23	18
Seattle, Wash.		20	9	52	102	91	91	70	86	100
Sioux City, Iowa	337	321	267	387	686	358	288	223	216	310
Sioux Falls, S. Dak.			(1)	2	37	5	2	2	5	5
Spokane, Wash.	2	32	39	102	117	127	73	63	28	48

[1] Not over 500.

TABLE 543.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

[Thousands—i. e., 000 omitted]

RECEIPTS—Continued

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Springfield, Ohio									9	14
Toledo, Ohio	41	29	34	29	54	69	23	20	13	28
Washington, D. C		15	7	8	20	27	35	21	17	16
Wichita, Kans	30	21	27	40	59	39	32	82	120	84
Discontinued [2]	311	347	333	491	583	435	524	497	3	(1)
Total	18,435	20,692	20,216	22,485	27,256	23,538	24,168	22,364	22,025	22,201

LOCAL SLAUGHTER

Albany, N. Y			2	(1)	(1)	(1)	(1)			
Atlanta, Ga			(1)	(1)	1	1	1	1	3	2
Augusta, Ga			(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Baltimore, Md	105	93	60	85	103	121	186	144	131	126
Buffalo, N. Y		183	119	142	231	263	243	193	161	138
Chattanooga, Tenn				2	2	2	3	4	2	1
Chicago, Ill	3,252	3,462	2,759	3,425	3,935	2,803	3,383	2,601	2,684	2,812
Cincinnati, Ohio	124	79	51	52	84	81	121	91	62	60
Cleveland, Ohio	168	144	118	132	176	168	234	189	186	181
Dallas, Tex		1	(1)	(1)	(1)	1	1	1	(1)	(1)
Dayton, Ohio	11	2	2	2	4	6	5	5	5	6
Denver, Colo	113	116	95	174	241	239	180	172	169	168
Detroit, Mich		209	156	138	212	216	168	196	194	212
East St. Louis, Ill	576	584	462	468	599	465	391	405	354	311
El Paso, Tex			3	6	3	7	7	7	8	9
Evansville, Ind		1	1	1	1	3	3	3	2	2
Fort Wayne, Ind									1	2
Fort Worth, Tex	201	189	144	131	164	206	157	80	155	155
Fostoria, Ohio			4	(1)	(1)	(1)	(1)	2	(1)	(1)
Indianapolis, Ind	40	31	21	16	26	31	44	64	61	56
Jacksonville, Fla			(1)	1	1	(1)	(1)	(1)	(1)	(1)
Jersey City, N. J	1,029	1,546	1,329	1,095	1,532	1,554	1,994	1,854	1,276	1,230
Kansas City, Mo	1,194	1,177	886	951	1,176	1,066	1,307	1,000	1,101	1,046
Knoxville, Tenn	1	(1)	(1)	1	1	1	1	1	1	(1)
Lafayette, Ind		1	1	1	2	1	2	1	2	1
Lancaster, Pa				1	1	2	2	1	2	3
Laredo, Tex									1	3
Los Angeles, Calif									71	102
Louisville, Ky	20	25	20	24	24	29	26	27	24	18
Marion, Ohio				(1)	(1)	1	(1)	(1)	(1)	(1)
Memphis, Tenn					(1)		(1)	(1)	(1)	(1)
Milwaukee, Wis	51	38	38	34	42	45	47	34	29	33
Montgomery, Ala					1	1	(1)	(1)	(1)	1
Nashville, Tenn		1	9	13	15	18	23	27	21	20
Newark, N. J									29	33
New Orleans, La		4	5	7	4	3	3	2	2	2
New York, N. Y	179	94	83	271	291	158	221	143	75	68
North Salt Lake, Utah		13	46	26	17	15	67	20	19	45
Ogden, Utah			8	43	24	17	14	8	7	9
Oklahoma, Okla	39	72	27	14	8	5	12	12	4	6
Omaha, Nebr	1,899	1,870	1,378	1,433	1,639	1,417	1,626	1,440	1,682	1,602
Pasco, Wash				(1)	(1)					
Peoria, Ill	1	1	1	1	1	2	3	1	1	1
Philadelphia, Pa			170	220	286	343	446	345	244	246
Pittsburgh, Pa	56	111	85	95	103	125	148	117	117	115
Portland, Oreg	146	112	87	77	109	104	151	95	104	96
Richmond, Va	6	2	4	5	6	7	10	9	8	7
Roanoke, Va									(1)	(1)
St. Joseph, Mo	615	624	472	580	706	615	730	576	754	805
St. Paul, Minn	181	152	118	176	251	300	316	319	253	314

[1] Not over 500.

[2] Includes only those markets which have been totally discontinued.

TABLE 543.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

[Thousands—i. e., 000 omitted]

LOCAL SLAUGHTER—Continued.

Market.	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
San Antonio, Tex			9	1	1	2	2	4	2	3
Seattle, Wash		20	9	52	101	90	91	69	83	99
Sioux City, Iowa	210	216	170	210	282	199	191	153	136	193
Sioux Falls, S. Dak			(1)	(1)	(1)	2	1	(1)	(1)	(1)
Spokane, Wash	1	1	4	9	13	16	26	11	8	13
Springfield, Ohio									(1)	1
Toledo, Ohio		3	3	2	4	2	3	3	1	1
Washington, D. C		15	6	8	20	27	34	20	17	15
Wichita, Kans	19	4	2	4	6	5	6	13	17	27
Discontinued [2]	17	32	175	137	197	196	228	206	2	(1)
Total	10,254	11,228	9,142	10,266	12,646	10,981	12,858	10,609	10,271	10,399

STOCKER AND FEEDER SHIPMENTS

Amarillo, Tex	17	79	50	116	86	23	23	62	127
Atlanta, Ga				(1)		(1)	(1)	1	
Augusta, Ga				(1)	(1)	(1)	(1)		(1)
Baltimore, Md	2	1	1	2	1	(1)	1	1	1
Buffalo, N. Y	14	18	21	14	23	4	3	2	9
Chattanooga, Tenn			1	1	(1)				
Chicago, Ill	467	634	968	1,106	899	521	688	682	707
Cincinnati, Ohio	5	1	5	8	8	13	15	15	11
Cleveland, Ohio		1	3	4	(1)	4	7	4	3
Denver, Colo	741	1,030	921	1,290	1,349	643	1,088	1,068	1,130
Detroit, Mich	5	5	3	8	20	14	12	12	10
East St. Louis, Ill	36	48	48	70	60	33	50	51	46
El Paso, Tex		164	43	189	95	21	30	37	15
Evansville, Ind		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Fort Wayne, Ind								(1)	1
Fort Worth, Tex	72	127	111	164	71	80	136	39	50
Fostoria, Ohio			(1)	(1)	1	1	(1)	1	1
Indianapolis, Ind		4	5		5	10	9	5	9
Jacksonville, Fla	(1)		(1)	1	1		(1)		
Kansas City, Mo	460	510	602	672	474	324	385	407	368
Knoxville, Tenn		2	1	1	(1)		2		
Lafayette, Ind	(1)	(1)	1	1	1	1	1	1	1
Laredo, Tex								(1)	1
Los Angeles, Calif								4	(1)
Louisville, Ky			27	31	20	25	34	34	18
Marion, Ohio			(1)	2	1	1	2	2	1
Memphis, Tenn	(1)					(1)	(1)	(1)	(1)
Milwaukee, Wis	1	1	4	1	1				
Montgomery, Ala			(1)	(1)	1	(1)	(1)	(1)	(1)
Nashville, Tenn	5	3	2	19	6	4	4	2	1
Newark, N. J								(1)	(1)
New Orleans, La		(1)	2	1	1	1	1	1	(1)
North Salt Lake, Utah	47	159	215	277	211	142	276	234	345
Ogden, Utah		1	41	171	133	197	281	360	244
Oklahoma, Okla	24	13	6	6	3	2	3	3	2
Omaha, Nebr	1,026	1,302	1,592	1,787	1,124	670	757	889	823
Pasco, Wash			59	131	68				
Peoria, Ill			(1)	1	1	4	1	3	2
Portland, Oreg	15	27	18	27	40	13	7	5	8
Pueblo, Colo			20	(1)	1	(1)	3	212	347
Richmond, Va	1	1	1	2	1	1	1	1	2
St. Joseph, Mo	97	124	126	200	142	107	113	150	229
St. Paul, Minn	140	92	109	201	113	78	66	91	63
San Antonio, Tex	9	1	17	46	33	5	38	7	6
Sioux City, Iowa	87	62	129	272	90	64	45	42	64

[1] Not over 500.

[2] Includes only those markets which have been totally discontinued.

TABLE 543.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments, public stockyards, 1915–1924*—Continued

[Thousands—i. e., 000 omitted]

STOCKER AND FEEDER SHIPMENTS—Continued

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Sioux Falls, S. Dak.			(1)	(1)	28	1	(1)	(1)	1	(1)
Spokane, Wash.			16	24	35	75	12	22	12	12
Toledo, Ohio					(1)	3	(1)	(1)		(1)
Wichita, Kans.		1	11	16	19	3	2	17	37	22
Discontinued[2]		5	11	16	52	14	75	46	(1)	
Total		3,277	4,448	5,208	6,956	5,180	3,095	4,167	4,478	4,679

Division of Statistical and Historical Research. Compiled from reports made by stockyards to the Livestock, Meats and Wool Division.

[1] Not over 500.
[2] Includes only those markets which have been totally discontinued.

TABLE 544.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*

[Thousands, i. e., 000 omitted]

Stockyard	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Baltimore, Md.:													
Receipts	13	11	10	12	10	23	25	65	34	43	30	12	288
Local slaughter	10	7	8	8	6	9	11	21	13	17	10	6	126
Stocker and feeder shipments	(1)							(1)	1	(1)	(1)	(1)	1
Buffalo, N. Y.:													
Receipts	140	153	107	92	97	49	36	47	75	104	126	140	1,166
Local slaughter	13	12	6	11	11	8	8	11	15	15	14	14	138
Stocker and feeder shipments					1	1	1	(1)	2	1	3	(1)	9
Chicago, Ill.:													
Receipts	409	275	294	256	249	286	332	361	528	473	318	411	4,192
Local slaughter	265	187	197	171	193	241	258	245	305	273	227	250	2,812
Stocker and feeder shipments	42	22	22	7	6	23	48	89	161	155	67	65	707
Cincinnati, Ohio:													
Receipts	4	3	4	4	11	55	73	85	39	31	12	6	327
Local slaughter	3	2	3	3	5	6	9	6	7	8	4	4	60
Stocker and feeder shipments			(1)		(1)	1	1	5	3	1	(1)		11
Cleveland, Ohio:													
Receipts	33	15	24	26	19	13	13	18	34	59	69	42	365
Local slaughter	16	13	15	15	13	10	10	14	17	21	21	16	181
Stocker and feeder shipments									2	1	(1)		3
Denver, Colo.:													
Receipts	102	122	170	107	85	41	40	60	237	669	309	98	2,040
Local slaughter	12	16	16	26	15	9	8	12	18	20	9	7	168
Stocker and feeder shipments	28	25	14	8	5	12	22	17	110	534	312	43	1,130
Detroit, Mich.:													
Receipts	51	29	35	22	18	10	6	13	33	64	64	48	393
Local slaughter	14	14	13	12	9	9	6	13	24	36	30	32	212
Stocker and feeder shipments	1	1			(1)			(1)	2	3	2	1	10
East St. Louis, Ill.:													
Receipts	28	18	19	26	33	76	76	63	48	46	26	30	489
Local slaughter	15	7	7	9	24	61	62	45	23	25	14	19	311
Stocker and feeder shipments	2	1		(1)	1	4	5	6	14	10	3	(1)	46
Fort Worth, Tex.:													
Receipts	15	9	17	59	82	54	21	30	37	11	17	21	373
Local slaughter	6	3	5	25	33	26	13	12	9	8	6	9	155
Stocker and feeder shipments	3	3	(1)	1	4	5	1	5	14	3	9	2	50

[1] Not over 500.

TABLE 544.—*Sheep: Receipts, local slaughter, and stocker and feeder shipments at certain public stockyards, 1924*—Continued

[Thousands, i. e., 000 omitted]

Stockyard	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Indianapolis, Ind.:													
Receipts	9	5	3	3	4	9	14	19	17	16	17	7	123
Local slaughter	5	3	2	2	2	6	8	10	8	5	3	2	56
Stocker and feeder shipments	(1)	----	----	(1)	----	----	2	3	2	2	(1)	(1)	9
Jersey City, N. J.:													
Receipts	86	69	64	78	66	122	151	182	123	133	91	65	1,230
Local slaughter	86	69	64	78	66	122	151	182	123	133	91	65	1,230
Kansas City, Mo.:													
Receipts	119	96	90	140	137	132	105	132	276	170	66	106	1,569
Local slaughter	92	80	73	91	89	97	93	79	136	97	45	74	1,046
Stocker and feeder shipments	20	11	11	18	18	19	12	40	114	68	16	21	368
Los Angeles, Calif.:													
Receipts	11	2	4	6	16	25	12	10	6	5	2	4	102
Local slaughter	11	1	4	6	16	24	13	9	6	5	2	4	102
Milwaukee, Wis.:													
Receipts	1	1	1	1	(1)	2	4	5	8	8	4	2	37
Local slaughter	1	1	1	1	(1)	2	3	5	7	6	4	2	33
Omaha, Nebr.:													
Receipts	255	207	198	176	125	177	227	339	553	254	137	196	2,844
Local slaughter	158	144	146	111	87	124	148	152	171	126	91	144	1,602
Stocker and feeder shipments	26	15	14	11	9	27	56	174	311	131	31	18	823
Pittsburgh, Pa.:													
Receipts	75	53	81	78	76	96	118	113	99	76	48	66	979
Local slaughter	10	8	9	10	10	9	10	10	11	10	11	7	115
Portland, Oreg.:													
Receipts	10	7	9	9	23	41	27	21	25	11	9	7	199
Local slaughter	3	1	3	7	11	24	14	9	13	4	5	2	96
Stocker and feeder shipments	----	(1)	(1)	----	1	1	1	1	1	2	1	(1)	8
St. Joseph, Mo.:													
Receipts	106	107	108	108	83	64	74	90	111	97	62	79	1,089
Local slaughter	92	86	86	75	68	52	58	58	66	58	46	60	805
Stocker and feeder shipments	12	14	11	13	9	10	15	31	43	39	15	17	229
St. Paul, Minn.:													
Receipts	28	25	19	9	7	6	16	29	76	126	86	49	476
Local slaughter	25	16	11	9	6	5	11	24	46	63	59	39	314
Stocker and feeder shipments	1	(1)	3	(1)	(1)	(1)	2	4	9	30	10	4	63
Sioux City, Iowa:													
Receipts	44	34	17	11	7	5	6	15	32	51	37	51	310
Local slaughter	30	18	11	9	6	2	4	8	14	27	26	38	193
Stocker and feeder shipments	4	5	1	(1)	1	2	2	4	10	18	10	7	64
Wichita, Kans.:													
Receipts	4	5	2	2	13	14	4	9	16	8	4	3	84
Local slaughter	2	3	2	1	4	4	2	2	2	1	2	2	27
Stocker and feeder shipments	2	1	----	----	----	2	1	(1)	8	8	(1)	----	22

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats and Wool Division. Local slaughter data from stockyards.

[1] Not over 500.

TABLE 545.—*Feeding sheep: Shipments from public stockyards, by months, 1924*

Origin and destination	Jan.	Feb.	Mar.	Apr.	May	June	July
MARKET ORIGIN	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Chicago, Ill.	44,929	23,025	21,664	6,687	5,917	22,773	36,117
Denver, Colo.	23,716	20,915	11,054	6,535	------	9,287	21,795
Fort Worth, Tex.	3,597	3,425	741	2,060	5,141	6,622	1,413
Kansas City, Kans.	15,757	9,075	7,388	8,986	8,347	15,512	5,595
Louisville, Ky.	------	------	------	393	391	2,228	2,623
National Stockyards, Ill.	820	------	------	------	180	3,521	4,307
Omaha, Nebr.	29,763	21,965	19,794	22,057	14,649	33,426	58,484
Sioux City, Iowa	3,110	3,317	1,179	614	175	75	2,010
South St. Joseph, Mo.	3,375	1,288	921	441	735	2,617	6,505
South St. Paul, Minn.	443	52	168	96	252	91	433
All other inspected	2,417	3,120	271	905	2,119	5,989	5,567
Total	127,927	86,182	63,180	48,774	37,906	102,141	144,849
STATE DESTINATION							
Colorado	17,609	11,627	5,562	6,044	------	9,287	21,795
Illinois	10,452	4,126	2,713	3,667	2,142	7,232	12,768
Indiana	1,458	487	1,908	1,895	1,855	8,346	18,337
Iowa	6,375	6,227	708	1,390	712	5,631	32,285
Kansas	8,920	3,523	4,868	975	3,308	5,457	4,866
Kentucky	------	------	------	393	353	3,287	3,197
Michigan	31,100	16,547	14,096	1,437	1,291	10,873	12,323
Minnesota	110	52	168	------	252	91	229
Missouri	7,732	6,171	970	1,559	3,725	8,923	8,825
Nebraska	36,878	30,257	28,130	27,825	16,507	30,835	21,554
Ohio	514	171	------	65	165	2,612	2,051
South Dakota	------	------	------	------	240	350	1,039
Texas	387	1,261	654	2,060	4,365	5,815	829
Wisconsin	2,814	719	2,221	681	903	------	1,138
All other	3,578	5,015	582	783	2,088	3,402	3,613
Total	127,927	86,182	63,180	48,774	37,906	102,141	144,849

Origin and destination	Aug.	Sept.	Oct.	Nov.	Dec.	Total
MARKET ORIGIN	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Chicago, Ill.	82,062	171,179	161,823	75,412	78,191	729,779
Denver, Colo.	8,085	113,926	563,888	274,262	38,348	1,091,811
Fort Worth, Tex.	5,535	18,650	2,943	8,551	2,245	60,923
Kansas City, Kans.	28,772	91,424	52,078	16,678	20,176	279,788
Louisville, Ky.	8,568	3,630	284	75	------	18,192
National Stockyards, Ill.	4,290	3,177	1,841	189	148	18,473
Omaha, Nebr.	169,586	316,847	128,810	31,391	20,064	866,836
Sioux City, Iowa	3,047	9,509	17,956	9,895	8,217	59,104
South St. Joseph, Mo.	20,195	28,338	23,030	6,192	9,630	103,267
South St. Paul, Minn.	1,960	7,531	29,516	8,082	3,100	51,724
All other inspected	6,308	17,638	17,285	11,571	1,447	74,637
Total	338,408	781,849	999,454	442,298	181,566	3,354,534
STATE DESTINATION						
Colorado	425	53,292	375,681	191,630	21,708	714,660
Illinois	59,662	107,961	44,021	16,945	8,712	280,400
Indiana	33,058	43,830	31,234	15,820	7,524	165,752
Iowa	87,074	164,868	71,803	16,012	9,776	402,861
Kansas	20,255	56,825	42,083	16,064	15,363	182,507
Kentucky	9,764	4,402	828	375	130	22,729
Michigan	21,419	57,359	88,479	41,176	44,383	341,083
Minnesota	3,703	8,626	8,612	5,301	1,143	28,287
Missouri	30,014	78,665	31,796	6,105	13,511	197,996
Nebraska	59,827	150,878	249,677	97,161	29,973	779,502
Ohio	3,421	12,621	7,662	2,402	220	31,904
South Dakota	1,247	4,469	4,931	1,393	336	14,005
Texas	868	8,141	3,281	1,699	1,959	31,319
Wisconsin	1,270	12,603	23,566	4,861	4,315	55,091
All other	6,401	17,309	15,800	25,354	22,513	106,438
Total	338,408	781,849	999,454	442,298	181,566	3,354,534

Division of Statistical and Historical Research. Compiled from Bureau of Animal Industry Inspection records.

TABLE 546.—*Sheep: Imports, exports, and prices, 1895–1924*

Year ended June 30—	Imports			Exports		
	Number	Value	Average import price	Number	Value	Average export price
Average:		*Dollars*	*Dollars*		*Dollars*	*Dollars*
1895–1899	351, 602	972, 444	2. 77	296, 882	1, 861, 231	6. 27
1900–1904	303, 990	1, 082, 047	3. 56	252, 138	1, 525, 800	6. 05
1905–1909	195, 983	886, 150	4. 52	143, 011	839, 219	5. 87
1910	126, 152	696, 879	5. 52	44, 517	209, 000	4. 69
1911	53, 455	377, 625	7. 06	121, 491	636, 272	5. 24
1912	23, 588	157, 257	6. 67	157, 263	626, 985	3. 90
1913	15, 428	90, 021	5. 83	187, 132	605, 725	3. 24
1914	223, 719	532, 404	2. 38	152, 600	534, 543	3. 50
1915	153, 317	533, 967	3. 48	47, 213	182, 278	3. 86
1916	235, 659	917, 502	3. 89	52, 278	231, 535	4. 43
1917	160, 422	856, 645	5. 34	58, 811	367, 935	6. 26
1918	177, 681	1, 979, 746	11. 14	7, 959	97, 028	12. 19
1919	163, 283	1, 914, 473	11. 72	16, 117	187, 347	11. 62
1920	190, 549	2, 279, 949	11. 43	59, 155	711, 549	12. 03
1921	161, 292	1, 541, 793	9. 56	80, 723	532, 510	6. 60
1922	96, 086	514, 424	5. 35	62, 354	294, 442	4. 72
1923	82, 903	542, 406	6. 54	15, 791	164, 695	10. 43
1924	34, 986	215, 997	6. 17	8, 852	89, 439	10. 10

Division of Statistical and Historical Research.

TABLE 547.—*Live sheep: Exports and imports, United States, by months, 1910–1925*

IMPORTS

Year ended June 30	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
1910	765	8, 683	33, 002	32, 896	29, 604	15, 072	1, 014	403	2, 014	1, 415	978	306	126, 152
1911	1, 885	6, 715	8, 287	21, 401	11, 559	224	89	90	6	860	1, 976	363	53, 455
1912	86	2, 650	2, 241	5, 779	8, 042	881	33	9	7	131	2, 390	1, 339	23, 588
1913	37	413	1, 648	3, 466	5, 077	792	95	13	782	2	2, 769	334	15, 428
1914	457	1, 173	960	26, 035	46, 995	36, 073	15, 485	871	13, 995	73, 169	5, 834	2, 672	223, 719
1915	4, 403	15, 464	18, 915	13, 680	15, 375	20, 132	7, 223	53, 747	33	1, 340	748	2, 257	153, 317
1916	12, 377	23, 637	19, 683	86, 765	53, 253	15, 458	2, 530	193	3, 884	5, 785	5, 632	6, 462	235, 659
1917	4, 731	8, 625	48, 650	23, 755	13, 835	1, 640	8, 446	42, 880	3, 193	885	2, 258	1, 524	160, 422
1918	1, 439	6, 980	51, 421	38, 540	38, 436	6, 859	1, 423	7, 085	13, 200	1, 899	3, 512	6, 887	177, 681
1919	672	4, 691	20, 274	32, 105	36, 453	22, 002	10, 684	8, 103	5, 146	12, 203	10, 631	319	163, 283
1920	1, 039	15, 092	27, 557	77, 705	37, 448	18, 847	8, 611	3, 263	5, 247	1, 763	1, 114	1, 863	199, 549
1921	1, 633	15, 835	37, 534	39, 687	36, 689	19, 666	5, 232	261	1, 241	1, 234	416	1, 864	161, 292
1922	856	10, 075	31, 938	18, 607	11, 380	1, 483	7, 538	3, 499	5, 537	2, 375	2, 034	1, 004	96, 386
1923	1, 407	12, 666	22, 160	31, 096	4, 512	1, 164	5, 347	447	12	2, 599	1, 478	15	82, 903
1924	2, 021	3, 428	3, 774	11, 023	8, 690	100	1, 759	532	88	2, 627	930	14	34, 986
1925	355	81	2, 182	11, 358	8, 528	1, 924							

EXPORTS

1910	5, 584	4, 603	8, 372	6, 818	3, 221	4, 184	1, 550	1, 289	452	957	790	6, 697	44, 517
1911	6, 532	4, 030	3, 987	11, 863	10, 666	3, 825	7, 458	8, 504	15, 452	15, 738	20, 537	12, 899	121, 491
1912	12, 984	10, 542	21, 312	15, 281	14, 524	21, 838	12, 039	12, 359	7, 829	9, 643	6, 234	12, 678	157, 263
1913	10, 786	25, 601	24, 292	20, 090	18, 589	31, 823	7, 645	9, 437	5, 906	9, 774	10, 152	13, 037	187, 132
1914	16, 537	6, 475	15, 795	27, 843	19, 050	28, 760	4, 263	5, 803	4, 940	5, 462	8, 173	9, 499	152, 600
1915	8, 632	9, 300	7, 216	8, 531	6, 172	236	206	125	1, 130	531	2, 485	2, 649	47, 213
1916	4, 076	5, 449	2, 987	10, 518	6, 919	3, 426	541	4, 981	1, 500	519	6, 969	4, 393	52, 278
1917	3, 152	4, 833	3, 281	14, 400	6, 913	3, 577	1, 253	703	309	8, 226	10, 333	1, 831	58, 811
1918	570	1, 103	334	423	266	5, 008	6	48	6	11	96	88	7, 959
1919	6, 196	108	39	889	75	400	30	12	153	4, 595	3, 406	214	16, 117
1920	6, 557	1, 695	5, 934	5, 075	6, 653	207	149	13, 320	4, 034	147	426	14, 958	59, 155
1921	890	246	3, 407	2, 558	1, 806	6, 937	4, 059	8, 486	4, 005	14, 749	10, 098	23, 482	80, 723
1922	15, 744	16, 605	8, 737	6, 244	3, 031	2, 156	174	1, 952	770	2, 414	1, 320	8, 207	62, 354
1923	3, 387	1, 582	1, 186	575	546	109	131	53	783	3, 942	1, 727	1, 820	15, 791
1924	2, 305	1, 980	464	818	141	2, 695	69	99	34	60	20	147	8, 852
1925	120	87	145	16, 958	806	7							

TABLE 548.—*Sheep: Farm price per 100 pounds, 15th of month, United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted av.
1910	$5.63	$5.09	$5.64	$6.10	$5.79	$5.44	$5.47	$4.68	$4.81	$4.68	$4.63	$4.54	$5.24
1911	4.47	4.34	4.45	4.55	4.51	4.24	4.19	3.98	3.91	3.68	3.65	3.71	4.16
1912	3.89	4.01	4.12	4.57	4.74	4.52	4.21	4.26	4.11	4.19	4.05	4.21	4.24
1913	4.35	4.63	4.97	5.16	4.91	4.84	4.20	4.32	4.23	4.16	4.27	4.46	4.55
Av. 1910–1913	4.58	4.52	4.80	5.10	4.99	4.76	4.52	4.31	4.26	4.18	4.15	4.23	4.55
1914	4.67	4.67	4.77	4.96	4.87	4.70	4.75	4.87	4.80	4.81	4.68	4.95	4.79
1915	4.95	5.14	5.36	5.60	5.54	5.43	5.35	5.16	5.06	5.18	5.18	5.38	5.27
1916	5.52	5.90	6.35	6.61	6.66	6.54	6.33	6.22	6.25	6.20	6.41	6.77	6.29
1917	7.33	8.17	9.21	9.69	10.15	9.84	9.32	9.33	10.05	10.24	10.20	10.44	9.45
1918	10.55	10.75	11.41	11.98	12.32	11.56	11.04	10.99	10.79	10.35	10.11	9.46	10.95
1919	9.68	9.95	10.45	11.33	10.93	10.34	9.25	9.06	8.69	8.46	8.35	8.53	9.63
1920	9.34	9.97	10.25	10.66	10.34	9.13	8.21	7.54	7.24	6.62	6.20	5.54	8.51
Av. 1914–1920	7.43	7.79	8.26	8.69	8.69	8.22	7.75	7.60	7.55	7.41	7.30	7.30	7.84
1921	5.30	5.01	5.27	5.11	5.11	4.74	4.34	4.38	4.11	3.96	3.84	4.10	4.65
1922	4.57	5.71	6.51	6.43	6.65	6.09	6.11	5.98	5.70	5.93	6.02	6.27	5.96
1923	6.88	6.83	7.06	7.20	6.92	6.43	6.43	6.22	6.57	6.33	6.20	6.39	6.65
1924	6.71	6.82	7.22	7.45	7.33	7.09	6.60	6.32	6.30	6.32	6.39	6.84	6.80

Division of Crop and Livestock Estimates.

TABLE 549.—*Lambs: Farm price per 100 pounds, 15th of month, United States, 1910–1924*

Year beginning June	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Weighted av.
1910	$7.13	$6.71	$5.70	$5.85	$5.78	$5.54	$5.60	$5.71	$5.44	$5.49	$5.77	$5.74	$5.79
1911	5.51	5.42	5.25	5.02	4.68	4.68	4.93	5.22	5.15	5.38	5.98	6.16	5.28
1912	6.02	5.74	5.60	5.49	5.42	5.37	5.70	6.03	6.34	6.56	6.59	6.66	5.96
1913	6.36	6.05	5.50	5.51	5.51	5.64	5.85	6.16	6.18	6.31	6.47	6.49	6.03
Av. 1910–1913	6.26	5.98	5.51	5.47	5.35	5.31	5.52	5.78	5.78	5.94	6.20	6.26	5.76
1914	6.47	6.55	6.26	6.27	6.09	6.14	6.33	6.47	6.67	6.06	7.35	7.32	6.49
1915	7.26	7.21	6.70	6.71	6.70	6.76	7.02	7.29	7.78	8.10	8.58	8.49	7.38
1916	8.36	8.16	8.15	8.22	8.02	8.41	8.72	9.59	10.51	11.46	12.03	12.51	9.59
1917	12.64	11.19	12.08	13.06	14.09	13.79	13.81	13.83	13.77	14.11	15.34	15.39	13.60
1918	14.98	14.20	14.20	13.73	13.20	12.54	12.44	12.71	13.17	14.03	14.61	14.34	13.65
1919	13.89	13.09	12.91	12.25	11.47	11.45	11.85	12.91	14.08	14.17	14.63	14.26	13.06
1920	12.82	11.79	10.84	10.31	9.65	9.37	8.46	8.44	7.76	7.90	7.55	7.78	9.41
Av. 1914–1920	10.92	10.31	10.16	10.08	9.89	9.78	9.80	10.18	10.53	10.83	11.44	11.44	10.44
1921	7.59	7.37	6.99	6.27	5.98	6.12	6.60	7.33	8.87	10.21	10.54	10.39	7.83
1922	9.87	9.55	9.39	9.43	10.06	10.30	10.49	10.69	10.83	11.01	10.69	11.00	10.30
1923	10.72	10.60	9.96	10.28	10.17	10.01	10.10	10.19	10.53	11.22	11.32	11.43	10.54
1924	11.21	10.50	10.15	10.18	10.35	10.55	10.96						

Divison of Crop and Livestock Estimates.

TABLE 550.—*Farm prices of sheep, per head, by ages, United States, Jan. 1, 1912–1925*

Jan. 1—	Under 1 year old	Ewes 1 year and over	Wethers 1 year and over	Rams	Jan. 1—	Under 1 year old	Ewes 1 year and over	Wethers 1 year and over	Rams
1912	$2.64	$3.45	$3.43	$8.26	1919	$5.82	$12.44	$11.02	$21.90
1913	3.11	3.98	3.93	8.80	1920	8.06	11.03	9.60	21.68
1914	3.22	4.09	4.06	8.49	1921	5.34	6.37	5.93	15.10
1915	3.62	4.59	4.48	9.01	1922	4.24	4.84	4.07	11.37
1916	4.13	5.35	5.02	10.32	1923	6.66	7.69	6.05	14.28
1917	5.63	7.48	6.78	13.62	1924	6.89	8.08	6.95	15.51

TABLE 551.—*Sheep: Farm price per 100 pounds, 15th of month, by States, 1924*

State	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Av.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	7.00	7.30	7.60	8.00	7.50	7.20	7.50	7.10	6.50	7.00	6.50	6.40	7.13
New Hampshire	.....	6.00	.....	6.50	6.00	6.50	6.00	5.50	6.00	5.80	.....	6.30	6.07
Vermont	5.00	5.30	5.50	5.30	5.00	4.80	4.50	4.40	4.20	4.00	4.00	4.50	4.71
Massachusetts	7.20	.....	7.00	.....	.....	.....	.....	6.00	.....	4.00	5.00	.....	5.84
Rhode Island	.....	.....	.....	.....	.....	.....	.....	7.00	7.50	7.60	7.50	.....	7.40
Connecticut	.....	9.70	.....	.....	.....	.....	.....	9.00	.....	.....	.....	.....	.....
New York	5.00	5.60	6.00	6.50	6.20	6.00	5.60	5.30	5.70	5.70	5.30	5.80	5.72
New Jersey	.....	.....	.....	.....	.....	.....	.....	6.00	6.00	.....	.....	.....	.....
Pennsylvania	6.10	6.60	6.90	6.50	6.50	6.00	5.60	5.80	5.90	6.10	6.00	6.30	6.19
Delaware	.....	7.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maryland	5.50	5.50	5.70	5.40	6.00	5.50	5.00	5.00	4.90	4.70	5.30	5.20	5.31
Virginia	6.00	5.80	5.30	6.00	6.20	6.00	5.70	5.20	5.30	5.70	5.30	5.60	5.68
West Virginia	5.40	5.80	5.90	6.20	6.50	6.80	6.50	5.60	5.50	5.50	5.80	5.50	5.92
North Carolina	6.60	6.70	6.50	6.70	7.00	6.50	6.00	6.10	6.20	6.50	6.70	6.00	6.46
South Carolina	8.50	8.00	7.40	.....	6.50	6.10	.....	.....	7.00	7.30	7.10	8.50	7.38
Georgia	5.90	6.10	6.50	6.70	6.70	7.00	7.00	6.00	6.50	6.00	4.90	.....	6.30
Florida	.....	.....	.....	5.00	6.00	5.50	.....	5.70	5.50	5.50	5.00	5.50	5.46
Ohio	5.60	5.90	6.50	7.20	6.40	6.20	6.00	5.60	5.30	5.10	5.10	5.50	5.87
Indiana	4.70	4.80	5.70	6.10	6.00	5.70	5.20	5.50	5.20	5.10	5.00	4.90	5.32
Illinois	6.10	6.10	6.60	7.00	6.50	6.00	5.70	5.50	5.50	5.80	5.70	6.00	6.04
Michigan	5.90	5.80	6.50	7.00	6.60	6.00	5.50	5.60	5.60	5.70	5.30	5.80	5.94
Wisconsin	5.10	5.40	6.20	6.50	6.70	6.30	5.80	5.20	5.00	4.90	4.90	5.40	5.62
Minnesota	5.80	6.40	6.50	6.80	7.00	6.50	6.20	5.30	5.60	5.80	5.90	6.70	6.21
Iowa	6.30	6.30	7.00	7.50	7.00	6.60	6.20	6.50	7.00	7.00	7.10	7.30	6.82
Missouri	5.40	6.00	6.50	6.80	6.60	5.90	5.70	5.50	5.40	5.80	5.20	5.30	5.84
North Dakota	6.20	6.30	7.00	7.50	7.30	7.50	7.00	6.00	6.00	6.10	6.40	6.80	6.68
South Dakota	6.80	7.20	7.40	8.00	8.00	7.50	7.70	7.30	7.00	6.80	7.40	7.10	7.35
Nebraska	6.50	7.00	8.00	8.50	8.50	8.60	9.00	8.70	8.30	7.70	7.70	7.30	7.98
Kansas	7.10	7.50	7.70	7.20	7.00	6.90	6.50	7.00	6.80	6.40	6.30	6.70	6.92
Kentucky	4.30	4.90	4.80	5.20	5.50	5.20	4.90	5.10	5.20	5.30	5.10	6.20	5.14
Tennessee	5.00	5.40	5.20	5.50	5.30	5.10	4.90	5.00	5.30	5.00	4.50	4.80	5.08
Alabama	7.00	6.50	6.50	7.00	6.50	6.20	5.90	5.60	5.70	6.00	5.50	.....	6.22
Mississippi	5.20	4.60	4.60	4.50	4.20	4.70	5.00	4.50	4.50	4.00	3.60	3.50	4.41
Louisiana	4.50	.....	.....	5.20	5.50	.....	4.50	5.00	5.00	.....	6.20	.....	5.13
Texas	5.70	5.60	6.50	6.70	7.00	6.50	6.00	6.00	5.80	6.10	6.60	6.30	6.23
Oklahoma	6.00	6.30	.....	.....	.....	.....	.....	5.00	.....	7.00	6.50	.....	6.16
Arkansas	4.60	4.30	4.70	5.00	4.70	4.30	5.00	4.00	3.80	4.00	4.40	5.00	4.48
Montana	7.50	7.30	7.50	8.00	8.00	7.80	7.00	7.10	6.90	7.20	7.20	9.00	7.54
Wyoming	7.90	8.20	8.00	8.50	8.50	8.30	7.50	6.90	7.30	6.90	7.50	9.00	7.88
Colorado	7.50	7.60	8.00	8.30	8.50	8.60	7.60	6.60	6.80	.....	6.80	8.00	7.66
New Mexico	7.00	7.40	7.90	7.00	7.60	7.60	7.50	.....	.....	.....	.....	.....	7.51
Arizona	8.00	.....	8.20	8.00	8.00	8.00	7.20	7.40	7.20	7.70	.....	.....	7.74
Utah	8.00	7.80	7.50	7.70	7.60	7.80	7.50	7.30	7.30	7.50	7.20	7.50	7.56
Nevada	8.00	7.80	8.20	8.20	8.00	8.00	7.00	6.80	.....	.....	.....	.....	7.75
Idaho	6.10	6.30	7.00	7.50	7.00	6.70	6.00	5.30	5.00	5.50	5.60	5.60	6.13
Washington	7.20	7.00	7.30	7.50	7.30	7.00	6.30	6.20	5.00	.....	5.10	7.60	6.59
Oregon	7.00	7.40	7.40	7.50	7.50	7.00	6.50	7.00	7.20	.....	7.00	6.70	7.11
California	7.90	8.00	8.60	8.00	7.50	7.00	6.50	6.60	6.90	6.80	7.20	6.90	7.32
United States	6.71	6.82	7.22	7.45	7.33	7.09	6.60	6.32	6.30	6.32	6.39	6.84	6.78

Division of Crop and Livestock Estimates.

TABLE 552.—*Lambs: Farm price per 100 pounds, 15th of month, by States, 1924*

State	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Av.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Maine	11.00	11.90	11.90	12.40	11.00	11.50	12.00	12.00	11.50	12.00	11.00	10.40	11.55
New Hampshire	11.50	11.00	.....	11.50	12.00	11.50	11.00	11.50	11.00	10.50	.....	11.00	11.25
Vermont	9.80	10.30	10.40	11.00	11.50	11.00	10.70	10.00	9.80	10.00	9.60	10.80	10.41
Massachusetts	10.90	12.00	10.20	.....	.....	.....	.....	.....	.....	11.00	10.00	.....	10.82
Rhode Island	12.00	.....	.....	.....	.....	.....	.....	.....	12.00	12.00	12.00	12.00	12.00
Connecticut	.....	12.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	11.30	11.80	12.20	13.00	12.50	12.70	12.40	11.40	11.40	11.20	11.10	11.90	11.91
New Jersey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pennsylvania	10.50	11.10	11.50	12.00	11.50	12.00	11.00	10.90	11.00	10.80	10.40	11.00	11.14
Delaware	.....	12.80	.....	.....	.....	.....	.....	10.90	.....	.....	.....	.....	.....
Maryland	11.00	12.00	12.50	13.00	13.50	14.00	13.00	12.20	12.00	11.50	12.00	12.10	12.40
Virginia	10.20	10.70	11.50	12.00	12.30	12.00	11.50	10.70	10.00	10.50	10.60	11.00	11.08
West Virginia	9.90	9.90	10.40	11.00	11.50	12.00	11.50	9.80	10.00	10.10	10.20	10.40	10.56
North Carolina	8.20	8.00	8.00	8.50	8.60	9.00	9.50	9.50	9.80	10.20	10.00	9.20	9.04
South Carolina	9.00	9.80	9.40	.....	.....	10.00	10.20	9.00	9.30	9.50	9.50	9.80	9.55
Georgia	7.70	7.70	8.50	9.50	9.50	9.00	9.00	8.00	9.00	8.50	.....	.....	8.64
Florida	.....	.....	.....	6.00	7.00	7.00	7.00	8.00	.....	7.00	.....	6.70	6.96
Ohio	10.70	11.30	11.80	12.20	12.00	11.50	11.40	11.10	10.90	11.00	11.00	11.90	11.40
Indiana	10.30	10.50	11.50	12.00	12.00	12.00	11.00	10.50	10.20	10.40	10.50	11.00	10.99
Illinois	10.50	10.60	11.00	12.00	12.00	12.00	11.00	10.10	10.50	10.70	10.70	11.50	11.05
Michigan	10.80	11.40	12.20	12.60	12.30	11.90	11.20	10.80	10.80	11.20	11.20	11.50	11.49
Wisconsin	10.20	10.20	11.00	11.50	11.80	11.40	11.00	10.00	10.40	10.40	10.80	11.30	10.83
Minnesota	10.40	10.90	10.90	11.10	11.20	10.50	10.20	10.70	10.40	10.20	10.30	11.50	10.69
Iowa	10.50	11.00	11.70	12.00	11.80	11.90	11.00	11.00	11.30	11.00	11.30	12.00	11.38
Missouri	9.70	10.20	11.00	11.50	11.70	11.50	10.50	10.20	10.00	10.70	10.20	11.10	10.70
North Dakota	9.60	9.60	10.50	11.80	11.40	11.30	10.90	9.40	9.60	9.20	9.80	11.00	10.34
South Dakota	9.50	10.40	11.20	12.00	11.60	11.20	11.30	10.30	10.50	10.70	11.30	11.50	10.96
Nebraska	10.20	11.00	12.00	12.50	13.00	13.10	13.10	11.60	11.50	11.50	12.00	12.00	11.96
Kansas	9.20	10.50	11.00	11.10	11.50	12.00	11.00	11.20	10.90	10.60	11.50	11.70	11.02
Kentucky	9.50	9.70	10.00	10.50	11.00	11.20	10.50	10.30	10.00	9.30	10.50	10.10	10.22
Tennessee	8.50	8.60	8.60	8.90	9.00	9.50	9.20	8.20	8.60	8.20	8.50	8.30	8.68
Alabama	8.50	8.00	8.50	8.50	7.00	7.50	7.00	8.30	8.00	8.30	8.50	.....	8.01
Mississippi	7.00	6.20	6.20	6.00	6.50	6.70	6.50	5.80	6.20	5.60	5.30	5.00	6.08
Louisiana	6.00	6.00	.....	6.70	6.80	6.80	7.00	5.50	5.80	.....	9.50	.....	6.68
Texas	8.00	8.00	9.50	9.70	10.50	10.00	9.50	8.00	8.50	9.00	9.50	9.70	9.16
Oklahoma	8.50	8.90	9.00	9.00	9.00	9.00	8.50	8.00	.....	10.00	.....	.....	8.88
Arkansas	7.00	6.90	6.20	6.10	6.50	6.90	7.50	6.50	6.60	7.20	6.80	6.50	6.72
Montana	10.10	10.00	10.50	10.10	10.50	10.40	9.00	10.00	9.80	10.50	10.30	11.00	10.18
Wyoming	10.50	11.00	12.00	11.80	11.80	11.50	10.50	10.40	11.00	10.50	11.00	11.40	11.12
Colorado	11.40	11.60	12.00	12.50	13.00	12.70	11.50	11.00	11.20	11.40	11.80	12.20	11.86
New Mexico	10.00	10.20	11.00	10.50	11.00	10.70	10.00	11.00	.....	.....	.....	.....	10.55
Arizona	11.00	11.00	11.80	12.00	11.50	11.00	11.00	11.00	11.30	11.70	10.50	.....	11.25
Utah	10.20	10.60	10.90	10.80	11.00	11.00	10.50	10.40	10.00	10.20	10.60	10.20	10.53
Nevada	10.50	11.00	11.80	11.80	11.80	12.00	10.50	9.60	10.00	10.50	11.00	10.60	10.92
Idaho	9.60	9.40	10.60	10.60	10.20	10.10	9.50	9.40	9.30	9.00	9.00	9.60	9.69
Washington	10.20	10.00	10.80	11.00	11.30	10.90	10.00	9.00	8.90	.....	9.00	9.70	10.07
Oregon	9.90	10.50	11.00	10.60	10.70	10.30	9.70	9.50	9.40	9.00	8.90	9.30	9.90
California	11.00	11.90	12.20	11.60	11.00	10.50	10.00	9.30	9.50	10.00	10.80	11.40	10.77
United States	10.19	10.53	11.22	11.32	11.43	11.21	10.50	10.15	10.18	10.35	10.55	10.96	10.72

Division of Crop and Livestock Estimates.

TABLE 553.—*Sheep and lambs, native and western: Average price per 100 pounds Chicago, by months, 1901–1924*

SHEEP

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
1905	5.15	5.55	5.50	5.08	4.75	4.72	5.10	4.95	4.72	5.10	5.10	5.25	5.08
1906	5.40	5.12	5.28	5.35	5.55	5.45	5.25	4.98	5.15	4.90	5.05	5.08	5.21
1907	5.15	5.20	5.50	5.65	5.78	5.90	5.32	5.32	5.18	4.82	4.38	4.18	5.20
1908	4.82	5.00	5.82	5.68	5.25	4.70	4.10	4.00	3.72	4.08	4.15	4.32	4.64
1909	4.90	4.92	5.28	5.60	6.05	5.28	4.68	4.50	4.65	4.35	4.52	4.92	4.97
1910	5.55	6.50	7.60	7.60	6.55	5.10	4.20	4.20	4.25	3.95	3.70	3.90	5.26
1911	4.10	4.15	4.70	4.20	4.45	3.80	3.95	3.50	3.80	3.65	3.45	3.55	3.94
1912	4.30	4.15	5.30	5.90	6.15	4.50	4.25	4.05	4.15	4.00	4.05	4.45	4.60
1913	5.35	5.90	6.40	6.45	5.85	5.05	4.50	4.35	4.30	4.55	4.60	4.95	5.19
Av. 1909–1913	4.84	5.12	5.86	5.95	5.81	4.75	4.32	4.12	4.23	4.10	4.06	4.35	4.79
1914	5.50	5.70	5.95	6.25	5.65	5.10	5.40	5.55	5.30	5.30	5.65	5.40	5.56
1915	5.80	6.45	7.45	7.70	7.35	5.50	6.05	6.25	5.75	6.00	5.85	6.20	6.36
1916	7.20	7.75	8.25	8.15	8.20	7.35	7.25	7.35	7.80	7.50	8.00	9.00	7.82
1917	10.00	11.25	11.70	12.10	13.00	10.00	9.10	9.75	11.15	11.65	11.25	11.50	11.04
1918	12.20	12.35	13.60	15.65	14.75	13.40	12.65	13.15	11.80	10.45	9.85	9.40	12.44
1919	10.35	11.35	14.05	14.50	12.25	9.30	9.70	9.75	8.30	8.15	8.30	9.60	10.47
1920	11.80	13.35	13.40	14.25	12.25	8.50	8.90	7.70	6.85	6.45	5.75	4.70	9.49
Av. 1914–1920	8.98	9.74	10.63	11.23	10.49	8.45	8.44	8.50	8.14	7.93	7.81	7.97	9.03
1921	5.07	4.90	6.14	6.58	6.33	4.46	5.08	4.53	4.49	4.71	4.40	4.92	5.13
1922	7.26	8.28	9.17	9.33	7.35	5.59	6.12	5.63	6.05	6.25	7.48	7.28	7.15
1923	7.72	8.08	8.64	8.90	6.74	5.00	5.16	7.09	7.25	6.35	6.89	7.37	7.10
1924	8.16	9.12	10.50	10.21	8.11	5.82	5.66	6.18	5.46	6.60	6.62	8.45	7.57

LAMBS

1901	5.30	5.10	5.25	5.10	4.85	4.60	5.10	4.80	4.35	4.30	4.10	4.75	4.80
1902	5.55	6.05	6.15	6.30	6.20	5.80	5.55	5.35	4.85	4.70	4.55	4.80	5.49
1903	5.50	6.10	6.60	6.20	6.20	5.50	5.30	4.90	4.85	4.80	4.70	4.85	5.46
1904	5.55	5.40	5.30	5.60	5.70	5.60	6.15	5.45	5.15	5.15	5.50	6.25	5.57
1905	7.15	7.40	7.05	6.80	6.25	5.90	6.30	7.05	7.00	7.05	6.90	7.25	6.84
1906	7.25	6.75	6.40	6.20	6.65	6.75	6.90	7.00	7.15	6.95	6.90	7.10	6.83
1907	7.30	7.30	7.55	8.05	7.80	7.20	7.05	6.90	6.90	6.80	6.05	5.70	7.05
1908	6.80	6.70	7.20	7.25	6.65	5.75	6.20	6.05	5.35	5.50	5.85	6.70	6.33
1909	7.35	7.50	7.65	7.85	8.25	7.60	7.70	7.35	6.80	6.50	7.10	7.50	7.43
1910	8.30	8.65	9.40	9.10	8.40	7.60	7.10	6.70	6.80	6.65	6.25	6.10	7.59
1911	6.20	6.05	6.10	5.50	5.85	6.10	6.30	6.35	5.70	5.75	5.54	5.75	5.93
1912	6.50	6.15	7.30	7.95	8.30	6.90	7.25	7.10	7.00	6.75	7.15	7.75	7.18
1913	8.55	8.50	8.60	8.40	7.40	6.85	7.55	7.40	7.15	7.05	7.25	7.60	7.69
Av. 1909–1913	7.38	7.37	7.81	7.76	7.64	7.01	7.18	6.98	6.69	6.54	6.66	6.94	7.16
1914	7.90	7.60	7.65	7.60	8.10	7.95	8.45	8.15	7.80	7.60	8.75	8.30	7.99
1915	8.40	8.75	9.55	9.65	10.10	9.20	8.75	8.90	8.75	8.75	8.80	9.00	9.05
1916	10.30	10.90	11.10	10.45	10.75	9.55	10.55	10.75	10.60	10.15	11.40	12.70	10.77
1917	13.85	14.30	14.25	14.40	16.90	15.25	15.65	15.50	17.50	17.40	16.75	16.45	15.68
1918	17.20	16.60	17.55	19.20	18.00	16.85	18.50	17.50	17.25	15.35	15.10	14.60	16.98
1919	16.25	17.40	19.05	18.15	16.25	14.05	17.10	16.75	14.85	15.00	14.50	16.40	16.31
1920	19.50	19.95	18.80	18.80	17.40	14.25	15.55	13.20	13.30	12.35	11.53	10.96	15.47
Av. 1914–1920	13.34	13.64	13.99	14.04	13.93	12.44	13.51	12.96	12.86	12.37	12.40	12.63	13.18
1921	10.72	9.07	9.91	9.69	11.07	10.67	10.09	9.46	8.86	8.66	9.25	10.86	9.86
1922	12.67	14.49	15.39	14.10	12.95	12.42	13.04	12.51	13.53	13.94	14.17	14.93	13.66
1923	14.69	14.85	14.56	14.42	14.12	14.81	14.22	12.89	13.52	12.93	12.75	12.96	13.89
1924	13.53	14.95	16.06	16.22	15.23	14.12	13.79	13.57	13.38	13.52	14.08	16.47	14.57

Division of Statistical and Historical Research. Figures prior to 1921 for sheep, and prior to November, 1920, for lambs, compiled from Chicago Drovers Journal Yearbook; subsequent figures from data of the reporting service of the Livestock, Meats and Wool Division.

[1] Simple average of monthly average prices.

TABLE 554.—*Sheep: Average price per 100 pounds at six markets, by months, 1924*

CHICAGO

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.95	*Dollars* 14.37	*Dollars* 15.36	*Dollars* 15.63	*Dollars* 14.68	*Dollars* 13.62	*Dollars* 13.10
All weights, cull and common	10.70	11.73	12.65	12.91	11.96	10.48	10.00
Spring lambs—							
Medium-choice						16.02	
Cull and common						12.98	
Yearling wethers, medium-prime	10.61	11.97	13.10	13.44	12.32	11.18	10.58
Wethers (2 years old and over) medium-prime	8.07	9.16	10.23	10.60	8.72	7.79	7.28
Ewes, common-choice	6.73	7.70	9.03	9.09	6.70	4.79	4.91
Ewes, canner and cull	3.39	4.08	5.04	5.02	3.27	2.21	2.13
Feeding sheep and lambs:							
Feeding lambs, medium-choice	12.18	13.22	14.67			11.39	11.32

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter sheep and lambs:						
Lambs—						
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.90	*Dollars* 12.81	*Dollars* 13.15	*Dollars* 13.58	*Dollars* 15.67	*Dollars* 13.98
All weights, cull and common	10.04	10.01	10.76	11.31	12.87	11.28
Spring lambs—						
Medium-choice						
Cull and common						
Yearling wethers, medium-prime	9.95	9.43	9.73	10.50	12.75	11.30
Wethers (2 years old and over) medium-prime	7.24	6.38	6.93	7.70	8.76	8.24
Ewes, common-choice	5.65	5.00	5.56	6.38	7.39	6.58
Ewes, canner and cull	2.37	2.19	2.50	2.97	3.86	3.25
Feeding sheep and lambs:						
Feeding lambs, medium-choice	12.17	12.08	12.31	13.12	14.54	12.70
Feeding ewes, medium-choice			5.25	5.30		

EAST ST. LOUIS

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.64	*Dollars* 14.04	*Dollars* 15.09	*Dollars* 15.30	*Dollars* 14.14	*Dollars* 12.92	*Dollars* 12.12
All weights, cull and common	10.05	11.50	12.38	12.25	11.08	9.50	8.75
Spring lambs—							
Medium-choice					15.98	16.02	
Cull and common					12.85	11.30	
Yearling wethers, medium-prime	10.17	11.66	12.60	12.86	11.72	10.51	9.84
Wethers (2 years old and over) medium-prime	7.53	8.69	10.08	10.14	7.98	6.82	
Ewes, common-choice	6.37	7.37	8.71	8.74	6.26	4.38	4.10
Ewes, canner and cull	3.20	3.86	4.61	4.60	2.91	2.15	2.00

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter sheep and lambs:						
Lambs—						
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.17	*Dollars* 12.34	*Dollars* 12.64	*Dollars* 15.06	*Dollars* 15.06	*Dollars* 13.46
All weight, cull and common	8.97	9.13	9.85	10.74	12.45	10.55
Spring lambs—						
Medium-choice						
Cull and common						
Yearling wethers, medium-prime	9.53	8.81	9.00	9.76	11.61	10.67
Wethers (2 years old and over) medium-prime				6.98	8.25	8.31
Ewes, common-choice	4.44	4.25	4.47	5.40	6.81	5.94
Ewes, canner and cull	2.00	2.00	2.08	2.51	3.52	2.95

TABLE 554—*Sheep: Average price per 100 pounds at six markets, by months, 1924*—Continued

FORT WORTH

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars*	*Dollars*	*Dollars* 14.32	*Dollars* 14.26	*Dollars*	*Dollars*	*Dollars*
All weights, cull and common			11.25	11.08			
Yearling wethers, medium-prime	8.43					8.52	8.11
Wethers (2 years old and over) medium-prime	6.77	7.68	8.88	8.93	6.76	5.67	5.90
Ewes, common-choice	5.62	6.22	7.59	7.87	5.48	4.39	4.45
Ewes, canner and cull	2.25	3.06	4.12	4.36	3.00	2.14	2.00

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter sheep and lambs:						
Lambs—						
Light and handy weight (84 pounds down) medium-prime	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars* 13.43	*Dollars*
All weights, cull and common					11.05	
Yearling wethers, medium-prime	8.51	8.50				
Wethers (2 years old and over) medium-prime	6.54	5.93	5.88	6.48	7.79	6.93
Ewes, common-choice	5.06	4.70	4.97	5.32	6.74	5.70
Ewes, canner and cull	2.00	2.03	2.12	2.31	3.12	2.71

KANSAS CITY

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.27	*Dollars* 13.58	*Dollars* 14.96	*Dollars* 15.19	*Dollars* 13.99	*Dollars* 12.96	*Dollars* 12.55
All weights, cull and common	9.80	10.90	12.10	12.37	11.29	9.86	8.79
Spring lambs—							
Medium-choice					15.55	14.64	
Cull and common					12.24	11.12	
Yearling wethers, medium-prime	10.12	11.23	12.26	12.52	11.40	9.76	9.82
Wethers (2 years' old and over) medium-prime	7.61	8.72	9.72	9.93	7.52	6.54	6.82
Ewes, common-choice	6.47	7.44	8.48	8.66	6.16	4.66	4.74
Ewes, canner and cull	3.17	3.86	4.50	4.59	2.89	2.19	2.04
Feeding sheep and lambs:							
Feeding lambs, medium-choice							

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter sheep and lambs:						
Lambs—						
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.44	*Dollars* 12.32	*Dollars* 12.63	*Dollars* 13.29	*Dollars* 14.87	*Dollars* 13.42
All weights, cull and common	9.10	9.39	9.74	10.72	12.06	10.51
Spring lambs—						
Medium-choice						
Cull and common						
Yearling wethers, medium-prime	9.74	9.18	9.03	9.96	11.60	10.55
Wethers (2 years' old and over) medium-prime	6.86	6.30	6.31	7.16	8.25	7.64
Ewes, common-choice	5.05	4.54	4.80	5.99	7.13	6.18
Ewes, canner and cull	2.21	2.00	2.15	2.70	3.64	3.00
Feeding sheep and lambs:						
Feeding lambs, medium-choice		11.37	11.42	12.31	13.92	

TABLE 554.—*Sheep: Average price per 100 pounds at six markets, by months, 1924*—Continued

OMAHA

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.25	*Dollars* 13.54	*Dollars* 14.82	*Dollars* 15.15	*Dollars* 14.08	*Dollars* 12.91	*Dollars* 12.63
All weights, cull and common	9.89	10.89	12.04	12.37	11.23	10.02	9.60
Spring lambs—							
Medium-choice					15.57	15.25	
Cull and common					12.66	12.06	
Yearling wethers, medium-prime	10.03	11.10	12.41	12.80	11.48	10.61	10.03
Wethers (2 years' old and over) medium-prime	7.52	8.49	9.68	9.95	7.89	7.17	6.90
Ewes, common-choice	6.29	7.34	8.64	8.67	6.07	4.50	4.62
Ewes, canner and cull	3.08	3.77	4.62	4.67	2.84	2.02	2.15
Feeding sheep and lambs:							
Feeding lambs, medium-choice	12.07	13.10	14.40			11.31	10.96

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter sheep and lambs:						
Lambs—						
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.58	*Dollars* 12.47	*Dollars* 12.80	*Dollars* 13.16	*Dollars* 15.00	*Dollars* 13.45
All weights, cull and common	9.94	9.74	10.28	10.90	12.59	10.79
Spring lambs—						
Medium-choice						
Cull and common						
Yearling wethers, medium-prime	9.61	8.72	8.78	9.64	11.84	10.59
Wethers (2 years' old and over) medium-prime	6.52	6.05	6.27	7.06	8.48	7.66
Ewes, common-choice	5.14	4.74	5.07	5.93	7.49	6.21
Ewes, canner and cull	2.44	2.32	2.40	2.65	3.97	3.08
Feeding sheep and lambs:						
Feeding lambs, medium-choice	11.73	11.74	12.13	12.44	13.99	12.39
Feeding ewes, medium-choice			4.67	5.19		

SOUTH ST. PAUL

Kind and grade	Jan.	Feb.	Mar.	Apr.	May	June	July
Slaughter sheep and lambs:							
Lambs—							
Light and handy weight (84 pounds down) medium-prime	*Dollars* 12.22	*Dollars* 13.38	*Dollars* 14.46	*Dollars* 14.78	*Dollars* 13.74	*Dollars* 12.74	*Dollars* 12.20
All weights, cull and common	10.03	10.85	11.67	12.01	11.06	9.88	9.17
Spring lambs—							
Medium-choice						14.92	
Cull and common						12.00	
Yearling wethers, medium-prime	9.87	10.98	12.15	12.62	11.41	10.32	9.63
Wethers (2 years' old and over) medium-prime	7.40	8.12	9.24	9.77	7.80	6.96	6.53
Ewes, common-choice	6.15	6.86	8.12	8.30	6.06	4.17	4.40
Ewes, canner and cull	3.24	3.51	4.44	4.48	2.74	1.93	1.97
Feeding sheep and lambs:							
Feeding lambs, medium-choice							

Kind and grade	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Slaughter sheep and lambs:						
Lambs—						
Light and handy weight (84 pounds down) medium-prime	*Dollars* 11.96	*Dollars* 12.06	*Dollars* 12.29	*Dollars* 12.94	*Dollars* 14.85	*Dollars* 13.14
All weights, cull and common	9.24	9.51	9.85	10.41	11.61	10.44
Spring lambs—						
Medium-choice						
Cull and common						
Yearling wethers, medium-prime	9.19	8.73	8.88	9.29	11.24	10.36
Wethers (2 years' old and over) medium-prime	6.42	5.63	6.12	6.65	7.67	7.36
Ewes, common-choice	4.84	4.35	4.82	5.44	6.39	5.82
Ewes, canner and cull	2.11	2.05	2.35	2.78	3.22	2.90
Feeding sheep and lambs:						
Feeding lambs, medium-choice		11.42	11.56	12.13	13.19	

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 555.—*Sheep and lambs: Trend of average farm prices and average market prices, per 100 pounds, at Chicago, 1910–1924*

Year	Farm price		Average market price at Chicago		Price relatives (1913=100)			
					Farm price		Market price	
	Sheep, weighted average	Lambs, simple average	Sheep	Lambs	Sheep	Lambs	Sheep	Lambs
	Dollars	*Dollars*	*Dollars*	*Dollars*				
1910	5.08	6.40	5.26	7.59	113.9	105.8	101.3	98.7
1911	4.07	5.30	3.94	5.93	91.3	87.6	75.9	77.1
1912	4.20	5.60	4.60	7.18	94.2	92.6	88.6	93.4
1913	4.46	6.05	5.19	7.69	100.0	100.0	100.0	100.0
1914	4.79	6.31	5.56	7.99	107.4	104.3	107.1	103.9
1915	5.23	6.85	6.36	9.05	117.3	113.2	122.5	117.7
1916	6.27	8.19	7.82	10.77	140.6	135.4	150.7	140.1
1917	9.54	12.23	11.04	15.68	213.9	202.1	212.7	203.9
1918	10.82	13.98	12.44	16.98	242.6	231.1	239.7	220.8
1919	9.35	12.98	10.47	16.31	209.6	214.5	201.7	212.1
1920	8.11	11.94	9.49	15.47	181.8	197.4	182.9	201.2
1921	4.55	7.20	5.13	9.86	102.0	119.0	98.8	128.2
1922	5.96	9.70	7.15	13.68	133.6	160.3	137.8	177.9
1923	6.65	10.50	7.10	13.89	149.1	173.6	136.8	180.6
1924	6.80	10.72	7.57	14.57	152.5	177.2	145.9	189.5

Division of Statistical and Historical Research. Farm prices from Division of Crop and Livestock Estimates; market prices from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 556.—*Sheep and lambs: Slaughter in the United States, by States, 1909, 1914, 1919, and 1921* [1]

State	1909				1914 [2]	1919 [3]			1921 [3]
	In wholesale slaughtering and meat-packing establishments	Retail slaughter	On farms and ranges	Total slaughter	In wholesale slaughtering and meat-packing establishments	In wholesale slaughtering and meat-packing establishments	On farms and ranges	Total wholesale and farm slaughter	In wholesale slaughtering and meat-packing establishments
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
California	1,071,998	228,012	35,915	1,335,925	1,427,250	1,198,079	20,283	1,218,362	1,536,027
Colorado	55,606	61,001	19,945	136,552	81,141	212,702	17,678	230,380	159,848
Illinois	3,892,142	23,509	4,284	3,919,935	4,882,940	4,358,564	4,376	4,362,940	3,681,302
Iowa	49,577	18,857	6,180	74,614	307,419	264,432	7,404	271,836	200,690
Kansas	1,136,027	5,504	2,399	1,143,930	1,559,114	1,200,980	4,692	1,205,672	1,309,424
Massachusetts	342,491	5,549	2,412	350,452	370,835	217,146	1,601	218,747	396,669
Michigan	88,285	76,129	17,818	182,232	125,537	193,345	10,232	203,577	162,880
Minnesota	133,244	58,609	16,231	208,084	198,665	208,946	12,332	221,278	341,301
Missouri	546,649	11,194	7,461	565,304	776,751	742,156	8,207	750,363	823,609
Nebraska	1,127,962	1,763	1,753	1,131,478	1,797,072	1,575,954	3,160	1,579,114	1,598,563
New Jersey	423,724	78,948	1,229	503,901	426,063	425,059	975	426,034	586,080
New York	1,918,721	278,695	51,277	2,248,693	1,999,134	1,489,649	30,845	1,520,494	2,123,999
Ohio	229,985	134,824	16,754	381,563	300,337	258,291	10,778	269,069	307,385
Pennsylvania	445,471	127,636	28,218	601,325	436,881	284,397	20,331	304,728	524,721
Texas	77,805	19,598	9,396	106,799	284,050	151,285	9,159	160,444	148,604
Washington	290,383	27,700	7,380	325,463	362,854	237,440	8,656	246,096	269,116
All other States	425,431	782,144	300,874	1,508,449	607,700	478,875	263,899	742,774	597,552
Total	12,255,501	1,939,672	529,526	14,724,699	15,943,743	13,497,300	434,608	13,931,908	14,767,770

Division of Statistical and Historical Research. Compiled from reports of the Bureau of the Census.

[1] In addition 795,519 sheep, lambs, goats, and kids were slaughtered for others in 1914 and 269,128 in 1919, No corresponding data for 1909 or 1921.
[2] No data collected by Bureau of the Census for 1914 or 1921 on farm or retail slaughter.
[3] No data obtainable for retail slaughter in 1919.

TABLE 557.—*Sheep and lambs: Monthly slaughter under Federal inspection, 1907–1924*

Year	January	February	March	April	May	June	July
1907	1,016,701	837,329	841,526	861,005	768,571	735,065	864,940
1908	871,642	724,857	677,048	663,624	731,785	841,716	891,112
1909	906,338	805,561	903,369	839,010	712,103	842,528	964,114
1910	903,242	770,796	726,675	692,897	795,699	926,900	967,378
1911	1,129,800	1,018,696	1,059,388	974,072	1,085,306	1,146,429	1,149,617
1912	1,383,239	1,151,431	1,105,620	970,574	962,679	1,028,426	1,181,246
1913	1,192,485	960,882	883,197	1,048,656	1,127,345	1,134,615	1,273,496
1914	1,296,625	1,112,500	1,143,188	1,149,928	1,084,577	1,113,437	1,171,105
1915	1,196,268	945,912	986,203	829,906	739,051	882,662	983,684
1916	976,417	903,755	861,470	768,683	854,014	989,824	930,169
1917	956,416	818,640	861,331	777,346	632,451	710,031	688,205
1918	779,934	655,015	735,595	613,814	659,063	737,298	869,403
1919	1,003,880	753,940	737,836	807,766	894,324	931,466	1,160,470
1920	954,607	828,426	787,867	713,796	670,674	817,553	1,048,428
1921	1,068,346	958,019	1,075,213	1,040,628	984,903	1,116,069	1,059,902
1922	954,329	775,841	837,216	739,117	872,069	1,028,136	964,109
1923	1,021,211	836,473	977,426	959,697	972,291	914,372	961,791
1924	1,083,095	911,988	868,398	859,774	959,300	975,366	1,050,734

Year	August	September	October	November	December	Total
1907	900,462	891,953	972,656	793,155	768,707	10,252,070
1908	932,367	1,064,376	1,047,568	928,266	930,305	10,304,666
1909	1,018,698	1,153,327	1,169,232	1,028,673	999,684	11,342,637
1910	1,095,036	1,154,289	1,206,237	1,124,698	1,044,173	11,408,020
1911	1,268,405	1,256,948	1,428,228	1,303,770	1,199,787	14,020,446
1912	1,389,635	1,439,630	1,722,955	1,424,063	1,219,756	14,979,254
1913	1,243,440	1,486,305	1,513,922	1,257,546	1,283,870	14,405,759
1914	1,169,430	1,379,097	1,330,529	1,111,857	1,167,069	14,229,342
1915	1,139,236	1,219,649	1,116,002	1,132,499	1,040,693	12,211,765
1916	1,172,838	1,158,116	1,172,118	1,120,852	1,033,110	11,941,366
1917	765,939	740,122	821,933	763,781	808,799	9,344,994
1918	936,683	1,028,645	1,194,208	1,139,292	970,927	10,319,877
1919	1,233,883	1,291,979	1,413,805	1,227,190	1,234,577	12,691,116
1920	1,041,580	1,150,776	1,067,821	968,235	932,417	10,982,180
1921	1,236,992	1,249,032	1,285,430	1,040,390	889,980	13,004,904
1922	1,023,787	1,013,281	981,232	882,213	857,611	10,928,941
1923	956,580	989,560	1,046,239	915,229	977,681	11,528,550
1924	1,063,108	1,149,675	1,147,514	949,963	971,916	11,990,831

Bureau of Animal Industry.

TABLE 558.—*Mutton and lamb, frozen: Cold-storage holdings, 1915–1924*

[Thousand pounds—i. e., 000 omitted]

Year beginning November	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1
1915			4,976	5,286	5,812	5,084	3,858	2,525	1,939	2,098	2,135	2,579
1916	3,465	5,000	4,886	5,895	4,949	4,872	4,369	3,508	4,380	3,912	2,716	2,768
1917	4,194	5,406	7,403	7,315	7,855	5,599	3,348	3,860	2,429	3,150	4,046	5,275
1918	8,645	9,035	12,760	11,360	8,013	6,505	7,623	7,718	7,279	7,263	7,817	8,318
1919	7,894	9,409	10,290	7,787	5,781	3,517	2,579	5,735	4,311	2,299	11,021	25,325
1920	48,997	56,702	68,032	78,082	59,304	38,520	25,129	15,877	8,714	6,751	5,903	5,993
1921	6,840	7,520	6,444	3,914	2,863	2,878	2,071	2,310	3,720	3,308	3,376	3,473
1922	3,458	3,633	4,523	5,980	5,758	6,635	5,774	4,445	3,556	2,762	1,785	1,719
1923	1,997	2,014	2,493	2,306	2,173	1,719	2,093	2,273	2,917	2,257	2,230	2,525
1924	3,166	3,326										

Division of Statistical and Historical Research. From reports of the Cold Storage Report Section.

TABLE 559.—*Sheep, lamb, and mutton: Statement of the livestock and meat situation by months, 1924*

Item	Unit	Jan.	Feb.	Mar.	Apr.	May	June	July
Inspected slaughter	Thousands	1,083	912	868	860	959	975	1,051
Carcasses condemned	do	1	1	1	1	1	1	1
Average live weight	Pounds	84	85	86	83	80	74	74
Average dressed weight	do	39	40	40	39	39	36	36
Total dressed weight (carcass, not including condemned).	1,000 pounds	42,502	36,158	34,642	33,848	37,187	35,097	37,840
Storage, first of month, fresh lamb and mutton.	do	2,493	2,306	2,173	1,719	2,093	2,273	2,917
Exports, fresh lamb and mutton [3]	do	97	114	72	86	109	205	268
Imports, fresh lamb and mutton	do	55	37	215	803	342	308	42
Receipts of sheep [4]	Thousands	1,697	1,412	1,367	1,348	1,344	1,550	1,672
Stocker and feeder shipments [4]	do	149	106	83	105	118	152	226
Prices per 100 pounds:								
Average cost for slaughter	Dollars	11.56	13.59	14.78	14.09	13.28	12.49	11.94
At Chicago—								
Lambs, 84 pounds down, medium-prime.	do	12.95	14.37	15.36	15.63	14.68	13.62	13.10
Sheep, medium-choice	do	7.40	8.43	9.63	9.84	7.71	6.29	6.10
At eastern markets—								
Lamb carcasses, good grade.	do	22.23	23.65	26.69	28.05	28.40	27.60	25.34
Mutton, good grade	do	15.54	17.62	19.98	20.03	17.09	14.45	14.92
Sheep on farms, Jan. 1	Thousands	38,361						

Item	Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Inspected slaughter	Thousands	1,603	1,150	1,148	950	972	11,991
Carcasses condemned	do	1	2	1	1	1	13
Average live weight	Pounds	76	77	80	82	83	[1] 80
Average dressed weight	do	37	37	38	39	39	[1] 38
Total dressed weight (carcass, not including condemned).	1,000 pounds	38,788	42,541	43,566	36,606	37,882	456,357
Storage, first of month, fresh lamb and mutton.	do	2,257	2,230	2,525	3,166	3,326	[2] 2,456
Exports, fresh lamb and mutton [3]	do	222	105	103	58	68	1,507
Imports, fresh lamb and mutton	do	79	64	72	47	102	2,166
Receipts of sheep [4]	Thousands	2,005	3,207	3,295	1,879	1,605	22,201
Stocker and feeder shipments [4]	do	444	973	1,441	676	206	4,679
Prices per 100 pounds:							
Average cost for slaughter	Dollars	11.76	11.76	12.09	12.49	14.34	[1] 12.85
At Chicago—							
Lambs, 84 pounds down, medium-prime.	do	12.90	12.81	13.15	13.58	15.67	[1] 13.98
Sheep, medium-choice	do	644	5.69	6.24	7.04	8.08	[1] 7.41
At eastern markets—							
Lamb carcasses, good grade	do	24.69	22.76	21.17	21.74	24.69	[1] 24.75
Mutton, good grade	do	15.53	14.23	13.43	14.06	14.55	[1] 15.95

Division of Statistical and Historical Research. Inspected slaughter from reports of Bureau of Animal Industry. Weights and storage holdings from reports of the Cold Storage Report Section. Receipts, shipments, and prices compiled from data of the reporting service of the Livestock, Meats, and Wool Division, and number on farms from Division of Crop and Livestock Estimates. Exports and imports from Bureau of Foreign and Domestic Commerce.

[1] Weighted average.
[2] Simple average, not total
[3] Including reexports.
[4] At public stockyards.

TABLE 560.—*Mutton and lamb: Exports from the United States, 1910–1925*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1910	127	146	142	207	147	166	128	124	296	103	232	171	1,989
1911	137	139	155	154	162	196	182	234	319	225	131	126	2,160
1912	157	147	282	277	242	252	328	628	380	267	324	312	3,596
1913	586	348	503	431	405	564	470	487	469	294	310	399	5,266
1914	286	379	458	325	378	534	366	409	298	491	409	352	4,685
1915	324	375	421	166	144	92	330	697	328	260	457	283	3,877
1916	378	234	385	305	299	275	319	497	948	905	638	370	5,553
1917	237	248	310	236	288	262	394	298	195	277	234	217	3,196
1918	69	329	141	233	84	391	114	123	168	165	116	165	2,098
1919	192	117	100	115	58	198	236	283	160	198	195	322	2,174
1920	239	302	229	309	220	315	286	318	539	217	862	122	3,958
1921	242	175	145	135	109	425	563	372	431	1,960	996	1,702	7,255
1922	395	411	264	100	176	146	195	112	81	89	303	230	2,502
1923	203	169	100	52	76	55	225	246	96	63	167	317	1,769
1924	324	245	140	97	72	98	97	114	72	80	99	197	1,632
1925	255	211	102	99	53	65	----	----	----	----	----	----	----

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, Bureau of Foreign and Domestic Commerce.

TABLE 561.—*Mutton and lamb: International trade, calendar year, average 1911–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1911–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	----	148,457	----	145,118	----	180,103	----	178,784
Australia	7	149,958	[1] 3	[1] 91,715	----	[1] 167,613	----	[1] [2] 38,434
Canada	4,717	48	4,829	6,991	2,061	4,688	1,350	1,707
Netherlands	76	17,212	2,717	9,303	961	16,266	2,293	14,138
New Zealand	----	235,509	----	375,946	----	331,288	----	249,954
Union of South Africa	1,914	75	3	378	211	275	73	179
Uruguay	----	3,262	----	16,165	----	----	----	----
PRINCIPAL IMPORTING COUNTRIES								
Belgium	([3])	([3])	4,398	671	2,246	534	2,013	318
Denmark	3,828	344	1,345	40	25	157	1,699	211
France	930	334	22,922	293	14,391	776	20,775	811
Germany	1,046	350	----	[4] 36	3,674	109	2,902	45
Sweden	1,218	100	887	463	594	808	----	----
United Kingdom	596,899	----	768,306	----	664,554	----	663,147	----
United States	185	4,146	25,395	7,615	12,155	1,951	5,215	2,087
Other countries	924	489	2,446	48	1,617	18	857	2
Total	611,744	560,284	833,251	654,682	702,489	704,586	700,324	486,670

Division of Statistical and Historical Research. Official sources.

[1] Year beginning July 1.
[2] Nine months.
[3] Not separately stated.
[4] Eight months, May–December.

WOOL

TABLE 562.—*Wool, raw: Production, imports, exports, and apparent consumption, United States, 1910–1924*

[Thousands of pounds—i. e., 000 omitted]

Year	Production			Imports	Reexports [1]	Net imports [1]	Exports of domestic wool	Excess of imports [1] over all exports	Apparent consumption
	Fleece	Pulled	Total						
1910	281, 363	40, 000	321, 363	180, 135	9, 055	171, 080	[2] 48	171, 032	492, 395
1911	277, 548	41, 000	318, 548	155, 923	3, 511	152, 412	([3])	152, 412	470, 960
1912	262, 543	41, 500	304, 043	238, 118	1, 816	236, 302	([4])	236, 302	540, 345
1913	252, 675	43, 500	296, 175	151, 814	3, 860	147, 954	[2] 77	147, 877	444, 052
1914	247, 192	43, 000	290, 192	260, 165	6, 426	253, 739	[2] 335	253, 404	543, 596
1915	245, 726	40, 000	285, 726	412, 721	2, 098	410, 623	[2] 8, 158	402, 465	688, 191
1916	244, 890	43, 600	288, 490	449, 190	2, 128	447, 062	3, 919	443, 143	731, 633
1917	241, 892	40, 000	281, 892	420, 995	1, 421	419, 574	1, 827	417, 747	699, 639
1918	256, 870	42, 000	298, 870	453, 727	515	453, 212	407	452, 805	751, 675
1919	249, 958	48, 300	298, 258	445, 893	5, 089	440, 204	2, 840	437, 364	735, 622
1920	235, 005	42, 900	277, 905	259, 618	12, 636	246, 982	8, 845	238, 137	516, 042
1921	223, 062	48, 500	271, 562	320, 666	1, 605	319, 061	1, 927	317, 134	588, 696
1922	222, 560	42, 000	264, 560	376, 673	4, 425	372, 248	453	371, 795	636, 355
1923	224, 330	42, 500	266, 830	394, 250	24, 188	370, 062	535	369, 527	636, 357
1924	238, 530	43, 800	282, 330	268, 213	27, 756	240, 456	309	240, 147	522, 477

Marketing Livestock, Meats, and Wool Division. Production figures 1910–1913 from the National Association of wool manufacturers; 1914–1923 from the Division of Crop and Livestock Estimates; imports and exports from the Bureau of Foreign and Domestic Commerce.

[1] Imports and reexports include hair of camel, goat, alpaca, etc. Imports of hair not separately stated prior to July 1, 1913; since that date it has constituted less than 2 per cent of the total every year except 1915, when it was 2.4 per cent.
[2] Exports for fiscal years ending June 30 of the years shown.
[3] Included in all other articles.
[4] No transactions.

TABLE 563.—*Wool: Estimated production, by countries and grand divisions, 1913–1923*

[Million pounds—i. e., 000,000 omitted]

Country	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Australasia	750	827	767	645	742	742	825	852	718	818	816
South America	531	455	477	480	470	470	484	487	592	399	471
North America	315	309	308	307	304	318	336	328	298	281	282
United Kingdom	133	125	121	121	121	125	118	99	100	103	102
Russia in Europe	320	320	320	320	320	320	320	150	320	110	87
France	78	80	75	75	65	65	50	50	40	40	42
Germany	26	26	26	26	26	26	26	37	43	52	49
Italy	22	22	22	22	22	22	22	35	79	50	58
All other in Europe	225	227	239	240	240	240	236	380	317	308	279
Asia	273	273	273	273	273	273	327	327	327	265	267
Africa	208	208	208	208	208	208	150	220	169	278	268
Total	2, 881	2, 872	2, 836	2, 717	2, 791	2, 809	2, 894	2, 965	3, 003	2, 704	2, 721

Division of Statistical and Historical Research. Compiled from Annual Wool Review of the National Association of Wool Manufacturers.

TABLE 564.—*Wool, fleece: Estimated production, by States, 1922–1924*

State	Production			Weight per fleece			Number of fleeces		
	1922	1923	1924[1]	1922	1923	1924[1]	1922	1923	1924[1]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*Pounds*	*Pounds*	*Pounds*	*Thousands*	*Thousands*	*Thousands*
Maine	589	567	542	6.2	6.3	6.3	95	90	86
New Hampshire	128	119	112	6.4	6.6	6.6	20	18	17
Vermont	312	275	273	6.5	6.4	6.5	48	43	42
Massachusetts	102	100	83	6.0	6.2	6.4	17	16	13
Rhode Island	19	20	19	6.3	6.5	6.4	3	3	3
Connecticut	54	44	48	6.0	5.5	6.0	9	8	8
New York	2,882	2,968	3,181	6.8	6.9	6.9	424	430	461
New Jersey	55	47	54	5.8	5.0	6.0	9	9	9
Pennsylvania	3,087	3,148	2,908	6.7	6.5	6.7	461	484	434
Delaware	12	13	16	5.8	5.5	5.5	2	2	3
Maryland	486	512	484	6.4	6.4	5.9	76	80	82
Virginia	1,578	1,622	1,656	4.9	4.8	4.9	322	338	338
West Virginia	2,346	2,600	2,496	4.9	5.2	5.2	479	500	480
North Carolina	395	397	385	4.5	4.9	5.2	88	81	74
South Carolina	102	103	94	4.0	4.5	4.5	26	23	21
Georgia	157	156	162	2.9	3.0	3.0	54	52	54
Florida	157	163	157	3.2	3.4	3.2	49	48	49
Ohio	13,596	14,313	13,899	7.4	7.3	7.3	1,837	1,961	1,904
Indiana	3,527	3,820	4,060	7.0	7.1	7.0	504	538	580
Illinois	3,426	3,290	3,625	7.5	7.6	7.6	457	433	477
Michigan	7,868	7,282	7,252	7.3	7.4	7.4	1,078	984	980
Wisconsin	2,279	2,271	2,190	7.3	7.4	7.3	312	307	300
Minnesota	2,457	2,225	2,599	7.2	7.5	7.6	341	297	342
Iowa	5,208	4,973	5,244	7.9	7.5	7.6	659	663	690
Missouri	5,008	5,411	6,700	6.6	7.0	6.7	772	773	1,000
North Dakota	1,715	1,648	1,778	7.9	8.0	7.9	217	206	225
South Dakota	4,021	4,021	4,275	7.5	7.6	7.5	536	529	570
Nebraska	1,395	1,738	1,560	8.0	7.9	7.8	174	220	200
Kansas	1,690	1,933	1,288	7.5	7.7	7.4	225	251	174
Kentucky	2,678	2,715	2,776	5.0	4.9	4.5	536	554	617
Tennessee	1,294	1,300	1,338	4.5	4.5	4.4	288	289	304
Alabama	185	227	285	3.5	3.6	3.7	53	63	77
Mississippi	446	454	376	3.0	3.2	3.3	149	142	114
Louisiana	381	385	366	3.7	3.4	3.7	103	113	99
Texas	19,300	19,700	22,223	7.2	7.4	7.9	2,681	2,662	2,813
Oklahoma	458	490	533	7.3	7.0	7.4	63	70	72
Arkansas	344	320	328	4.5	4.7	4.5	76	68	73
Montana	16,770	17,775	19,314	8.0	8.4	8.7	2,096	2,116	2,220
Wyoming	20,400	19,520	19,760	8.0	8.0	8.0	2,550	2,440	2,470
Colorado	6,976	6,580	6,580	6.5	7.0	7.0	1,073	940	940
New Mexico	11,246	10,890	12,408	6.0	6.6	6.0	1,874	1,650	2,068
Arizona	6,000	5,798	6,240	6.5	6.5	6.0	923	892	1,040
Utah	16,800	17,210	16,884	7.4	7.9	8.2	2,270	2,178	2,059
Nevada	7,650	7,942	8,000	6.5	7.6	8.0	1,177	1,045	1,000
Idaho	16,642	15,455	16,800	7.8	8.1	8.0	2,134	1,908	2,100
Washington	3,802	4,409	4,635	7.7	8.8	9.0	494	501	515
Oregon	12,992	13,200	15,688	7.5	9.0	9.1	1,732	1,467	1,724
California	13,455	14,181	16,856	6.9	7.2	7.3	1,950	1,970	2,309
United States	222,560	224,330	238,530	7.0	7.4	7.4	31,516	30,455	32,280

Division of Crop and Livestock Estimates.

[1] Preliminary.

TABLE 565.—*Wool: International trade, calendar years, 1909–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Algeria	2,445	19,871	1,865	19,372	2,925	16,266	4,040	20,944
Argentina	214	328,204	.....	370,141	139	437,479	381	303,692
Australia	[1] 324	[1] 676,679	[1] 773	588,103	[1] 141	833,139	.....	724,981
Brazil	[2] 511	[3] 2,959	[2] 148	7,127	.....	7,850	.....	4,764
British India	23,721	56,496	17,937	22,814	20,586	51,738	[4] 22,254	[4] 37,718
Chile	1,247	28,223	188	26,902	189	27,980	.....	28,995
China	.....	42,684	.....	68,205	.....	77,792	.....	56,562
Greece	281	294	871	1,397	586	1,439	[5] 444	[5] 548
Hungary	.....	.....	[2] 177	[2] 14,830	1,007	9,390	1,214	7,973
Morocco	.....	8,607	.....	1,575	.....	4,099	.....	.....
New Zealand	168	194,801	126	159,419	130	326,404	213	223,689
Persia	[6] 2,753	10,023	144	1,286	.....	.....	.....	.....
Peru	[6] 3	9,333	2	4,454	81	10,088	.....	11,087
Spain	2,446	28,505	2,113	5,257	5,044	13,449	[5] 2,702	[5] 10,759
Union of South Africa	7	164,633	179	247,551	51	235,576	201	179,475
Uruguay	.....	139,178	.....	125,367	.....	[2] 102,328	.....	.....
PRINCIPAL IMPORTING COUNTRIES								
Austria	.....	.....	15,362	2,432	[2] 13,517	[2] 2,143	19,084	1,894
Austria-Hungary	63,942	9,622	.....	.....	.....	.....	.....	.....
Belgium	300,367	196,440	204,015	141,393	194,617	77,138	169,473	57,444
Canada	7,794	1,323	9,204	3,310	15,907	7,159	21,099	6,318
Czechoslovakia	.....	.....	[2] 37,171	[2] 462	[2] 36,080	[2] 3,656	66,062	6,814
Denmark	2,337	1,124	1,363	140	1,782	319	3,360	334
Finland	1,794	30	1,934	[2] 1	3,928	13	3,063	.....
France	601,628	84,973	335,899	33,403	681,252	50,598	579,421	46,087
Germany	481,988	42,817	294,255	[7] 4,554	443,327	16,676	308,174	19,738
Italy	30,145	3,933	44,279	5,224	85,253	9,402	77,170	5,208
Japan	10,223	.....	30,531	.....	75,354	.....	[8] 46,035	.....
Netherlands	31,991	26,362	14,712	3,760	14,777	3,829	12,573	4,665
Norway	3,644	123	1,636	210	4,309	163	3,453	534
Poland	.....	.....	[2] 21,351	[2] 129	[2] 34,378	[2] 1,030	[9] 34,290	.....
Russia	106,184	32,406	[2] 437	[2] 1,757	.....	[2] 10,870	.....	.....
Sweden	7,267	149	7,164	40	11,166	163	16,292	.....
Switzerland	11,211	338	12,193	54	15,102	246	15,694	186
United Kingdom	550,931	42,027	466,668	36,569	751,653	62,212	402,759	60,053
United States	203,298	[10] 46	320,666	1,927	384,360	453	417,346	535
Other countries	10,467	38,702	5,941	18,984	3,711	17,677	53	3,309
Total	2,459,331	2,190,905	1,849,304	1,918,149	2,801,352	2,418,764	2,226,850	1,824,306

Division of Statistical and Historical Research. Official sources except where otherwise noted.

"Wool" in this table includes washed, unwashed, scoured, and pulled wool; slipe, sheep's wool on skins (total weight of wool and skins taken); and all other animal fibers included in the United States classification of wool. The following items have been considered as not within this classification: Carded, combed, and dyed wool; flocks, goatskins with hair on, mill waste, noils, and tops.

[1] Year beginning July 1.
[2] International Institute of Agriculture.
[3] Four-year average.
[4] Twelve months' sea trade; 11 months' land trade.
[5] Ten months.
[6] Three-year average.
[7] Eight months, May–December.
[8] Six months.
[9] Eight months.
[10] One year only.

TABLE 566.—*Stocks of wool, tops, and noils held by dealers and manufacturers in United States, 1918–1924*

[Thousand pounds—i. e., 000 omitted]

Date	Held by dealers					Held by manufacturers				
	Grease	Scoured	Pulled	Tops	Noils	Grease	Scoured	Pulled	Tops	Noils
1918										
Jan. 1	156,639	27,849	12,229	4,642	7,565	172,342	29,912	9,627	18,677	13,567
Apr. 1	91,209	22,887	14,444	3,555	6,054	135,685	23,672	9,322	16,117	11,387
July 1	202,241	11,721	10,478	2,074	3,848	136,267	19,601	9,433	14,251	13,064
Oct. 1	219,659	12,926	10,701	347	3,655	101,900	16,236	8,449	12,288	12,467
1919										
Jan. 1	81,923	12,347	10,215	1,422	5,104	58,602	13,816	5,233	10,395	12,385
Apr. 1	28,690	7,952	5,984	898	2,823	72,637	13,654	6,663	10,962	10,381
July 1	198,298	22,155	10,108	1,801	2,577	147,678	16,117	11,140	11,388	9,820
Oct. 1	207,264	27,921	14,497	3,446	3,184	181,301	17,705	7,829	15,286	9,822
1920										
Jan. 1	152,003	24,630	17,907	4,735	3,893	148,239	20,030	10,152	13,875	7,316
Apr. 1	123,247	26,279	17,710	3,646	4,305	135,645	28,100	9,339	14,328	8,670
July 1	144,837	27,963	15,207	4,487	6,041	112,434	23,078	6,762	15,439	9,002
Oct. 1	179,376	29,988	11,229	5,564	4,754	75,288	15,612	12,067	15,839	9,124
1921										
Jan. 1	188,822	27,814	14,352	6,616	5,434	119,766	17,291	6,895	18,851	9,991
Apr. 1	194,891	22,807	15,565	7,623	3,690	159,599	18,442	17,095	19,325	9,316
July 1	176,584	19,703	12,127	4,883	4,139	164,713	18,042	10,787	20,247	8,101
Oct. 1	181,574	19,480	11,201	4,005	3,009	180,727	19,736	10,484	23,184	7,463
1922 [1]										
Jan. 1	101,384	13,468	10,222	2,866	2,453	171,597	21,097	9,312	17,536	7,136
Apr. 1	70,415	10,995	6,969	2,296	1,373	171,026	25,406	10,419	18,029	7,176
July 1	156,523	13,447	6,988	2,627	1,619	165,810	22,201	9,642	20,720	6,709
Oct. 1	176,377	16,521	7,384	3,327	2,695	191,351	20,336	8,686	19,227	5,904
1923 [1]										
Jan. 1	134,644	22,150	11,106	3,658	6,158	193,492	20,596	8,824	20,211	7,644
Apr. 1	126,158	24,734	13,503	3,378	6,378	175,422	21,787	11,930	18,402	8,247
July 1	186,730	21,075	13,126	5,125	5,977	161,435	18,464	11,148	16,579	8,364
Oct. 1	175,843	21,679	10,531	3,136	5,675	130,935	15,992	8,961	16,998	7,511
1924 [1]										
Jan. 1	144,014	16,665	7,700	2,988	3,783	121,173	16,947	8,971	16,543	7,206
Apr. 1	100,846	16,239	9,561	4,172	1,806	124,345	15,310	7,669	17,141	6,828
July 1	154,931	12,840	8,829	4,461	983	126,986	13,987	6,140	16,323	5,659
Oct. 1	132,953	12,544	7,475	3,869	1,994	129,330	15,165	6,748	16,562	4,867

Division of Statistical and Historical Research.

[1] Figures do not include estimates for firms not reporting.

TABLE 567.—*Wool (unwashed): Farm price per pound, 15th of month, United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1910	24.5	24.6	24.9	22.3	22.8	19.5	19.0	19.5	17.7	18.1	17.9	17.8	20.5
1911	17.3	17.3	16.8	15.7	14.7	15.5	15.4	16.0	15.6	15.5	15.6	15.5	15.6
1912	16.2	16.3	16.9	17.3	17.8	18.7	18.9	18.8	18.7	18.5	18.6	18.6	18.1
1913	18.6	18.7	18.4	17.7	16.3	15.6	15.9	15.8	15.8	15.5	15.6	16.1	16.4
Av. 1910–1913	19.2	19.2	19.2	18.2	17.9	17.3	17.3	17.5	17.0	16.9	16.9	17.0	17.6
1914	15.7	15.7	16.4	16.8	17.2	18.4	18.5	18.7	18.6	18.0	18.1	18.6	17.7
1915	18.6	20.2	22.8	22.7	22.0	23.7	24.2	23.8	23.3	22.7	22.7	23.3	22.8
1916	23.3	24.2	25.9	26.3	28.0	28.7	28.6	29.0	28.4	28.7	29.4	30.8	27.9
1917	31.8	32.7	36.7	38.8	43.7	49.8	54.3	54.8	54.2	55.5	55.9	58.2	47.8
1918	58.1	57.1	60.0	60.0	58.2	57.4	57.5	57.4	57.7	57.7	56.4	56.2	57.9
1919	55.2	51.1	51.3	47.9	48.0	50.5	51.8	52.2	51.3	50.6	51.0	51.6	50.3
1920	53.3	52.5	51.5	51.3	50.3	38.6	29.5	28.3	28.0	27.5	24.9	21.9	39.1
Av. 1914–1920	36.6	36.2	37.8	37.2	38.2	38.2	37.8	37.7	37.4	37.2	36.9	37.2	37.6
1921	19.6	19.8	18.9	17.9	16.0	15.4	15.5	15.4	15.5	15.8	15.6	16.9	16.4
1922	18.0	22.3	25.0	24.8	29.0	32.8	32.5	31.6	31.6	32.2	33.2	35.3	29.8
1923	35.3	35.3	37.3	39.2	41.7	41.5	38.3	37.0	37.1	36.9	36.4	36.2	38.9
1924	36.6	37.5	38.2	38.4	37.4	36.0	34.3	33.5	35.5	37.3	40.1	42.2	36.9

Division of Crop and Livestock Estimates.

TABLE 568.—*Wool: Quarterly average price per pound on farms, by districts, 1910–1924*

Date	Ohio, Pennsylvania, and West Virginia	Michigan, Wisconsin, and New York	Kentucky and Indiana	Missouri, Iowa, and Illinois	Texas	California	Montana, Wyoming, Utah, Idaho, Oregon, Nevada, Arizona	New Mexico	Florida, Alabama, Mississippi, Louisiana, and Georgia
1910	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
January–March	31	29	29	28	21	16	22	20	29
April–June	27	24	26	24	20	17	19	20	25
July–September	23	22	24	21	19	16	17	15	23
October–December	22	22	22	20	17	14	17	14	20
1911									
January–March	22	20	21	19	16	12	16	13	20
April–June	19	17	19	17	15	12	14	12	18
July–September	20	18	18	17	15	12	15	12	18
October–December	20	19	19	17	14	11	15	13	18
1912									
January–March	20	19	20	18	15	13	15	13	18
April–June	22	20	21	19	15	14	17	13	17
July–September	24	23	22	21	16	15	17	14	20
October–December	24	22	22	20	15	15	17	15	19
1913									
January–March	24	21	22	20	15	15	17	15	19
April–June	20	18	19	18	14	14	15	13	17
July–September	20	19	19	17	13	15	14	12	17
October–December	20	19	19	17	13	12	14	12	17
1914									
January–March	20	18	19	17	13	12	15	13	17
April–June	21	20	21	18	15	15	16	15	16
July–September	23	21	22	20	16	15	17	16	17
October–December	23	21	20	19	14	15	17	15	17
1915									
January–March	24	23	23	20	15	16	21	17	17
April–June	26	26	26	24	18	20	22	18	18
July–September	28	29	28	26	19	20	22	19	21
October–December	28	28	27	26	18	17	21	19	20
1916									
January–March	29	29	28	26	20	18	24	21	20
April–June	32	32	33	30	23	24	27	22	25
July–September	34	34	34	31	24	24	27	24	25
October–December	35	34	34	31	25	21	28	24	26
1917									
January–March	38	37	35	33	26	31	35	27	25
April–June	48	48	48	45	35	45	44	37	32
July–September	64	61	59	57	44	52	53	46	44
October–December	66	64	62	58	47	51	56	48	46
1918									
January–March	69	65	62	59	50	53	57	47	45
April–June	69	65	66	61	51	49	55	54	49
July–September	67	65	65	61	52	50	55	49	53
October–December	67	65	64	60	51	50	54	44	54
1919									
January–March	62	58	62	56	45	42	51	35	50
April–June	58	52	53	49	42	43	48	42	44
July–September	63	58	55	53	46	47	49	46	45
October–December	63	57	55	51	44	42	48	48	44
1920									
January–March	63	58	54	52	46	45	50	45	48
April–June	58	50	48	44	45	44	44	44	41
July–September	33	30	34	28	30	26	28	25	25
October–December	28	26	27	22	24	23	26	22	19
Av. 1914–1920	44	42	42	38	32	33	36	32	32

TABLE 568.—*Wool: Quarterly average price per pound on farms, by districts, 1910–1924*—Continued

Date	Ohio, Pennsylvania, and West Virginia	Michigan, Wisconsin, and New York	Kentucky and Indiana	Missouri, Iowa, and Illinois	Texas	California	Montana, Wyoming, Utah, Idaho, Oregon, Nevada, Arizona	New Mexico	Florida, Alabama, Mississippi, Louisiana, and Georgia
1921	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
January–March	27	23	22	18	20	13	19	15	17
April–June	22	19	17	17	15	10	16	14	16
July–September	19	18	16	15	14	12	16	12	13
October–December	20	18	17	15	14	13	16	14	14
1922									
January–March	25	23	19	19	17	23	24	18	14
April–June	33	29	27	25	26	31	31	26	18
July–September	38	33	31	30	33	35	31	30	24
October–December	38	35	32	32	34	31	34	32	23
1923									
January–March	39	36	33	32	37	38	37	36	23
April–June	43	42	40	39	40	42	42	40	27
July–September	43	41	38	38	37	35	38	34	29
October–December	42	41	38	36	34	33	36	34	33
1924									
January–March	41	41	38	37	34	30	38	35	31
April–June	42	40	38	36	38	35	38	32	30
July–September	38	37	38	34	36	35	34	31	31
October–December	45	42	42	38	41	37	40	.....	32

Division of Statistical and Historical Research. Compiled from data of the Division of Crop and Livestock Estimates.

TABLE 569.—*Wool: Average price per pound, Boston market, 1900–1924*

[Ohio, Pennsylvania, and West Virginia, ⅜ blood—unwashed]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1900	29	28	27	27	26	25	25	24	24	24	23	24	26
1901	24	23	23	23	22	20	20	20	21	21	21	22	22
1902	22	22	22	22	22	22	22	22	22	23	23	24	22
1903	25	25	25	23	23	24	24	24	26	26	26	26	25
1904	25	26	26	26	26	28	28	28	29	29	31	32	28
1905	32	31	30	31	35	36	36	35	35	35	35	34	34
1906	34	33	33	33	33	33	33	33	33	34	34	34	33
1907	34	34	34	33	32	32	32	33	33	33	31	30	33
1908	31	31	30	29	25	26	25	25	26	26	27	28	27
1909	29	30	31	33	34	35	36	36	37	37	37	37	34
1910	37	37	36	34	31	28	28	28	28	29	29	29	31
1911	29	28	27	26	24	24	25	25	25	25	26	26	26
1912	27	28	28	28	28	28	29	30	31	31	31	31	29
1913	31	31	30	27	24	24	24	24	24	24	23	23	26
1914	23	23	24	24	26	27	28	28	27	27	29	30	26
1915	31	37	38	35	35	35	37	38	37	37	37	38	36
1916	39	40	40	40	40	40	41	42	42	41	44	49	42
1917	48	53	54	57	61	71	75	75	77	75	76	76	67
1918	77	77	80	78	76	76	78	76	76	78	76	76	77
1919	75	66	60	60	60	62	72	70	70	67	68	70	67
1920 [1]	70	70	70	66	61	54	50	45	43	40	32	30	53
1921	29	30	30	30	29	28	27	26	26	27	28	32	28
1922	37	41	41	39	43	48	47	47	48	50	54	54	46
1923	56	58	57	58	58	58	57	56	54	54	54	56	56
1924	56	58	58	57	53	49	50	54	58	61	64	71	57

1900–1920, from quarterly reports of the National Association of Wool Manufacturers; 1921–1924, from Boston Commercial Bulletin, average of weekly range.

[1] Prices June to December, 1920, are largely nominal.

TABLE 570.—*Wool: Average price per pound, Boston market, 1910–1924*

TERRITORY—FINE STAPLE, SCOURED

Year	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1910	$0.74	$0.73	$0.71	$0.68	$0.63	$0.61	$0.61	$0.62	$0.62	$0.63	$0.63	$0.63	$0.65
1911	.61	.59	.54	.53	.52	.52	.55	.56	.59	.60	.61	.61	.57
1912	.61	.61	.61	.61	.61	.61	.63	.68	.68	.68	.67	.67	.64
1913	.66	.64	.59	.56	.55	.54	.54	.54	.54	.53	.53	.52	.56
1914	.52	.56	.57	.59	.60	.61	.61	.63	.61	.59	.61	.61	.59
1915	.63	.73	.73	.71	.69	.71	.71	.71	.71	.71	.71	.73	.71
1916	.74	.77	.77	.79	.79	.81	.82	.85	.89	.89	.97	1.05	.84
1917	1.13	1.23	1.28	1.33	1.38	1.74	1.74	1.78	1.81	1.80	1.80	1.80	1.57
1918	1.80	1.80	1.83	1.85	1.80	1.80	1.85	1.80	1.80	1.85	1.80	1.80	1.82
1919	1.60	1.52	1.58	1.65	1.65	1.75	1.85	1.85	1.85	2.00	2.00	2.00	1.78
1920[1]	2.00	2.05	2.05	2.00	2.00	1.75	1.60	1.45	1.30	1.20	.95	.90	1.60
Av. 1914–1920	1.20	1.24	1.26	1.27	1.27	1.31	1.31	1.30	1.28	1.29	1.26	1.27	1.27
1921	.84	.90	.89	.88	.86	.82	.82	.82	.82	.82	.84	.88	.85
1922	.97	1.10	1.10	1.09	1.27	1.34	1.35	1.31	1.30	1.34	1.39	1.40	1.25
1923	1.43	1.44	1.44	1.49	1.53	1.50	1.44	1.37	1.32	1.30	1.30	1.34	1.41
1924	1.37	1.41	1.41	1.36	1.33	1.28	1.30	1.36	1.44	1.48	1.60	1.68	1.42

Division of Statistical and Historical Research. 1910–1920 data from quarterly reports of the National Association of Wool Manufacturers. 1921–1924 data from Boston Commercial Bulletin, average of weekly range.

[1] Prices June-December, 1920, largely nominal.

TABLE 571.—*Wool: Average price per pound in England, 1909–1924*

LINCOLN HOGGETS[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1909	17.5	18.0	18.0	18.0	18.0	19.5	19.5	19.0	19.5	19.5	20.0	20.5	18.9
1910	20.0	21.0	21.0	21.0	20.5	19.5	19.0	20.0	20.0	20.0	20.0	20.0	20.2
1911	20.0	20.5	20.5	20.5	20.2	20.0	20.0	20.0	20.0	20.0	21.0	20.2	20.2
1912	21.3	20.8	20.8	20.8	20.3	20.8	21.3	21.8	22.3	22.8	23.2	23.7	21.7
1913	25.4	25.9	26.4	26.4	26.4	26.9	26.9	27.9	25.8	25.8	25.8	25.3	26.2
Av. 1909–1913	20.8	21.2	21.3	21.3	21.1	21.3	21.3	21.7	21.5	21.6	22.0	21.9	21.4
1914	25.8	27.3	27.4	27.4	27.5	26.5	25.5	26.0	25.9	26.8	28.6	28.4	26.9
1915	28.5	34.1	34.5	35.0	33.4	35.8	35.7	33.8	33.7	34.2	36.0	36.9	34.3
1916[2]	37.6	37.7	39.7	39.7	38.7	37.7	37.7	37.7	38.7	39.6	41.6	43.5	39.2
1920	42.8	39.4	44.0	45.7	38.5	34.5	32.1	33.2	30.7	27.5	25.7	20.4	34.5
1921	21.9	21.0	17.9	17.2	16.6	13.4	12.5	13.3	14.0	14.5	15.7	15.2	16.1
1922	17.2	17.7	17.8	18.8	19.5	20.9	22.2	22.3	22.2	22.7	22.3	23.0	20.6
1923	23.8	24.4	24.5	24.2	24.1	24.5	25.8	25.7	25.5	25.0	24.2	24.5	24.7
1924	25.3	30.1	31.3	31.7	32.7	33.3	32.8	34.7	33.8	.9	42.3	47.0	34.2

LINCOLN WETHERS[3]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1909	15.5	16.0	16.0	16.0	16.0	16.5	15.5	16.0	17.0	17.0	18.0	18.5	16.5
1910	18.5	20.0	20.0	19.5	19.0	18.5	17.5	19.0	20.0	19.5	19.0	20.0	19.2
1911	19.7	20.0	20.2	20.0	19.5	19.5	19.5	19.0	19.0	19.0	19.5	19.5	19.5
1912	20.2	20.3	19.8	19.7	19.5	19.8	20.8	21.3	21.8	22.3	22.7	23.2	20.1
1913	23.8	25.4	25.9	25.9	25.8	25.9	25.4	24.8	24.8	24.8	24.8	24.7	25.2
Av. 1909–1913	19.5	20.3	20.4	20.2	20.0	20.0	19.7	20.0	20.5	20.5	20.8	21.2	20.1
1914	24.3	24.8	25.3	24.9	24.4	24.4	23.4	24.0	24.4	26.8	28.6	27.4	25.2
1915	27.2	33.1	33.5	34.0	33.4	35.8	35.7	33.8	33.7	34.2	36.0	36.9	33.9
1916[2]	37.6	37.7	39.7	39.7	38.7	37.7	37.7	37.7	38.7	39.6	41.6	43.5	39.2
1920	41.3	38.0	42.5	42.4	33.7	32.1	28.1	26.4	25.6	21.7	20.0	17.5	30.8
1921	17.2	16.1	13.0	12.3	11.6	9.8	9.8	10.3	10.5	11.3	12.0	11.7	12.1
1922	13.2	13.6	13.7	13.8	14.4	14.4	15.2	15.3	14.3	14.3	15.4	17.8	14.6
1923	18.4	19.1	19.1	18.9	19.3	19.7	20.1	20.4	20.3	20.7	21.9	23.6	20.1
1924	24.8	29.6	30.4	30.8	31.8	32.4	32.3	33.8	33.4	36.0	39.4	44.0	34.5

Division of Statistical and Historical Research. From the Yorkshire Observer "Trade Review" of 1922 for 1909–1922; subsequently from annual issues of that publication. Converted at par prior to 1912; after 1911, converted to cents per pound on the basis of the monthly average rate of exchange as given in Federal Reserve Bulletins.

[1] First shorn fleece, but not lambs' wool.
[2] Period of price control. Approximate issue prices: 1917, 50 cts.; 1918, 55 cts.; 1919, 46–48 cts.
[3] Includes all fleeces shorn after the first.

TABLE 572.—*Wool: Consumption in United States, by Classes, 1918–1924*

[Thousand pounds—i. e., 000 omitted]

GREASE

Year	Combing		Clothing		Carpet		Total	
	Domestic	Foreign	Domestic	Foreign	Foreign Combing	Foreign Filling	Domestic	Foreign
1918	164,878	217,571	17,845	17,350	16,414	15,703	182,723	267,038
1919	182,936	172,346	20,995	11,869	24,672	28,747	203,931	237,634
1920	134,824	172,546	17,914	11,997	28,356	28,364	152,738	241,263
1921	159,340	117,704	20,243	11,134	22,968	27,291	179,583	179,097
1922	210,142	87,061	26,750	8,344	58,797	51,664	236,892	205,866
1923	111,494	169,540	17,487	7,072	72,231	63,215	128,981	312,058
1924	152,960	81,635	15,483	3,508	54,042	60,047	168,443	199,232
1924								
January	13,331	10,666	1,579	401	5,228	5,545	14,910	21,840
February	10,702	9,714	1,299	278	5,541	5,871	12,001	21,404
March	10,170	8,410	1,348	402	5,454	5,618	11,518	19,884
April	9,013	7,734	1,288	381	5,292	5,554	10,301	18,961
May	8,781	5,444	1,034	276	3,573	4,201	9,815	13,494
June	7,672	4,163	946	325	2,951	3,362	8,618	10,801
July	9,436	4,195	1,346	260	3,324	3,952	10,782	11,731
August	13,911	5,345	1,352	541	3,018	4,041	15,263	12,945
September	16,333	5,761	1,402	148	3,976	4,717	17,735	14,602
October	19,735	6,881	1,316	184	5,123	6,524	21,051	18,712
November	17,034	6,399	1,285	170	4,787	5,232	18,319	16,588
December	16,842	6,923	1,288	142	5,775	5,430	18,130	18,270

SCOURED

1918	11,033	16,623	30,466	64,846	1,177	2,777	41,499	85,423
1919	5,767	4,520	30,902	28,662	1,279	4,407	36,669	38,868
1920	5,906	5,492	30,263	22,828	1,359	5,643	36,169	35,322
1921	7,074	3,040	34,630	18,236	630	4,147	41,704	26,053
1922	8,374	2,753	47,547	19,347	1,285	5,410	55,921	28,795
1923	7,051	3,774	42,506	21,909	1,010	4,914	49,557	31,607
1924	5,804	3,409	40,718	16,089	533	3,122	46,522	23,153
1924								
January	481	368	3,650	1,871	29	347	4,131	2,615
February	484	396	3,872	1,797	35	211	4,356	2,439
March	575	307	3,569	1,618	64	323	4,144	2,312
April	497	296	3,348	1,505	46	287	3,845	2,134
May	437	240	3,091	1,320	36	346	3,528	1,942
June	342	217	2,808	1,099	32	262	3,150	1,610
July	373	189	2,807	1,116	36	175	3,180	1,516
August	397	199	2,883	1,197	41	203	3,280	1,640
September	542	250	3,418	1,092	36	195	3,960	1,573
October	586	275	3,963	1,187	50	247	4,549	1,759
November	586	299	3,377	1,135	56	245	3,963	1,735
December	504	373	3,932	1,152	72	281	4,436	1,878

PULLED

1918	9,977	2,685	8,497	2,918	179	1,277	18,474	7,059
1919	9,707	537	8,809	944	321	2,224	18,516	4,026
1920	7,514	675	6,116	714	420	2,499	13,630	4,308
1921	9,445	1,125	11,024	1,052	1,149	2,680	20,469	6,006
1922	9,609	960	9,840	1,485	2,264	3,415	19,449	8,124
1923	8,052	1,923	8,315	2,080	2,884	5,409	16,367	12,296
1924	5,852	703	9,492	1,241	1,052	4,707	15,344	7,703
1924								
January	779	95	835	163	118	711	1,614	1,087
February	1,012	132	687	171	88	638	1,699	1,029
March	499	120	900	207	104	657	1,399	1,088
April	736	67	785	126	133	509	1,521	835
May	387	46	841	102	90	226	1,228	464
June	353	34	764	82	72	220	1,117	408
July	434	41	643	47	63	177	1,077	328
August	518	38	626	73	76	181	1,144	368
September	371	16	880	86	66	256	1,251	424
October	304	59	958	62	58	415	1,262	594
November	274	21	784	38	72	369	1,058	500
December	185	34	789	84	112	348	974	576

Division of Statistical and Historical Research.

TABLE 573.—*Livestock: Estimated number raised on farms, and value, 1920–1924*

[Thousands—i. e., 000 omitted]

Classes of animals	1920		1921		1922		1923		1924, preliminary	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
Cattle	24,347	1,316,532	24,213	933,123	26,960	954,039	26,998	987,552	26,198	943,676
Horses	1,801	214,298	2,094	192,672	1,803	151,492	1,586	130,071	1,635	124,251
Mules	474	65,376	460	50,081	467	42,893	407	37,423	403	36,281
Sheep	15,155	136,166	17,496	95,443	17,564	126,018	18,383	144,867	18,471	147,969
Swine	60,175	1,524,559	65,937	1,017,590	79,065	1,235,449	78,113	1,133,215	67,989	1,008,494
Other	1,582	8,278	1,582	4,861	1,582	6,026	1,582	6,640	1,582	6,766

Division of Crop and Livestock Estimates.

TABLE 574.—*Livestock: Receipts, local slaughter, and stocker and feeder shipments at all public stockyards in United States, 1915–1924*

[Thousands—i. e., 000 omitted]

Year	Cattle			Hogs			Sheep		
	Receipts	Local slaughter	Stocker and feeder shipments	Receipts	Local slaughter	Stocker and feeder shipments	Receipts	Local slaughter	Stocker and feeder shipments
1915	14,553	7,912	(1)	36,213	24,893	(1)	18,435	10,254	(1)
1916	17,676	10,294	3,847	43,265	30,984	194	20,692	11,228	3,277
1917	23,066	13,275	4,803	38,042	25,440	788	20,216	9,142	4,448
1918	25,295	14,874	5,013	44,863	30,441	989	22,485	10,266	5,208
1919	24,624	13,633	5,286	44,469	30,018	902	27,256	12,646	6,956
1920	22,197	12,194	4,102	42,121	26,761	728	23,538	10,981	5,180
1921	19,787	11,078	3,504	41,101	26,335	499	24,168	12,858	3,095
1922	23,217	12,435	4,929	44,067	28,737	593	22,364	10,669	4,167
1923	23,211	13,030	4,553	55,330	36,172	820	22,025	10,271	4,478
1924	23,695	13,850	3,966	55,414	35,188	497	22,201	10,399	4,679

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

TABLE 575.—*Livestock: Number of animals slaughtered at Federal-inspected plants, 1907–1924*

Year ending June 30—	Cattle	Calves	Sheep	Goats	Swine	Horses	Total
1907	7,021,717	1,763,574	9,081,876	52,149	31,815,900		50,935,216
1908	7,116,275	1,995,487	9,702,545	45,953	35,113,077		53,973,337
1909	7,325,337	2,046,711	10,802,903	69,193	35,427,931		55,672,075
1910	7,962,189	2,295,099	11,149,937	115,811	27,656,021		49,179,057
1911	7,781,030	2,219,908	13,005,502	54,145	29,916,363		52,976,948
1912	7,532,005	2,242,929	14,208,724	63,983	34,966,378		59,014,019
1913	7,155,839	2,098,484	14,724,465	56,556	32,287,538		56,322,882
1914	6,724,117	1,814,904	14,958,834	121,827	33,289,705		56,909,387
1915	6,964,502	1,735,902	12,909,089	165,533	36,247,858		58,022,884
1916	7,404,288	2,048,022	11,985,926	180,356	40,482,799		62,101,391
1917	9,299,489	2,679,745	11,343,418	174,649	40,210,847		63,708,148
1918	10,938,287	3,323,077	8,769,498	149,503	35,449,247		58,629,612
1919	11,241,991	3,674,227	11,268,370	125,660	44,398,389		70,708,637
1920	9,709,819	4,227,558	12,334,827	77,270	38,981,914	1,089	65,332,477
1921	8,179,572	2,896,207	12,452,435	20,027	37,702,866	1,335	62,252,442
1922	7,871,457	3,924,255	11,968,434	13,758	39,416,439	1,898	63,196,241
1923	9,029,536	4,337,780	11,403,703	25,129	48,600,069	1,459	73,397,676
1924	9,188,652	4,667,948	11,505,001	31,279	54,416,481	4,699	79,814,060

Bureau of Animal Industry.

TABLE 576.—*Livestock: Combined farm values, by States, Jan. 1, 1919–1925*

State	Cattle, hogs, and sheep			Horses and mules			Total (cattle, hogs, sheep, horses, and mules)			Rank in total value	
	Average, 1919–1923	1924	1925	Average, 1919–1923	1924	1925	Average, 1919–1923	1924	1925	1924	1925
	Million dolls.	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*	*Million dolls.*		
Maine	18	15	14	14	11	10	32	26	24	42	42
New Hampshire	11	9	9	5	4	3	16	13	12	46	46
Vermont	28	25	24	10	8	8	38	33	32	39	39
Massachusetts	20	16	15	7	6	6	27	22	21	44	44
Rhode Island	3	3	2	1	1	1	4	4	3	48	48
Connecticut	15	14	13	6	4	4	21	18	17	45	45
New York	167	129	122	70	56	52	237	185	174	10	10
New Jersey	21	16	15	11	9	8	32	25	23	43	43
Pennsylvania	128	104	101	68	53	50	196	157	151	13	12
Delaware	4	3	3	3	2	3	7	5	6	47	47
Maryland	25	20	20	18	14	13	43	34	33	38	38
Virginia	58	39	38	42	32	28	100	71	66	24	24
West Virginia	39	28	26	18	14	13	57	42	39	37	37
North Carolina	50	35	32	61	50	46	111	86	78	19	21
South Carolina	31	18	16	48	35	32	79	53	48	31	33
Georgia	65	36	37	72	48	50	137	84	87	20	20
Florida	34	21	19	12	10	9	46	31	28	40	40
Ohio	181	133	138	88	64	66	269	197	204	8	7
Indiana	151	110	113	78	52	51	229	162	164	12	11
Illinois	230	180	184	125	89	87	355	269	271	3	3
Michigan	119	96	101	60	46	45	179	142	146	14	14
Wisconsin	212	169	164	71	60	53	283	229	217	5	6
Minnesota	189	157	166	80	61	64	269	218	230	6	5
Iowa	383	308	325	125	99	93	508	407	418	1	1
Missouri	185	144	133	100	63	59	285	207	192	7	8
North Dakota	62	49	52	59	39	41	121	88	93	18	17
South Dakota	130	103	103	51	37	35	181	140	138	15	15
Nebraska	207	178	179	76	56	55	283	234	234	4	4
Kansas	169	131	131	95	55	56	264	186	187	9	9
Kentucky	68	43	42	63	38	33	131	81	75	23	22
Tennessee	62	36	35	68	46	40	130	82	75	21	23
Alabama	50	28	26	52	41	36	102	69	62	26	27
Mississippi	54	28	25	57	42	38	111	70	63	25	26
Louisiana	39	22	20	40	27	25	79	49	45	34	36
Texas	258	171	180	165	127	121	423	298	301	2	2
Oklahoma	85	42	45	74	40	43	159	82	88	22	19
Arkansas	44	20	23	52	29	30	96	49	53	35	39
Montana	81	69	76	36	20	18	117	89	94	17	16
Wyoming	69	51	54	10	6	5	79	57	59	29	29
Colorado	94	70	71	30	19	17	124	89	88	16	18
New Mexico	66	44	43	13	8	7	79	52	50	33	31
Arizona	54	44	39	11	9	9	65	53	48	32	34
Utah	42	39	40	10	8	7	52	47	47	36	35
Nevada	29	23	22	3	3	3	32	26	25	41	41
Idaho	58	50	51	21	14	11	79	64	62	28	28
Washington	39	35	35	26	18	15	65	53	50	30	32
Oregon	60	48	50	24	17	15	84	65	65	27	25
California	150	132	119	42	33	30	192	165	149	11	13
United States	4,337	3,284	3,291	2,271	1,623	1,544	6,608	4,907	4,835	------	------

Division of Crop and Livestock Estimates.

MEAT PRODUCTS

TABLE 577.—*Meat and meat products*[1] *prepared under Federal inspection, 1907–1924*

[Thousand pounds—i. e., 000 omitted]

Year ending June 30—	Placed in cure	Sausage chopped	Canned meats	Lard	Lard compounds and substitutes	Oleo products	Oleomargarine	All other products	Total
1907	2,393,695	267,760	105,196	1,003,602	353,549	283,971	55,694	746	4,464,213
1908	3,059,814	416,200	92,582	1,433,778	436,448	293,425	79,380	146,671	5,958,298
1909	2,912,759	457,095	123,810	1,308,986	488,249	295,889	91,068	1,113,581	6,791,437
1910	2,424,667	485,864	127,263	948,468	671,526	296,429	139,158	1,130,589	6,223,964
1911	2,788,054	488,814	144,942	1,185,503	672,845	330,688	117,848	1,205,539	6,934,233
1912	2,828,061	523,893	153,871	1,309,140	648,443	297,038	128,319	1,390,794	7,279,559
1913	2,702,477	531,626	115,237	1,222,857	670,802	264,705	145,356	1,441,750	7,094,810
1914	2,728,550	542,017	120,473	1,187,963	590,409	274,625	143,999	1,445,260	7,033,296
1915	3,150,693	592,675	235,963	1,277,734	520,890	273,049	145,931	1,426,126	7,533,070
1916	3,096,391	565,047	164,200	1,277,870	397,089	287,047	152,388	1,534,962	7,474,994
1917	3,206,074	635,860	283,319	1,119,315	466,198	279,197	225,074	1,448,596	7,663,633
1918	3,443,993	624,827	408,633	943,851	453,164	263,630	265,335	1,431,752	7,905,185
1919	4,047,787	667,602	632,259	1,256,043	469,732	266,808	251,170	1,577,641	9,169,042
1920	3,100,776	682,521	211,521	1,316,918	328,567	364,992	217,561	1,552,302	7,755,158
1921	2,630,543	583,777	86,240	1,487,820	339,366	253,397	151,638	1,595,039	7,127,820
1922	2,870,023	568,626	109,481	1,659,331	312,014	268,034	118,197	1,521,410	7,427,116
1923	3,585,622	679,315	160,132	2,017,939	336,843	278,137	129,767	1,700,792	8,888,547
1924	3,716,660	707,602	182,747	2,110,660	363,180	258,494	143,560	1,922,592	9,404,896

Bureau of Animal Industry.

[1] The above figures do not represent production, as a product may be inspected more than once in course of further manufacture.

TABLE 578.—*Livestock: Condemnation of animals and primal parts under Federal meat inspection, 1907–1924*

Year ended June 30—	Cattle		Calves		Sheep		Goats		Swine		Horses		Total	
	Carcasses	Parts	Carcasses	Parts	Carcasses	Parts	Carcasses	Parts	Carcasses	Parts	Carcasses	Parts	Carcasses	Parts
1907	27,933	93,174	6,414	245	9,524	296	42	.....	105,879	436,161	.....	.....	149,792	529,876
1908	33,216	67,482	5,854	396	8,090	198	33	1	127,933	636,589	.....	.....	175,126	704,666
1909	35,103	99,739	8,213	409	10,747	179	82	1	86,912	799,300	.....	.....	141,057	899,628
1910	42,426	122,167	7,524	500	11,127	24,714	226	1	52,439	726,829	.....	.....	113,742	874,211
1911	39,402	123,969	7,654	781	10,789	7,394	61	.....	59,477	877,528	.....	.....	117,383	1,009,672
1912	50,363	134,783	8,927	1,212	15,402	3,871	84	1	129,002	323,992	.....	.....	203,778	463,859
1913	50,775	130,139	9,216	1,377	16,657	939	76	1	173,937	373,993	.....	.....	250,661	506,449
1914	48,356	138,085	6,696	1,234	20,563	1,564	746	8	204,942	422,275	.....	.....	281,303	563,166
1915	52,665	178,409	6,380	1,750	17,650	298	658	14	222,605	464,217	.....	.....	299,958	644,688
1916	57,673	188,915	6,840	1,988	15,063	1,007	667	161	206,711	546,290	.....	.....	286,954	738,361
1917	78,773	249,637	10,168	2,927	15,758	413	1,351	42	164,682	528,288	.....	.....	271,732	781,307
1918	68,208	178,940	8,127	2,308	12,568	227	419	.....	116,943	347,006	.....	.....	206,265	528,481
1919	59,636	166,791	9,220	2,479	14,385	330	318	17	131,274	433,433	.....	.....	214,833	603,050
1920	58,621	194,058	13,820	2,866	20,031	627	135	1	135,477	550,580	64	4	228,148	748,136
1921	46,881	176,762	7,720	2,323	12,682	270	23	10	124,208	492,132	19	7	191,533	671,504
1922	55,188	166,935	11,409	2,376	10,488	496	30	21	162,926	697,393	30	.....	240,071	867,221
1923	73,330	176,332	11,824	2,383	13,325	292	81	4	199,689	832,317	14	1	298,263	1,011,329
1924	83,923	176,093	12,736	2,566	12,853	575	321	.....	232,670	1,179,301	36	.....	342,539	1,358,535

Bureau of Animal Industry.

TABLE 579.—*Livestock, cattle and calves: Causes of condemnation of carcasses, Federal meat inspection, 1907–1924*

CATTLE

Year ended June 30—	Actinomycosis (lumpjaw)	Bone diseases	Emaciation	Icterus (jaundice)	Injuries, bruises, etc.	Immaturity	Pneumonia, pleurisy, enteritis, hepatitis, nephritis, metritis, etc.	Septicemia, pyemia and uremia	Tuberculosis	Tumors and abscesses	All other causes	Total
1907	661	(1)	(1)	(1)	2,290	.....	1,376	917	19,305	180	3,204	27,933
1908	667	(1)	(1)	125	1,856	.....	1,506	1,015	24,371	116	3,560	33,216
1909	589	(1)	(1)	60	2,261	.....	1,418	845	24,525	107	5,298	35,103
1910	527	(1)	6,476	74	3,333	.....	1,872	1,027	27,638	171	1,308	42,426
1911	547	(1)	4,492	49	2,222	.....	2,281	1,320	27,186	156	1,149	39,402
1912	726	(1)	5,722	40	1,892	.....	3,092	1,468	35,273	190	1,960	50,363
1913	380	(1)	6,575	73	3,013	.....	4,001	1,501	33,001	232	1,999	50,775
1914	430	(1)	6,697	55	3,151	.....	4,502	1,699	29,738	323	1,761	48,356
1915	598	(1)	6,360	34	2,988	.....	5,081	1,539	32,644	344	2,908	52,496
1916	1,200	(1)	7,122	60	2,204	.....	5,953	1,572	37,085	464	1,919	57,579
1917	1,204	(1)	14,254	45	3,829	.....	7,920	2,443	46,351	563	2,097	78,706
1918	391	(1)	12,492	40	2,950	.....	6,575	2,529	40,792	732	1,655	68,156
1919	350	(1)	8,043	71	2,553	.....	6,348	2,801	37,600	611	1,170	59,547
1920	556	(1)	7,652	61	2,396	.....	5,945	2,861	37,492	606	1,033	58,602
1921	591	(1)	2,313	97	1,576	.....	5,406	2,248	33,328	510	785	46,854
1922	786	45	2,767	84	1,756	.....	5,952	2,582	39,434	966	798	55,170
1923	785	139	4,895	103	3,612	.....	8,181	3,368	49,839	1,332	1,046	73,300
1924	658	77	6,609	123	4,158	.....	7,855	4,393	56,760	1,436	1,854	83,923

CALVES

1907	.....	(1)	(1)	(1)	464	3,585	656	234	68	62	1,345	6,414
1908	3	(1)	(1)	183	315	3,097	267	302	159	46	1,482	5,854
1909	.....	(1)	(1)	45	341	4,376	295	523	177	28	2,428	8,213
1910	1	(1)	1,762	43	499	3,472	346	309	184	35	873	7,524
1911	26	(1)	1,203	31	373	3,533	525	440	204	27	1,292	7,654
1912	7	(1)	1,574	37	429	4,511	841	326	276	17	909	8,927
1913	3	(1)	2,301	26	684	3,848	920	266	450	20	698	9,216
1914	9	(1)	1,295	35	542	2,297	626	253	407	22	1,210	6,696
1915	12	(1)	760	28	425	2,352	757	249	440	28	890	5,941
1916	16	(1)	1,438	67	380	1,501	1,385	296	687	29	882	6,681
1917	10	(1)	2,855	51	478	1,851	2,868	390	656	25	928	10,112
1918	21	(1)	2,041	57	402	1,749	1,678	879	477	52	753	8,109
1919	30	(1)	1,971	91	449	3,131	1,503	580	508	49	890	9,202
1920	13	(1)	3,106	132	553	6,224	1,764	687	545	29	767	13,820
1921	45	(1)	1,285	129	375	2,825	1,234	733	553	78	446	7,703
1922	27	55	2,009	130	405	5,087	1,574	553	659	104	805	11,408
1923	45	161	1,796	127	607	4,257	2,310	926	747	63	686	11,815
1924	30	102	2,185	136	894	4,661	2,321	1,260	634	56	457	12,736

Bureau of Animal Industry.

[1] Included in "All other causes."

TABLE 580.—*Livestock, sheep and hogs: Causes of condemnation of carcasses, Federal meat inspection, 1907–1924*

SHEEP

Year ended June 30—	Bone diseases	Emaciation	Icterus (jaundice)	Injuries, bruises, etc.	Pneumonia, pleurisy, enteritis, hepatitis, nephritis, metritis, etc.	Septicemia, pyemia, and uremia	Tuberculosis	Tumors and abscesses	Caseous lymphadenitis	All other causes	Total
1907	(1)	(1)	(1)	793	1,093	779	----	402	1,360	5,097	9,524
1908	(1)	(1)	869	647	1,100	588	8	105	1,034	3,739	8,090
1909	(1)	(1)	862	763	1,479	676	21	102	1,023	5,821	10,747
1910	(1)	5,376	909	657	1,572	539	----	164	1,122	788	11,127
1911	(1)	5,038	939	621	1,838	705	1	131	1,078	438	10,789
1912	(1)	7,542	1,308	725	2,614	780	3	122	1,597	711	15,402
1913	(1)	5,586	1,881	1,150	3,650	876	1	106	2,340	1,067	16,657
1914	(1)	6,425	1,898	934	4,463	1,041	4	119	4,695	984	20,563
1915	(1)	4,318	1,351	732	5,344	694	6	67	4,367	732	17,611
1916	(1)	3,593	1,324	627	4,983	576	----	89	3,190	675	15,057
1917	(1)	5,531	1,256	572	5,479	641	3	118	2,672	477	16,749
1918	(1)	4,979	762	278	4,000	638	----	98	1,566	243	12,564
1919	(1)	5,148	1,488	435	4,789	557	12	96	1,481	365	14,371
1920	(1)	9,485	1,216	582	5,313	879	17	141	2,050	345	20,028
1921	(1)	3,520	1,594	628	4,448	827	12	153	1,089	395	12,666
1922	107	2,195	1,247	734	3,984	766	3	202	740	498	10,476
1923	288	2,240	2,079	560	5,480	1,101	8	138	960	473	13,317
1924	281	2,811	1,715	602	4,739	1,314	13	152	876	350	12,853

SWINE

Year ended June 30—									Hog cholera		
1907	(1)	(1)	(1)	592	4,540	5,545	65,618	1,483	21,506	6,595	105,879
1908	(1)	(1)	1,784	354	6,846	7,076	77,584	1,280	27,234	5,775	127,933
1909	(1)	(1)	1,623	372	6,329	7,173	45,113	1,178	20,789	4,335	86,912
1910	(1)	932	1,248	383	4,502	5,561	28,882	932	7,677	2,322	52,439
1911	(1)	690	1,594	412	4,601	6,056	31,517	1,086	10,721	2,800	59,477
1912	(1)	1,568	2,975	728	8,997	8,607	42,267	1,654	56,931	5,275	129,002
1913	(1)	1,256	3,242	1,046	14,115	10,228	47,630	1,715	88,547	8,158	173,937
1914	(1)	914	3,075	1,197	17,011	11,738	48,252	2,179	116,107	4,469	204,942
1915	(1)	904	2,624	1,086	21,540	13,184	66,023	1,811	101,953	4,780	213,905
1916	(1)	949	3,090	1,360	20,671	14,122	74,109	2,185	64,464	14,157	195,107
1917	(1)	1,081	2,697	1,332	18,920	13,734	76,807	1,548	33,450	8,911	158,480
1918	(1)	544	2,109	698	15,363	9,810	59,740	1,158	20,967	2,690	113,079
1919	(1)	728	2,824	725	19,079	10,761	65,838	1,317	23,928	3,605	128,805
1920	(1)	966	3,385	847	22,306	11,652	65,609	1,493	23,789	3,429	133,476
1921	182	745	4,002	1,003	18,822	11,014	64,830	1,793	16,693	3,525	122,609
1922	2,928	756	4,619	1,461	23,852	15,405	70,304	2,197	32,562	6,049	160,133
1923	6,101	1,331	6,154	1,723	31,776	21,333	88,688	3,199	28,815	7,205	196,325
1924	7,652	1,316	5,971	1,861	33,470	24,997	100,110	4,314	44,725	8,254	232,670

Bureau of Animal Industry.

[1] Included in "All other causes"

TABLE 581.—*Meat and lard: Production, 1907–1924*

Production

Year	Beef			Veal			Total, beef and veal	Lamb and mutton			Pork (not including lard)			Total, all meats[1]
	Under Federal inspection	Other	Total	Under Federal inspection	Other	Total		Under Federal inspection	Other	Total	Under Federal inspection	Other	Total	
	Million lbs.	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*
1907	4,319	2,983	7,302	209	416	625	7,927	431	128	559	4,404	3,071	7,475	15,961
1908	3,936	2,721	6,657	202	402	604	7,261	428	127	555	4,839	3,373	8,212	16,028
1909	4,168	2,882	7,050	229	454	683	7,733	466	138	604	3,937	2,744	6,681	15,018
1910	4,033	2,679	6,712	234	452	686	7,398	463	137	600	3,463	2,411	5,874	13,872
1911	3,961	2,513	6,474	228	428	656	7,130	568	169	737	4,419	3,080	7,499	15,366
1912	3,705	2,189	5,894	238	429	667	6,561	607	180	787	4,223	2,947	7,170	14,518
1913	3,569	2,318	5,887	175	312	487	6,374	568	169	737	4,396	3,072	7,468	14,579
Av. 1909–1913	3,887	2,516	6,403	221	415	636	7,039	534	159	693	4,088	2,851	6,939	14,671
1914	3,574	2,038	5,612	157	275	432	6,044	554	165	719	4,236	2,964	7,200	13,963
1915	3,948	1,837	5,785	167	260	427	6,212	481	144	625	4,723	3,101	7,824	14,661
1916	4,326	1,756	6,082	219	316	535	6,617	471	140	611	5,164	3,323	8,487	15,715
1917	5,132	1,517	6,649	295	366	661	7,310	363	109	472	4,054	2,830	6,884	14,666
1918	5,608	1,682	7,290	351	413	764	8,054	380	108	488	5,535	3,303	8,838	17,380
1919	4,746	1,509	6,255	377	426	803	7,058	469	132	601	5,567	3,349	8,916	16,575
1920	4,371	1,885	6,256	370	436	806	7,062	413	115	528	5,111	3,060	8,171	15,761
Av. 1914–1920	4,529	1,746	6,275	277	356	633	6,908	447	131	578	4,913	3,133	8,046	15,532
1921	4,087	2,081	6,168	366	381	747	6,915	493	107	600	5,327	3,124	8,451	15,966
1922	4,573	2,137	6,710	395	397	792	7,502	418	116	534	5,839	3,293	9,132	17,168
1923	4,686	2,191	6,877	443	427	870	7,747	446	123	569	7,203	3,940	11,143	19,459
1924	4,829	2,240	7,069	499	432	931	8,000	456	132	588	6,901	3,708	10,609	19,197

Year	Production				Percentage of total production					
	Lard			Total meats and lard	Beef	Veal	Beef and veal	Lamb and mutton	Pork	Total meats
	Under Federal inspection	Other	Total							
	Million lbs.	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1907	993	690	1,683	17,644	45.8	3.9	49.7	3.5	46.8	100.0
1908	1,004	760	1,854	17,882	41.5	3.8	45.3	3.5	51.2	100.0
1909	888	618	1,506	16,524	47.0	4.5	51.5	4.0	44.5	100.0
1910	793	551	1,344	15,216	48.4	4.9	53.3	4.3	42.4	100.0
1911	1,013	704	1,717	17,083	42.1	4.3	46.4	4.8	48.8	100.0
1912	969	674	1,643	16,161	40.6	4.6	45.2	5.4	49.4	100.0
1913	1,011	702	1,713	16,292	40.4	3.3	43.7	5.1	51.2	100.0
Av. 1909–1913	934	650	1,584	16,255	43.7	4.3	48.0	4.7	47.3	100.0
1914	975	677	1,652	15,615	40.2	3.1	43.3	5.1	51.6	100.0
1915	1,086	714	1,800	16,461	39.5	2.9	42.4	4.3	53.3	100.0
1916	1,164	759	1,923	17,638	38.7	3.4	42.1	3.9	54.0	100.0
1917	930	647	1,577	16,243	45.3	4.5	49.8	3.2	47.0	100.0
1918	1,263	752	2,015	19,395	41.9	4.4	46.3	2.8	50.9	100.0
1919	1,327	762	2,089	18,664	37.7	4.9	42.6	3.6	53.8	100.0
1920	1,326	696	2,022	17,783	39.7	5.1	44.8	3.4	51.8	100.0
Av. 1914–1920	1,153	715	1,868	17,400	40.4	4.1	44.5	3.7	51.8	100.0
1921	1,384	711	2,095	18,061	38.6	4.7	43.3	3.8	52.9	100.0
1922	1,581	749	2,330	19,498	39.1	4.6	43.7	3.1	53.2	100.0
1923	1,960	891	2,871	22,330	35.3	4.5	39.8	2.9	57.3	100.0
1924	1,919	854	2,773	21,970	36.8	4.8	41.6	3.1	55.3	100.0

Division of Statistical and Historical Research. Compiled from report of Bureau of Animal Industry, issued 1924; quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

[1] Not including goat meat.

TABLE 582.—*Meat and lard: Consumption, 1907–1924*

Year	Consumption								Percentage of total consumption					
	Beef	Veal	Total, beef, and veal	Lamb and mutton	Pork	Total, meats	Lard	Total, meats and lard	Beef	Veal	Total, beef, and veal	Lamb and mutton	Pork	Total, meats
	Million lbs.	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Million lbs.*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1907	6,948	625	7,573	557	6,860	14,990	1,089	16,079	46.3	4.2	50.5	3.7	45.8	100.0
1908	6,429	604	7,033	553	7,580	15,166	1,267	16,433	42.4	4.0	46.4	3.6	50.0	100.0
1909	6,886	683	7,569	601	6,196	14,366	1,044	15,410	47.9	4.8	52.7	4.2	43.1	100.0
1910	6,601	686	7,287	598	5,550	13,435	962	14,397	49.1	5.1	54.2	4.5	41.3	100.0
1911	6,383	656	7,039	734	7,029	14,802	1,107	15,909	43.1	4.4	47.5	5.0	47.5	100.0
1912	5,838	667	6,505	781	6,714	14,000	1,085	15,085	41.7	4.8	46.5	5.6	47.9	100.0
1913	5,877	487	6,364	732	7,001	14,097	1,132	15,229	41.7	3.4	45.1	5.2	49.7	100.0
Av. 1909–1913	6,317	636	6,953	689	6,498	14,140	1,066	15,206	44.7	4.5	49.2	4.9	45.9	100.0
1914	5,772	437	6,209	732	6,838	13,779	1,187	14,966	41.9	3.2	45.1	5.3	49.6	100.0
1915	5,523	428	5,951	630	6,918	13,499	1,306	14,805	40.9	3.2	44.1	4.7	51.2	100.0
1916	5,728	536	6,264	618	7,329	14,211	1,442	15,653	40.3	3.8	44.1	4.3	51.6	100.0
1917	6,200	662	6,862	471	5,942	13,275	1,215	14,490	46.7	5.0	51.7	3.5	44.8	100.0
1918	6,718	765	7,483	481	6,969	14,933	1,406	16,339	45.0	5.1	50.1	3.2	46.7	100.0
1919	6,057	808	6,865	606	7,170	14,641	1,342	15,983	41.4	5.5	46.9	4.1	49.0	100.0
1920	6,300	814	7,114	585	7,309	15,008	1,383	16,391	42.0	5.4	47.4	3.9	48.7	100.0
Av. 1914–1920	6,042	636	6,678	589	6,925	14,192	1,326	15,518	42.6	4.5	47.1	4.1	48.8	100.0
1921	6,197	751	6,948	614	7,816	15,378	1,204	16,582	40.3	4.9	45.2	4.0	50.8	100.0
1922	6,665	797	7,462	545	8,254	16,261	1,531	17,792	41.0	4.9	45.9	3.3	50.8	100.0
1923	6,870	872	7,742	572	10,048	18,362	1,795	20,157	37.5	4.7	42.2	3.1	54.7	100.0
1924	7,012	935	7,947	587	9,947	18,481	1,776	20,257	37.9	5.1	43.0	3.2	53.8	100.0

Division of Statistical and Historical Research. Compiled from report of Bureau of Animal Industry, issued 1924; quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

TABLE 583.—*Meat and lard: Annual per capita consumption, 1907–1924*

Year	Beef	Veal	Lamb and mutton	Pork, not including lard	Total meat [1]	Lard	Total meat and lard
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
1907	79.5	7.1	6.4	78.4	171.4	12.5	183.9
1908	72.2	6.8	6.2	85.1	170.3	14.3	184.6
1909	75.9	7.5	6.6	68.3	158.3	11.6	169.9
1910	71.5	7.4	6.5	60.2	145.6	10.5	156.1
1911	68.1	7.0	7.8	75.0	157.9	11.8	169.7
1912	61.4	7.0	8.2	70.6	147.2	11.4	158.6
1913	60.9	5.0	7.6	72.5	146.0	11.7	157.7
Average, 1909–1913	67.6	6.8	7.3	69.3	151.0	11.4	162.4
1914	58.9	4.4	7.5	69.8	140.6	12.1	152.7
1915	55.6	4.3	6.4	69.6	135.9	13.2	149.1
1916	56.8	5.3	6.2	72.7	141.0	14.3	155.3
1917	60.7	6.5	4.6	58.2	130.0	11.9	141.9
1918	64.9	7.4	4.6	67.3	144.2	13.6	157.8
1919	57.7	7.7	5.8	68.3	139.5	12.8	152.3
1920	59.2	7.6	5.5	68.7	141.0	13.0	154.0
Average, 1914–1920	59.1	6.2	5.8	67.8	138.9	13.0	151.9
1921	57.5	7.0	5.7	72.5	142.7	11.2	153.9
1922	61.0	7.3	5.0	75.6	148.9	14.0	162.9
1923	62.1	7.9	5.2	90.8	166.0	16.2	182.2
1924	62.6	8.3	5.2	88.8	164.9	15.8	180.7

Division of Statistical and Historical Research. Compiled from report of Bureau of Animal Industry, issued 1924; quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

[1] Not including goat meat.

TABLE 584.—*Livestock slaughter statistics: Sources of supply, classification slaughter costs, weights and yields, 1922–1924* [1]

CATTLE

Year and month	Medium of obtaining supply		Sex classification			Average live cost per 100 pounds	Average live weight	Dressed weight as percentage of live weight	By-product yield (on basis of live weight)		
	Stockyards	Other sources	Bulls and stags	Cows and heifers	Steers				Edible fat [2]	Edible offal	Hides
1922	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Dollars*	*Pounds*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
July	88.90	11.10	5.10	35.60	59.30	7.36	985.46	54.60	4.02	2.95	6.64
August	89.13	10.87	4.03	40.16	55.81	6.94	972.85	54.05	3.73	2.85	6.73
September	89.63	10.37	4.27	43.84	51.89	6.53	965.37	53.29	3.46	2.84	6.68
October	88.29	11.71	4.34	50.99	44.67	6.09	957.77	52.32	3.15	2.83	6.79
November	91.40	8.60	4.36	51.93	43.71	5.63	946.17	51.84	3.11	2.72	6.81
December	92.26	7.74	4.10	49.85	46.05	6.07	957.52	52.68	3.57	2.81	6.76
1923											
January	91.89	8.11	3.51	49.58	46.91	6.58	979.66	54.00	4.09	2.77	6.67
February	91.13	8.87	4.80	44.18	51.02	6.89	973.54	54.80	4.28	2.90	6.71
March	90.45	9.55	3.18	42.57	54.25	7.19	973.12	55.08	4.38	2.92	6.70
April	91.15	8.85	2.82	47.54	49.64	7.51	970.54	55.51	4.48	2.85	6.74
May	90.27	9.73	6.70	37.51	55.79	7.82	949.66	55.79	4.26	2.85	6.71
June	88.12	11.88	3.89	37.41	58.70	7.90	955.28	55.01	4.18	2.84	6.75
July	83.31	16.69	4.46	43.18	52.36	7.26	942.18	53.99	3.78	2.80	6.73
August	88.12	11.88	3.91	48.29	47.80	7.03	933.38	53.97	3.42	2.74	6.82
September	92.12	7.88	4.58	49.52	45.90	6.59	939.07	53.38	3.75	2.79	6.87
October	91.28	8.72	3.63	54.40	41.97	6.01	940.04	52.79	3.21	2.82	6.73
November	88.27	11.73	4.17	61.19	34.64	5.64	933.51	53.83	3.12	2.77	6.98
December	88.76	11.24	3.29	54.78	41.93	6.23	952.37	52.39	3.54	2.56	6.94
1924											
January	90.11	9.89	3.16	51.68	45.16	6.65	965.94	53.16	3.84	2.85	6.95
February	88.70	11.30	3.39	50.40	46.21	6.67	966.46	53.94	3.94	2.86	6.84
March	88.41	11.59	5.39	46.99	47.62	7.14	967.21	54.09	4.13	2.93	6.71
April	91.43	8.57	5.28	42.25	52.47	7.57	962.00	54.35	4.19	2.86	6.71
May	90.09	9.91	4.71	38.77	56.52	7.92	948.28	55.17	4.33	2.88	6.79
June	89.81	10.19	3.52	40.35	56.13	7.40	951.14	54.94	4.29	2.89	6.76
July	91.13	8.87	3.01	41.98	55.01	7.19	940.28	54.96	4.21	2.82	6.82
August	91.23	8.77	4.04	44.86	51.10	7.06	951.55	54.35	3.98	2.76	6.73
September	91.41	8.59	5.28	50.33	44.39	6.33	938.50	53.51	3.74	2.87	6.79
October	92.23	7.77	5.38	56.97	37.65	5.75	938.68	52.32	3.40	2.81	6.80
November	91.08	8.92	3.22	62.61	34.17	5.34	932.89	51.06	3.30	2.90	6.77
December	91.73	8.27	2.61	57.19	40.20	5.66	947.26	51.88	3.47	2.77	6.89

CALVES

Year and month	Medium of obtaining supply		Average live cost per 100 pounds	Average live weight	Dressed weight as percentage of live weight	By-product yields (on basis of live weight)	
	Stockyards	Other sources				Edible fat [2]	Edible offal
1922	*Per cent*	*Per cent*	*Dollars*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
July	85.60	14.40	7.85	171.57	56.92	0.65	3.71
August	83.89	16.11	8.02	192.72	56.55	.71	3.33
September	85.93	14.07	7.69	199.71	55.46	.75	3.33
October	89.13	10.87	6.96	197.18	53.46	.74	3.37
November	88.76	11.24	7.18	188.61	56.41	.68	3.50
December	88.96	11.04	7.79	176.09	57.71	.70	3.78
1923							
January	89.49	10.51	8.51	168.42	59.09	.72	4.14
February	89.15	10.85	9.34	162.67	59.44	.65	3.98
March	86.03	13.97	8.80	148.83	59.23	.65	4.12
April	86.99	13.01	7.98	141.78	57.82	.62	4.25
May	85.73	14.27	8.97	146.39	56.19	.57	3.78
June	82.41	17.59	8.24	161.85	57.78	.62	3.81
July	82.71	17.29	8.60	176.77	57.46	.50	3.05
August	82.91	17.09	7.53	195.99	56.08	.85	3.34
September	88.36	11.64	7.30	204.48	54.78	1.10	2.78
October	87.50	12.50	6.94	199.69	55.68	.88	3.25
November	86.58	13.42	6.39	189.37	57.34	.84	3.36
December	85.46	14.54	7.19	181.29	57.46	.78	3.40

[1] Based on reports from about 750 packers and slaughterers, whose slaughterings equaled nearly 85 per cent of total slaughtered under Federal inspection.

[2] Unrendered.

TABLE 584.—*Livestock slaughter statistics: Sources of supply, classification, slaughter costs, weights and yields, 1922–1924*—Continued

CALVES—Continued

Year and month	Medium of obtaining supply		Average live cost per 100 pounds	Average live weight	Dressed weight as percentage of live weight	By-product yields (on basis of live weight)	
	Stockyards	Other sources				Edible fat	Edible offal
1924	*Per cent*	*Per cent*	*Dollars*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
January	88.47	11.53	8.29	176.80	58.68	.76	3.67
February	87.46	12.54	9.45	162.63	57.16	.73	3.97
March	86.41	13.59	8.85	152.08	60.63	.71	4.08
April	86.83	13.17	8.49	146.92	60.59	.68	4.02
May	86.25	13.75	8.19	157.40	60.64	.72	3.80
June	85.11	14.89	7.68	167.98	57.48	.73	3.93
July	86.51	13.49	7.61	181.40	56.60	.77	3.56
August	83.72	16.28	7.42	197.19	55.49	.77	3.30
September	86.96	13.04	7.23	201.45	56.22	.79	3.29
October	89.04	10.96	6.81	196.39	55.20	.78	3.33
November	87.92	12.08	6.24	197.60	54.28	.75	3.35
December	89.10	10.90	7.15	183.47	57.03	.77	3.58

SWINE

Year and month	Medium of obtaining supply		Sex classification			Average live cost per 100 pounds	Average live weight	Dressed weight as percentage of live weight	By-product yields (on basis of live weight)			
	Stockyards	Other sources	Sows	Barrows	Stags and boars				Lard (rendered)	Edible offal	Trimmings	Inedible grease (unrendered)
1922	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Dollars*	*Pounds*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
July	77.50	22.50	58.40	40.90	0.70	10.00	239.39	76.58	16.04	2.13	4.07	1.36
August	78.32	21.68	62.99	36.31	.70	8.85	241.50	75.41	15.45	2.22	4.35	1.25
September	77.18	22.82	60.74	38.62	.64	8.85	234.25	75.86	16.56	2.42	4.96	1.36
October	76.79	23.21	54.99	44.36	.65	8.99	219.47	75.51	15.26	2.61	5.33	1.33
November	75.87	24.13	53.58	45.33	1.09	8.54	214.83	75.65	14.99	2.38	4.92	1.27
December	72.47	27.53	50.02	49.43	.55	8.17	220.07	77.03	15.81	2.24	4.44	1.34
1923												
January	74.03	25.97	48.42	50.92	.66	8.35	227.30	77.78	16.27	2.06	4.07	1.35
February	74.35	25.65	47.40	51.95	.65	8.22	227.63	78.14	16.76	2.17	4.36	1.38
March	74.49	25.51	46.58	52.78	.64	8.17	227.82	77.70	17.50	2.08	4.17	1.37
April	78.24	21.76	48.49	50.72	.79	8.04	228.85	77.11	17.19	1.99	4.37	1.42
May	78.55	21.45	50.16	49.08	.76	7.44	223.51	76.47	17.31	2.02	4.82	1.37
June	75.80	24.20	53.75	45.51	.74	6.83	227.73	76.71	17.60	2.00	4.36	1.46
July	73.89	26.11	56.66	42.56	.78	6.91	232.06	76.33	17.08	2.06	4.58	1.43
August	75.58	24.42	62.42	36.81	.77	7.78	236.22	76.74	17.39	2.07	4.71	1.37
September	79.83	20.17	61.15	37.94	.91	8.49	229.27	75.37	15.82	2.52	5.29	1.40
October	80.11	19.89	61.59	37.59	.82	7.38	219.48	75.26	14.63	2.40	5.20	1.24
November	74.60	25.40	52.54	46.80	.66	6.83	215.74	76.09	14.52	2.30	4.86	1.27
December	74.64	25.36	51.20	48.16	.64	6.82	217.80	76.20	15.91	2.12	4.42	1.35
1924												
January	76.51	23.49	48.55	50.79	.66	7.09	217.13	76.42	17.07	2.04	4.31	1.38
February	77.94	22.06	46.13	53.29	.58	7.07	220.80	76.65	17.21	2.04	4.20	1.40
March	75.53	24.47	47.71	51.50	.79	7.19	222.65	76.11	18.03	2.09	3.99	1.43
April	78.90	21.10	49.31	49.73	.96	7.24	223.67	76.10	17.82	2.02	4.32	1.48
May	76.50	23.50	50.94	48.26	.80	7.26	224.34	75.45	17.49	2.00	4.50	1.39
June	83.55	16.45	54.41	44.99	.60	6.98	228.87	75.41	17.53	1.83	4.53	1.35
July	75.93	24.07	58.84	40.38	.78	7.60	237.22	75.32	17.31	1.86	4.18	1.36
August	78.33	21.67	61.30	37.99	.71	9.47	239.29	75.03	16.29	2.23	4.91	1.42
September	79.44	20.56	60.44	38.83	.73	9.63	232.27	74.59	15.28	2.43	5.37	1.34
October	81.48	18.52	59.42	39.89	.69	10.03	219.79	73.11	13.69	2.62	5.82	1.25
November	75.75	24.25	53.22	46.14	.64	9.01	211.67	73.87	13.68	2.75	5.34	1.23
December	78.16	21.84	51.34	48.11	.55	9.17	208.96	74.72	15.00	2.42	4.61	1.19

TABLE 584.—*Livestock slaughter statistics: Sources of supply, classification, slaughter costs, weights and yields, 1922–1924*—Continued

SHEEP AND LAMBS

Year and month	Medium of obtaining supply		Age classification		Average live cost per 100 pounds	Average live weight	Dressed weight as percentage of live weight	By-product yield (on basis of live weight)	
	Stockyards	Other sources	Sheep	Lambs and yearlings				Edible fat [1]	Edible offal
1922	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Dollars*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
July	84.80	15.20	8.80	91.20	11.58	72.70	48.56	2.35	2.3
August	87.47	12.53	11.20	88.80	12.37	76.05	48.07	2.37	2.28
September	85.22	14.78	13.41	86.59	11.55	77.68	48.17	2.54	2.2
October	84.93	15.07	20.54	79.46	12.14	80.15	48.03	2.56	2.1
November	88.01	11.99	16.59	83.41	12.21	83.36	47.80	2.90	2.2
December	89.13	10.87	14.65	85.35	12.64	85.81	47.70	3.22	2.1
1923									
January	87.59	12.41	17.10	82.90	12.67	87.61	47.59	3.44	2.1
February	87.46	12.54	16.84	83.16	12.50	88.19	47.22	3.38	1.9
March	86.03	13.97	10.18	89.82	12.85	85.13	47.36	3.30	1.8
April	85.98	14.02	11.17	88.83	12.41	81.95	47.97	3.50	2.2
May	81.04	18.96	18.92	81.08	12.31	78.09	49.37	3.00	2.0
June	79.57	20.43	12.51	87.49	11.14	76.05	48.43	2.06	1.9
July	78.45	21.55	10.69	89.31	11.99	75.37	48.51	2.23	2.1
August	83.88	16.12	11.21	88.79	11.52	76.88	47.85	2.19	1.8
September	94.09	5.91	10.47	89.53	11.81	78.04	48.04	2.40	1.4
October	86.59	13.41	11.26	88.74	11.37	79.65	47.76	2.44	1.6
November	85.70	14.30	16.26	83.74	11.96	76.75	50.61	2.62	2.0
December	87.55	12.45	11.73	88.27	11.54	83.09	47.13	2.73	1.6
1924									
January	86.82	13.18	10.22	89.78	11.56	83.92	46.82	3.01	1.9
February	76.71	23.29	12.21	87.79	13.59	85.40	46.48	2.89	1.9
March	80.86	19.14	7.92	92.08	14.78	86.24	46.30	3.20	1.9
April	82.13	17.87	12.25	87.75	14.09	83.19	47.37	3.45	1.7
May	72.28	27.72	14.48	85.52	13.28	80.10	48.44	2.95	1.8
June	80.66	19.34	10.01	89.99	12.49	73.64	48.90	2.44	2.1
July	86.55	13.45	7.59	92.41	11.94	73.84	48.42	2.38	1.9
August	88.45	11.55	11.44	88.56	11.76	76.27	47.90	2.36	1.7
September	87.26	12.74	15.78	84.22	11.76	76.96	48.14	2.46	1.9
October	86.76	13.24	8.96	91.04	12.09	79.67	47.71	2.60	2.0
November	83.36	16.64	8.64	91.36	12.49	81.76	47.19	2.75	2.1
December	85.13	14.87	8.41	91.59	14.34	83.22	46.89	2.76	2.1

Division of Statistical and Historical Research. From reports of the Cold Storage Report Section.

[1] Unrendered.

TABLE 585.—*Meats, fresh: Supply at eastern markets, by months, 1924*

RECEIPTS

Market and month	Carcasses							Cuts			
	Steers	Cows	Bulls	Veal	Hogs	Lambs	Mutton	Beef	Pork	Veal	Lamb
Boston:	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
January	10,024	8,211	315	4,695		69,498	2,632	27,784	1,323,700	3,200	
February	7,120	6,090	314	4,406		52,806	2,266	22,782	1,375,136		
March	6,154	5,269	240	5,869	50	43,879	2,200	38,495	1,225,931	3,200	
April	9,171	5,182	355	7,719	237	49,312	3,553	45,138	1,723,936		
May	9,285	4,215	320	5,556		47,883	4,964	32,148	1,705,210		
June	11,354	3,807	223	5,418		52,244	4,353	66,336	1,896,228		
July	13,761	3,168	239	5,460		55,452	1,257	3,519	1,720,860	8	2
August	12,066	4,942	197	4,065		49,444	1,747	13,997	1,211,819		
September	10,653	5,003	252	5,732		61,036	1,464	11,000	1,553,637		
October	14,018	9,051	282	6,892		79,694	1,770	10,661	2,114,230		
November	9,202	9,492	136	5,931	173	53,140	1,487	4,471	2,452,119		
December	11,522	9,381	276	6,290	176	61,980	2,145	15,766	3,925,527		
Total	124,330	73,811	3,149	68,033	636	676,368	29,838	292,097	22,228,333	6,408	2

TABLE 585.—*Meats, fresh: Supply at eastern markets, by months, 1924*—Contd.

RECEIPTS—Continued

Market and month	Carcasses							Cuts			
	Steers	Cows	Bulls	Veal	Hogs	Lambs	Mutton	Beef	Pork	Veal	Lamb
New York:	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
January	39,732	5,474	951	48,902	1,849	111,034	24,661	1,383,052	8,227,521		
February	29,759	4,369	1,227	47,016	628	85,457	21,427	903,309	5,597,522	85,692	
March	25,825	4,215	959	44,182	175	78,890	18,934	907,925	5,548,010	172,893	
April	36,476	5,418	1,139	70,332	218	92,381	21,979	1,246,595	5,737,893	368,511	184,312
May	32,289	4,259	835	54,747	425	63,200	29,614	1,203,755	4,445,262	416,556	1,974
June	37,241	4,488	1,116	50,762	37	79,769	27,999	1,302,032	4,608,287	471,429	6,502
July	37,490	3,767	1,626	54,650	900	108,774	17,758	1,420,033	4,641,480	429,636	22,996
August	31,909	3,964	1,653	34,074		77,440	19,925	1,108,567	2,912,653	239,464	14,268
September	33,461	4,391	1,682	41,943	60	107,212	20,384	517,004	3,548,602	24,649	6,058
October	41,389	6,670	1,730	60,789	35	132,888	29,040	750,465	4,797,030	259	
November	31,018	5,782	1,012	41,055	311	85,939	12,062	461,571	5,483,008	30,000	
December	38,208	8,036	734	57,102	1,059	103,651	19,998	652,958	7,539,977	36,985	
Total	414,797	60,833	14,664	605,614	5,607	1,126,635	263,781	11,857,266	63,087,245	2,276,074	236,110
Philadelphia:											
January	10,923	3,676	1,038	7,944		36,955	7,402		2,596,919		
February	10,823	3,001	840	8,037		31,906	7,386		2,492,879		
March	8,948	3,539	812	9,389		28,306	4,050		2,187,753		
April	12,029	3,787	779	12,544		32,967	5,935		2,142,942		
May	11,950	2,551	759	8,639		29,915	8,534		1,461,569		
June	12,915	2,667	1,067	10,247		29,805	7,898		1,636,757		
July	15,168	2,357	1,199	9,471		39,240	6,845		1,965,132		
August	12,554	1,958	987	6,587		30,100	5,654		1,163,589		
September	11,888	2,845	977	7,329		38,454	5,296		1,393,243		
October	14,931	3,880	1,320	9,360		48,961	8,117		1,825,118		
November	10,769	3,666	1,119	9,121		37,672	3,537		1,901,427		
December	12,250	5,169	956	9,871		37,706	6,685		2,546,792		
Total	145,148	39,039	11,853	108,539		421,987	77,339		23,314,220		

SLAUGHTER

Market and month	Under Federal inspection				Under city inspection			
	Cattle	Calves	Hogs	Sheep	Cattle	Calves	Hogs	Sheep
Boston:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
January	8,953	7,436	114,499	26,501	112	1,747	5,965	49
February	5,593	5,273	64,408	21,122	69	2,116	4,747	4
March	6,916	7,734	56,495	16,951	61	4,863	4,704	
April	8,680	12,408	55,321	23,095	145	5,399	5,252	2
May	6,874	9,540	58,749	21,865	189	2,733	3,855	1
June	6,203	7,895	78,656	24,474	248	1,699	3,706	1
July	6,695	9,170	92,430	27,723	136	1,507	3,510	
August	5,533	6,085	42,124	28,106	131	1,046	2,711	
September	6,976	7,265	42,186	26,763	279	1,121	3,648	9
October	8,758	9,523	51,572	30,503	748	1,743	5,140	2
November	10,654	7,284	95,808	24,228	387	1,434	4,404	
December	12,026	6,644	181,557	19,673	614	1,995	6,002	
Total	93,861	96,257	933,805	291,004	3,119	27,493	53,644	68
New York:								
January	51,044	62,164	344,499	225,871	113	14,153	732	1,186
February	39,591	49,399	272,580	167,237	60	12,161	356	1,314
March	38,460	56,205	246,746	156,282	76	16,634	232	2,303
April	48,477	89,841	293,526	181,518	78	19,875	153	4,182
May	40,511	69,098	220,956	137,390	36	9,784	17	1,868
June	37,606	61,937	194,002	153,924	313	7,265	15	494
July	48,470	71,702	211,521	217,123	38	4,325		39
August	40,147	56,174	153,607	197,150	29	3,812	2	19
September	41,589	58,089	194,684	201,596	59	6,518	59	39
October	46,390	61,231	280,389	257,377	140	8,997	430	217
November	44,436	51,643	259,318	210,343	116	6,743	1,618	471
December	57,337	77,292	367,550	227,178	110	11,630	1,876	735
Total	534,048	764,775	3,039,378	2,332,989	1,168	121,897	5,490	12,867

TABLE 585.—*Meats, fresh: Supply at eastern markets, by months, 1924*—Contd.

SLAUGHTER—Continued

Market and month	Under Federal inspection				Under city inspection			
	Cattle	Calves	Hogs	Sheep	Cattle	Calves	Hogs	Sheep
Philadelphia:								
January	10,196	6,611	125,589	19,056	1,815	3,476	2,020	8,932
February	7,333	5,084	96,777	15,029	1,385	3,455	1,496	6,381
March	7,921	5,982	85,592	13,919	1,784	3,261	995	6,765
April	9,471	9,027	107,478	18,330	1,995	4,295	666	8,820
May	7,438	8,573	89,768	11,784	1,501	3,558	566	8,452
June	6,843	8,192	74,459	11,150	1,243	3,963	445	8,792
July	8,313	8,179	76,775	16,020	1,307	5,134	382	12,289
August	7,183	6,305	61,125	15,160	980	3,635	472	8,486
September	7,671	6,137	68,381	14,303	1,153	3,904	962	9,479
October	9,120	6,250	95,026	20,819	1,369	4,891	2,538	11,597
November	6,949	5,852	96,331	16,126	1,288	4,328	2,422	7,765
December	7,829	5,800	114,069	14,892	1,392	4,533	2,400	10,439
Total	96,267	81,952	1,091,370	186,588	17,212	48,433	15,364	108,197

SUMMARY

Market and month	Beef		Veal		Pork		Lamb and mutton	
	Carcasses	Cuts	Carcasses	Cuts	Carcasses	Cuts	Carcasses	Cuts
Boston:	*Number*	*Pounds*	*Number*	*Pounds*	*Number*	*Pounds*	*Number*	*Pounds*
January	27,615	27,784	13,878	3,200	120,464	1,323,700	98,680	.....
February	19,186	22,782	11,795	.....	69,155	1,375,136	76,198	.....
March	18,640	38,495	18,466	3,200	61,249	1,225,931	63,030	.....
April	23,533	45,138	25,526	.....	60,810	1,723,936	75,962	.....
May	20,883	32,148	17,829	.....	62,604	1,705,210	74,713	.....
June	21,835	66,336	15,012	.....	82,362	1,896,228	81,072	.....
July	23,999	3,519	16,227	8	95,940	1,720,860	84,432	25
August	22,869	13,997	11,196	.....	44,835	1,211,819	79,297	.....
September	23,163	11,000	14,118	.....	45,834	1,553,637	89,272	.....
October	32,857	10,661	18,158	.....	56,712	2,114,230	111,969	.....
November	29,871	4,471	14,649	.....	100,385	2,452,119	78,855	.....
December	33,819	15,766	14,929	.....	187,736	3,925,527	83,798	.....
Total	298,270	292,097	191,783	6,408	988,085	22,228,333	997,278	25
New York:								
January	97,314	1,383,052	125,219	.....	347,080	8,227,521	362,752	.....
February	75,006	903,309	108,576	85,692	273,564	5,597,522	275,435	.....
March	69,525	907,925	117,021	172,893	247,153	5,548,010	256,409	.....
April	91,588	1,246,595	180,048	368,511	293,897	5,737,893	300,060	184,312
May	77,930	1,203,755	133,629	416,556	221,398	4,445,262	232,072	1,974
June	80,764	1,302,032	119,964	471,429	194,054	4,608,287	202,186	6,502
July	91,391	1,420,033	130,677	429,636	212,421	4,641,480	343,694	22,996
August	77,702	1,108,567	94,060	239,464	153,609	2,912,653	294,534	14,268
September	81,182	517,004	106,550	24,649	194,803	3,548,602	329,231	6,058
October	96,319	750,465	131,017	259	280,854	4,797,030	419,522	.....
November	82,364	461,571	99,441	30,000	261,247	5,483,008	308,815	.....
December	104,425	652,958	146,084	36,985	370,485	7,539,977	351,562	.....
Total	1,025,510	11,857,266	1,492,286	2,276,074	3,050,565	63,067,245	3,736,272	236,110
Philadelphia:								
January	27,648	.....	18,031	.....	127,609	2,596,919	72,345	.....
February	23,385	.....	16,576	.....	98,273	2,492,979	60,702	.....
March	23,004	.....	18,632	.....	86,587	2,187,753	53,040	.....
April	28,061	.....	25,866	.....	108,144	2,142,942	66,052	.....
May	24,199	.....	20,730	.....	90,334	1,461,569	58,685	.....
June	24,735	.....	22,402	.....	74,904	1,636,757	57,645	.....
July	28,344	.....	22,784	.....	77,157	1,965,132	74,394	.....
August	23,662	.....	16,527	.....	61,597	1,163,589	59,400	.....
September	24,534	.....	17,370	.....	69,343	1,393,243	67,532	.....
October	30,620	.....	20,501	.....	97,564	1,825,118	89,494	.....
November	23,731	.....	19,301	.....	98,753	1,901,427	65,100	.....
December	27,596	.....	20,204	.....	116,469	2,546,792	69,722	.....
Total	309,519	.....	238,924	.....	1,106,734	23,314,220	794,111	.....

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 586.—*Meat and meat products: International trade, calendar year, average 1911–1913, annual 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1911-1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	3,487	1,173,461	329	1,242,520	291	1,440,264	529	1,961,053
Australia [1]	1,967	507,143	772	338,700		331,445		[2] 104,062
Brazil	54,012	1,520	10,232	174,160	14,156	96,273		244,078
Canada	43,327	60,242	75,436	158,780	70,211	142,648	62,393	142,665
Chile	11,738	19,728	3,252	56,552	459	29,147		23,083
China	85	64,684	1,363	71,190	2,141	44,701	1,414	56,377
Denmark	32,184	368,188	18,117	237,755	20,486	335,775	19,479	478,465
Hungary					5,673	20,654	12,812	21,448
Netherlands	359,864	497,402	219,781	316,437	201,659	321,986	262,927	368,508
New Zealand	960	326,539	1,922	553,426	834	460,904	832	405,712
Sweden	24,215	39,768	34,919	66,513	43,162	47,713	40,443	47,090
United States	18,719	1,277,524	106,584	1,948,962	125,601	1,863,547	80,387	2,342,809
Uruguay	[3] 702	196,911	17	236,638				
Yugoslavia				58,941		46,018		48,679
PRINCIPAL IMPORTING COUNTRIES								
Austria			131,345	9,287	123,925	8,278	159,040	898
Austria-Hungary	49,268	12,420						
Belgium	179,120	127,057	191,536	48,723	194,144	23,595	263,817	23,238
Cuba	128,362	([3] [4])	175,472		182,061			
Czechoslovakia			66,028	1,314	116,919	2,870	160,266	347
Finland	14,973	2,081	14,272	8,779	14,652	8,347	20,180	3,191
France	111,496	98,281	300,528	66,803	240,906	94,547	378,002	91,045
Germany	559,752	19,525	808,429	[5] 7,298	495,035	19,961	698,880	15,988
Italy	104,619	15,708	132,992	7,418	132,419	25,208	146,178	17,361
Japan	11,727		70,528					
Norway	42,416	3,365	73,733	3,026	79,033	2,732	67,493	2,508
Philippine Islands	21,902		23,503		17,071		13,424	
Poland					23,222	4,061	34,908	4,591
Russia	130,897	53,175						
Spain	37,974	3,200	21,070	6,578	21,045	6,155	23,085	9,533
Switzerland	60,174	3,169	62,811	2,088	32,026	3,726	38,432	2,886
Union of South Africa	31,103	404	6,276	4,658	9,906	2,767	16,109	2,092
United Kingdom	2,843,605	117,226	3,331,055	90,134	3,322,405	95,774	3,909,650	114,709
Other countries	111,722	35,935	179,755	32,065	116,425	31,768	99,299	11,511
All countries:								
Beef	2,044,172	2,162,336	2,402,064	2,322,286	2,271,960	1,995,701	2,686,860	2,459,722
Mutton	611,744	560,284	833,251	654,682	702,489	704,586	700,324	486,670
Pork	1,632,382	1,638,145	2,277,011	2,234,283	2,127,172	2,098,500	2,554,884	2,777,265
Other	702,072	663,891	549,731	537,494	504,246	712,077	567,901	820,270
Total	4,990,370	5,024,656	6,062,057	5,748,745	5,605,867	5,510,864	6,509,969	6,543,927

Division of Statistical and Historical Research. Official sources.

[1] Year beginning July 1.
[2] Nine months.
[3] One year only.
[4] Less than 500 pounds.
[5] Eight months, May–December.

TABLE 587.—*Meats: Stocks in cold-storage warehouses and meat-packing establishments, 1916–1924*

[Thousand pounds—i. e., 000 omitted]

Year beginning November	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1
1916			803,669	875,450	913,659	851,990
1917	587,245	709,043	981,378	1,117,965	1,265,554	1,354,961
1918	882,230	958,066	1,199,292	1,452,312	1,436,378	1,388,764
1919	880,719	865,101	1,015,558	1,186,530	1,278,729	1,304,142
1920	670,295	655,636	820,245	976,058	1,138,033	1,107,706
1921	490,648	504,659	566,603	624,278	680,553	717,417
1922	512,396	569,165	754,489	876,251	957,908	1,031,808
1923	628,578	739,493	900,242	987,773	1,062,816	1,107,861
1924	535,760	598,345				

Year beginning November	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1
1916	827,951	831,867	878,598	893,472	778,119	632,802
1917	1,319,328	1,299,779	1,149,377	1,136,501	1,035,861	905,326
1918	1,332,443	1,283,768	1,254,457	1,171,381	1,061,274	984,259
1919	1,251,508	1,208,728	1,194,464	1,115,082	977,225	783,777
1920	1,042,552	1,017,209	989,402	899,406	776,981	607,455
1921	712,887	745,022	816,689	788,524	727,111	589,188
1922	1,093,765	1,045,224	1,040,751	983,159	868,036	723,459
1923	1,063,635	1,028,288	1,005,002	930,589	825,651	672,437
1924	535,760	598,345				

Division of Statistical and Historical Research. From reports of the Cold Storage Report Section.

TABLE 588.—*Meats, fresh and smoked: Average wholesale price per 100 pounds at Chicago and New York, by months, 1924*

CHICAGO

Class of meat	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Beef:													
Steer—	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Choice	19.02	18.50	18.50	18.50	18.38	17.84	17.33	18.11	18.02	18.24	18.10	19.10	18.30
Good	17.17	16.73	16.66	17.00	17.28	16.48	16.00	16.85	16.86	16.78	16.50	16.84	16.76
Medium	14.28	14.34	14.51	15.15	15.64	15.04	14.61	14.81	14.26	14.00	13.60	13.50	14.48
Common	11.22	12.00	12.35	13.40	13.32	12.58	12.49	10.78	10.61	10.75	10.75	10.75	11.75
Cow—													
Good	12.11	11.75	11.81	12.30	13.00	13.64	13.92	14.02	13.16	12.58	12.25	11.85	12.70
Medium	10.57	10.12	10.60	11.00	11.50	12.18	12.31	11.50	11.25	10.97	10.75	10.30	11.09
Common	8.38	8.38	8.79	9.50	9.70	10.04	10.23	8.16	8.90	8.56	7.80	7.50	8.83
Bull—													
Common	8.53	8.34	8.24	8.23	8.30	8.41	8.13	7.75	7.66	7.10	6.75	6.53	7.83
Veal:													
Choice	18.99	19.18	18.55	18.06	17.50	16.90	17.15	18.69	19.34	17.74	15.31	16.30	17.81
Good	17.08	17.15	16.52	16.46	16.25	15.44	15.54	15.98	16.02	14.50	12.50	13.83	15.61
Medium	14.04	14.15	14.02	14.28	14.08	13.40	13.68	13.76	12.10	10.31	9.31	9.30	12.70
Common	11.22	11.35	10.98	10.96	10.00	10.15	10.28	10.79	9.48	7.85	7.72	7.75	9.88
Lamb and mutton:													
Lamb—													
Choice	23.06	23.78	27.50	27.98	29.10	27.98	27.85	26.00	24.96	21.83	22.55	25.12	25.64
Good	21.16	22.15	25.72	26.66	28.00	25.90	26.20	23.79	22.71	18.87	20.82	22.97	23.75
Medium	19.80	19.78	24.35	24.86	26.10	23.32	22.44	19.69	20.09	17.34	18.70	20.63	21.42
Common	17.34	18.05	21.85	22.26	23.85	20.08	17.25	15.08	16.59	15.37	16.59	18.46	18.56
Mutton—													
Good	14.44	14.55	18.25	19.34	17.21	16.28	13.60	14.51	13.41	13.25	12.50	12.91	15.02
Medium	12.32	12.65	16.25	16.84	14.42	13.70	11.69	11.05	10.50	10.50	10.50	10.99	12.62
Common	8.90	9.62	12.88	13.76	10.58	9.72	8.64	8.46	8.00	8.00	7.62	8.74	9.58
Fresh pork cuts:													
Hams—													
12–16 pounds average	15.25	15.44	15.31	15.95	16.25	16.38	16.82	18.44	16.56	18.10	16.56	17.90	16.58
Loins—													
8–10 pounds average	13.82	13.85	14.99	17.06	18.60	16.76	18.67	25.05	26.19	24.80	16.51	16.41	18.56
10–12 pounds average	13.03	13.09	14.04	16.05	17.18	15.24	17.07	22.28	23.95	23.16	15.38	15.72	17.18
12–14 pounds average	12.41	12.32	13.00	14.82	15.70	13.75	15.03	18.26	20.44	20.86	14.53	14.90	15.50
14–16 pounds average	11.64	11.49	12.11	13.67	14.22	12.81	13.58	14.11	17.39	18.44	13.54	14.10	13.92
16 pounds and over	10.70	10.78	11.18	12.69	13.11	11.58	12.22	12.85	15.60	16.36	12.66	13.18	12.74
Shoulders—													
Skinned	9.40	9.69	9.56	9.59	9.96	9.58	10.65	13.44	14.47	16.08	13.34	12.66	11.54
Picnics—													
4–6 lbs.	9.17	8.64	8.75	9.20	9.31	9.32	9.79	11.16	------	12.71	11.92	11.95	10.17
6–8 lbs.	8.55	8.30	8.58	8.89	8.81	8.82	9.29	10.36	------	------	------	------	8.95
Butts—													
Boston style	10.73	11.59	11.62	12.94	13.41	13.51	14.07	17.30	19.19	21.35	14.71	14.61	14.50
Spare ribs	8.44	9.25	8.64	7.86	8.34	7.15	6.94	9.46	11.95	13.86	11.72	11.09	9.56

TABLE 588.—*Meats, fresh and smoked: Average wholesale price per 100 pounds at Chicago and New York, by months, 1924*—Continued

CHICAGO—Continued

Class of meat	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Cured pork cuts and lard:													
Hams, smoked, 14–16 pounds average	19. 85	19. 19	19. 38	19. 05	19. 38	19. 19	20. 05	21. 44	21. 62	21. 35	20. 38	20. 70	20. 13
Shoulders, picnics smoked	12. 30	11. 18	11. 53	11. 37	12. 06	12. 50	13. 25	13. 41	13. 62	14. 85	15. 62	15. 57	13. 10
Bacon, breakfast	17. 10	16. 38	17. 38	18. 35	18. 88	18. 38	19. 55	22. 85	23. 60	26. 65	26. 62	25. 20	20. 91
Lard, tierces	14. 52	13. 03	12. 84	12. 50	12. 19	12. 13	13. 65	15. 94	16. 25	18. 05	16. 68	18. 00	14. 65
Lard, substitutes tierces	14. 20	13. 47	13. 06	12. 88	12. 94	12. 88	14. 23	15. 12	15. 19	14. 35	14. 44	14. 60	13. 95

NEW YORK

Beef:													
Steer—													
Choice	19. 35	17. 78	18. 00	18. 74	18. 65	17. 19	16. 97	18. 48	18. 27	19. 10	18. 66	19. 63	18. 40
Good	16. 68	15. 90	16. 06	17. 15	16. 94	15. 60	15. 39	16. 19	16. 42	16. 26	15. 92	15. 82	16. 19
Medium	14. 15	13. 87	14. 29	15. 12	15. 00	13. 79	13. 70	13. 20	13. 28	12. 46	12. 89	12. 08	13. 65
Common	12. 36	12. 30	12. 86	13. 13	13. 26	11. 56	11. 48	10. 24	10. 88	9. 40	9. 44	9. 66	11. 38
Cow—													
Good	11. 95	12. 32	12. 38	13. 88	14. 06	13. 36	12. 73	13. 30	12. 38	11. 39	10. 76	10. 64	12. 43
Medium	10. 67	11. 24	11. 35	12. 32	12. 72	12. 04	11. 50	11. 02	10. 36	9. 06	8. 70	8. 87	10. 83
Common	9. 34	10. 02	10. 30	11. 20	11. 50	10. 68	9. 94	8. 78	9. 44	7. 59	7. 28	7. 49	9. 46
Bull—													
Common	9. 01	8. 68	8. 75	8. 95	8. 96	9. 22	8. 90	7. 82	7. 64	7. 21	7. 25	7. 36	8. 31
Veal:													
Choice	22. 12	22. 12	19. 42	18. 34	18. 20	17. 40	17. 77	20. 50	22. 33	20. 26	16. 90	19. 10	19. 54
Good	19. 98	19. 62	17. 02	15. 86	16. 25	15. 62	15. 94	17. 58	19. 28	18. 38	15. 70	16. 90	17. 34
Medium	16. 74	15. 50	14. 45	13. 78	14. 26	13. 62	13. 54	14. 00	14. 02	13. 81	13. 15	14. 42	14. 27
Common	13. 10	11. 62	11. 22	10. 91	11. 86	11. 05	10. 94	10. 91	10. 11	9. 66	10. 08	10. 30	10. 98
Lamb and mutton:													
Lamb—													
Choice	23. 32	24. 89	28. 28	29. 94	30. 01	27. 82	27. 80	25. 85	24. 72	22. 24	22. 44	26. 88	26. 18
Good	21. 04	23. 51	26. 82	28. 72	28. 25	26. 19	25. 75	23. 80	22. 61	20. 70	21. 19	25. 51	24. 58
Medium	20. 19	21. 80	25. 28	27. 28	26. 60	24. 28	23. 13	21. 08	20. 26	19. 32	20. 08	24. 16	22. 79
Common	19. 04	19. 33	.....	25. 67	25. 15	22. 22	19. 69	17. 35	17. 48	16. 86	18. 38	19. 82	18. 42
Mutton—													
Good	15. 84	17. 50	19. 98	19. 10	16. 51	13. 48	15. 38	15. 25	14. 40	12. 82	15. 12	15. 40	15. 90
Medium	14. 28	15. 85	18. 50	17. 38	14. 84	11. 72	13. 32	12. 82	12. 09	10. 72	13. 50	14. 00	14. 08
Common	12. 72	13. 97	16. 25	15. 50	12. 75	9. 80	11. 32	10. 18	9. 85	8. 56	10. 62	11. 40	11. 91
Fresh pork cuts:													
Hams—													
12–16 pounds average	16. 90	18. 25	17. 44	17. 40	17. 00	16. 50	17. 20	20. 50	19. 50	20. 50	20. 00	19. 20	18. 37
Loins—													
8–10 pounds average	15. 36	14. 63	15. 20	18. 05	19. 22	18. 65	18. 67	26. 48	26. 97	26. 18	19. 40	17. 06	19. 66
10–12 pounds average	14. 48	13. 86	14. 36	17. 03	18. 05	17. 52	17. 51	24. 78	25. 00	24. 91	18. 15	16. 42	18. 51
12–14 pounds average	13. 53	12. 78	13. 46	15. 86	16. 79	16. 19	16. 19	21. 15	20. 95	22. 65	17. 39	15. 79	16. 89
14–16 pounds average	12. 80	12. 22	12. 82	14. 79	15. 79	14. 76	14. 93	19. 25	19. 24	21. 07	16. 53	15. 12	15. 78
16 pounds and over	11. 98	11. 44	11. 96	13. 71	14. 39	13. 29	13. 83	17. 30	17. 54	18. 45	15. 38	14. 24	14. 46
Shoulders—													
Skinned	10. 32	10. 15	10. 40	10. 54	10. 84	10. 68	10. 60	14. 61	14. 51	16. 98	14. 92	13. 71	12. 36
Picnics—													
4–6 lbs	10. 11	9. 82	9. 54	10. 06	10. 20	9. 79	10. 12	13. 10	.....	.....	13. 89	13. 05	10. 97
6–8 lbs	9. 25	8. 85	8. 68	9. 06	9. 36	9. 08	9. 02	11. 90	13. 00	15. 13	13. 54	12. 28	10. 76
Butts—													
Boston style	13. 07	12. 76	13. 45	13. 84	14. 10	13. 89	14. 26	18. 15	19. 49	22. 56	17. 30	16. 33	15. 77
Spare ribs	8. 80	9. 00	9. 00	9. 00	9. 00	8. 75	9. 00	11. 75	11. 80	13. 80	12. 50	11. 20	10. 30
Cured pork cuts and lard:													
Hams, smoked, 10–12 pounds average	21. 20	20. 00	19. 62	19. 60	20. 12	20. 50	21. 20	23. 00	20. 56	21. 90	19. 62	.....	.....
Shoulders, picnics, smoked	12. 80	11. 88	10. 81	10. 95	11. 12	11. 72	12. 40	14. 31	13. 75	14. 55	15. 75	.....	.....
Bacon, breakfast	18. 20	19. 00	20. 00	21. 00	21. 00	19. 81	19. 60	22. 69	22. 50	23. 10	23. 12	.....	.....
Lard, tierces	14. 23	12. 19	12. 00	12. 30	12. 09	12. 15	13. 35	15. 72	15. 62	17. 32	18. 00	17. 13	14. 34
Lard substitutes, tierces	13. 55	11. 84	12. 06	12. 60	12. 60	12. 88	13. 90	15. 53	15. 19	13. 80	14. 06	14. 20	13. 52

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

HIDES AND SKINS

TABLE 589.—*Hides and skins: Quarterly stocks of hides in United States, 1921–1924*

[Thousands—i. e., 000 omitted]

RAW PACKER

Description and year	Mar. 31	June 30	Sept. 30	Dec. 31	Description and year	Mar. 31	June 30	Sept. 30	Dec. 31
Steers:					Mixed cattle:				
1921	1,564	1,522	1,451	1,090	1921	265	378	273	305
1922	1,255	1,492	1,342	1,370	1922	292	202	208	241
1923	1,448	1,532	1,590	1,166	1923	239	188	164	210
1924	1,111	1,270	1,108	1,051	1924	186	140	154	210
Cows:					Calfskins:				
1921	2,251	1,537	1,169	1,173	1921	913	1,073	775	531
1922	1,145	1,054	1,186	1,584	1922	703	713	670	596
1923	1,368	1,182	1,279	1,492	1923	731	683	584	509
1924	1,302	946	1,038	1,559	1924	487	613	472	476
Bulls:					Kip skins:				
1921	188	165	162	125	1921	377	280	240	193
1922	100	99	132	144	1922	124	87	196	274
1923	138	111	148	161	1923	234	142	220	188
1924	138	123	120	109	1924	150	166	273	216

DOMESTIC AND FOREIGN CATTLE HIDES (OTHER THAN PACKER)

Calf, dry or dry salted:					Steers, green salted:				
1921	384	456	590	564	1921	685	545	354	259
1922	486	378	572	760	1922	290	202	340	405
1923	316	420	544	318	1923	444	522	282	133
1924	220	348	376	206	1924	151	206	194	283
Calf, green salted:					Mixed cattle, green salted:				
1921	1,763	2,362	2,110	1,870	1921	1,109	847	1,191	1,021
1922	1,775	2,507	2,432	1,942	1922	801	706	790	787
1923	1,643	2,362	1,516	1,357	1923	1,081	813	698	705
1924	1,205	1,702	1,800	1,483	1924	892	611	528	685
Cattle, dry or dry salted:					Kip, dry or dry salted:				
1921	984	885	937	1,012	1921	20	46	61	45
1922	1,064	968	1,020	1,143	1922	461	455	447	319
1923	1,217	1,144	872	595	1923	258	356	206	111
1924	344	276	255	212	1924	124	73	89	50
Bulls, green salted:					Kip, green salted:				
1921	58	76	54	58	1921	396	254	269	392
1922	54	44	37	37	1922	330	334	346	570
1923	45	43	43	41	1923	518	397	359	453
1924	44	49	44	28	1924	328	295	330	399
Cows, green salted:									
1921	703	1,105	496	775					
1922	660	579	462	636					
1923	768	551	412	582					
1924	520	343	334	448					

MISCELLANEOUS HIDES AND SKINS

Buffalo hides:					Cattle hides:				
1921	211	188	170	141	1921	7,807	7,078	6,086	5,819
1922	138	139	156	109	1922	5,662	5,347	5,515	6,346
1923	117	180	117	88	1923	6,749	6,086	5,487	5,086
1924	59	54	14	11	1924	4,689	3,963	3,775	4,585
Cabretta skins:					Deer and elk skins:				
1921	1,579	1,219	791	547	1921	119	212	216	275
1922	361	878	810	930	1922	136	166	187	188
1923	966	1,128	914	736	1923	192	327	274	309
1924	608	559	509	458	1924	311	397	413	330
Calf and kip skins (domestic):					Goat and kid skins:				
1921	4,302	4,926	4,413	3,990	1921	8,652	9,680	10,746	10,380
1922	3,881	4,474	4,604	4,462	1922	8,044	10,799	8,641	8,730
1923	3,700	4,360	3,429	2,935	1923	7,779	10,187	10,999	9,926
1924	2,516	3,197	3,340	2,831	1924	7,195	9,196	8,018	6,153
Cattle and kip hides and skins (foreign tanned)					Horse, colt, ass, and mule hides:				
1921	293	240	202	151	1921	385	386	306	260
1922	124	62	46	75	1922	254	140	109	128
1923	76	72	23	19	1923	166	128	100	111
1924	13	18	19	16	1924	136	98	62	98

TABLE 589.—*Hides and skins: Quarterly stocks of hides in United States, 1921–1924*—Continued

[Thousands—i. e., 000 omitted]

MISCELLANEOUS HIDES AND SKINS—Continued

Description and year	Mar. 31	June 30	Sept. 30	Dec. 31	Description and year	Mar. 31	June 30	Sept. 30	Dec. 31
Horse, colt, ass, and mule butts:					Pig and hog skins:				
1921	222	193	191	207	1921	251	120	89	97
1922	220	224	310	456	1922	111	111	106	96
1923	491	448	186	166	1923	88	55	65	71
1924	113	119	88	131	1924	79	83	23	23
Horse, colt, ass, and mule fronts:					Pig and hog strips (pounds):				
1921	43	57	57	62	1921	1,163	859	349	517
1922	44	62	94	115	1922	226	483	390	319
1923	145	139	97	101	1923	412	604	645	575
1924	59	98	31	86	1924	561	738	390	292
Horse, colt, ass, and muleshanks:					Sheep and lamb skins:				
1921	72	109	65	60	1921	12,971	13,755	12,606	12,661
1922	56	42	60	154	1922	11,941	10,971	10,475	9,151
1923	36	92	23	95	1923	8,995	9,916	9,203	7,400
1924	15	-------	11	17	1924	6,193	6,321	7,282	5,515
Kangaroo and Wallaby skins:					Skivers and fleshers (pieces):				
1921	410	363	359	389	1921	1,611	1,778	1,784	1,770
1922	268	240	177	243	1922	1,732	1,858	2,031	2,141
1923	335	456	358	486	1923	1,540	1,638	1,584	1,408
1924	397	278	175	335	1924	1,345	1,516	1,780	1,327

Division of Statistical and Historical Research. Compiled from reports of the Bureau of Census.

TABLE 590.—*Hides and skins: Imports into the United States, 1910–1924*

[Thousand pounds—i. e., 000 omitted]

Year ended June 30—	Buffalo hides, dry	Calfskins		Cattle hides		Goatskins	
		Dry	Green or pickled	Dry	Green or pickled	Dry	Green or pickled
1910	[1]	[2]	[3] 75,593	[1]	[3] 318,004	[2]	115,845
1911	3,425	23,522	36,261	54,630	95,498	64,338	22,576
1912	4,906	41,992	63,260	78,131	172,881	69,143	26,198
1913	16,235	39,974	54,585	82,595	185,447	70,563	25,687
1914	14,493	27,768	54,636	71,486	208,478	63,374	21,385
1915	12,423	15,678	30,289	93,001	241,340	50,713	15,834
1916	13,004	26,913	37,222	153,339	280,839	85,506	15,152
1917	27,095	33,936	12,400	161,237	225,363	92,425	13,215
1918	10,498	8,894	4,268	76,655	190,844	56,736	10,195
1919	9,515	11,602	9,046	33,182	220,695	78,159	10,845
1920	14,682	43,209	25,151	111,252	328,209	103,828	23,167
1921	4,617	11,810	23,780	24,814	173,759	36,816	4,912
1922	3,084	16,175	25,383	18,439	186,498	68,228	15,307
1923	2,586	14,988	30,736	58,770	346,613	70,794	18,607
1924	1,478	10,754	18,412	18,208	158,267	51,811	14,070

Year ended June 30—	Horse and ass skins		Kangaroo and wallaby skins	Sheepskins		All other	Total
	Dry	Green or pickled		Dry	Green or pickled		
1910	[2]	[3] 19,512	[4]	[2]	[3] 67,406	12,259	608,619
1911	4,551	5,704	[4]	18,787	36,930	8,669	374,891
1912	7,194	5,675	[4]	25,645	34,755	7,988	537,768
1913	10,979	8,448	1,097	31,132	40,653	4,802	572,197
1914	7,620	4,645	1,329	29,338	40,739	15,780	561,071
1915	5,425	3,800	769	20,886	37,834	10,226	538,218
1916	6,780	11,347	1,219	54,600	46,859	10,890	743,670
1917	12,185	15,485	959	55,284	40,447	10,176	700,207
1918	2,699	6,360	671	32,239	23,230	9,226	432,517
1919	2,762	3,551	1,053	26,464	35,431	5,837	448,142
1920	13,910	22,407	1,193	42,501	58,365	10,695	798,569
1921	1,142	5,461	878	22,401	35,899	5,904	352,193
1922	1,295	3,430	724	12,593	36,245	5,503	392,904
1923	11,939	10,461	1,152	[5] 3,828	[5] 57,840	29,871	658,185
1924	3,885	6,415	1,256	0	48,744	19,192	352,498

Division of Statistical and Historical Research.

[1] Included in cattle hides.
[2] Included in green or pickled.
[3] Includes dry hides.
[4] Included in all other.
[5] Except sheepskins with wool on.

TABLE 591.—*Hides and skins: International trade, calendar years, 1909–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Algeria	3,103	9,335	955	10,484	2,225	10,350	5,829	11,204
Argentina	207	203,950	.....	245,424	.....	405,422	.....	388,319
Brazil	.....	83,252	.....	99,700	.....	113,195	.....	127,421
British India	20,376	169,857	8,040	92,318	6,171	101,738	6,533	105,000
Canada	46,820	45,469	25,356	36,716	44,131	50,455	43,884	54,521
Chile	41	13,235	84	9,886	85	8,888	.....	9,955
China	2,317	72,751	4,618	55,598	6,943	62,552	5,042	64,926
Cuba	166	14,293	(1)	10,053	357	14,847	.....	.....
Denmark	9,842	21,998	6,236	22,137	4,927	26,987	11,690	20,507
Dutch East Indies	135	16,708	371	9,899	188	14,159	.....	[3] 11,361
Egypt	.....	10,754	405	4,988	616	4,899	297	6,720
Madagascar	.....	14,502	.....	4,667	.....	16,065	.....	.....
Morocco	.....	10,347	126	4,863	262	7,456	.....	.....
Netherlands	73,091	67,636	51,302	47,379	34,046	47,681	46,374	47,747
New Zealand	752	25,577	210	31,042	373	31,833	226	25,742
Norway	13,979	13,852	6,186	9,009	8,011	10,587	9,504	11,065
Peru	.....	6,195	.....	3,505	.....	4,614	.....	3,589
Switzerland	6,659	22,866	4,379	10,872	7,547	11,649	13,094	13,300
Union of South Africa	219	50,737	417	45,735	152	63,312	301	59,466
Uruguay	.....	71,105	62	30,795	.....	.....	.....	.....
Venezuela	.....	9,764	.....	4,624	.....	5,449	.....	[3] 1,065
PRINCIPAL IMPORTING COUNTRIES								
Austria	.....	.....	15,260	1,004	11,223	1,271	14,142	299
Austria-Hungary	87,596	79,265	.....	.....	.....	.....	.....	.....
Belgium	180,930	117,213	73,207	41,558	60,911	20,289	73,804	17,900
British Malaya	[4] 9,332	[4] 6,436	7,803	1,410	.....	.....	.....	.....
Czechoslovakia	.....	.....	24,281	1,173	6,229	5,361	15,881	2,482
Finland	10,717	7,136	6,365	2,661	12,138	3,404	17,506	5,328
France	155,508	131,041	78,856	92,129	120,136	88,130	170,319	84,025
Germany	440,200	152,373	245,502	[5] 1,151	240,566	4,382	204,798	4,142
Greece	5,770	2,283	8,164	5,181	9,122	4,855	7,318	4,629
Hungary	.....	.....	.....	.....	1,376	4,993	4,388	815
Italy	53,524	48,428	47,567	47,779	70,547	51,650	72,252	61,434
Japan	6,321	710	23,919	.....	.....	.....	.....	.....
Russia	110,143	96,351	.....	.....	.....	.....	.....	.....
Spain	19,119	17,457	17,442	11,738	22,560	18,111	16,293	27,541
Sweden	25,662	24,130	21,873	21,879	29,258	24,793	38,599	21,667
United Kingdom	107,350	38,100	80,006	18,500	116,611	27,019	149,984	28,659
United States	514,249	25,432	348,047	30,577	543,487	28,700	508,481	36,012
Other countries	54,823	200,817	13,609	26,152	5,926	36,982	5,591	27,218
Total	1,959,521	1,991,355	1,120,648	1,100,586	1,366,124	1,332,078	1,442,130	1,284,054

Division of Statistical and Historical Research. Official sources.

[1] Less than 500 pounds.
[2] Java and Madura only.
[3] Six months.
[4] Singapore only.
[5] Eight months, May-December.

TABLE 592.—*Hides, heavy native steer: Average price per pound at Chicago, 1910–1924*

PACKER HIDES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1910	$0.17	$0.15	$0.14	$0.15	$0.16	$0.18	$0.16	$0.16	$0.16	$0.16	$0.15	$0.14	$0.16
1911	.13	.13	.13	.13	.14	.16	.16	.16	.16	.16	.16	.16	.15
1912	.16	.16	.16	.16	.17	.17	.18	.19	.20	.20	.20	.19	.18
1913	.19	.18	.17	.17	.17	.18	.18	.19	.19	.20	.20	.18	.18
1914	.18	.18	.18	.18	.18	.19	.20	.21	.21	.21	.22	.23	.20
1915	.23	.23	.21	.19	.22	.24	.26	.27	.26	.26	.26	.25	.24
1916	.23	.23	.22	.23	.26	.27	.27	.26	.26	.28	.32	.33	.26
1917	.32	.31	.30	.30	.32	.32	.32	.32	.33	.34	.35	.35	.32
1918	.32	.29	.26	.27	.31	.33	.33	.30	.30	.30	.29	.29	.30
1919	.28	.28	.28	.31	.37	.41	.50	.53	.46	.48	.47	.40	.40
1920	.40	.40	.37	.36	.36	.36	.31	.28	.28	.26	.22	.20	.32
Av. 1914–1920	.28	.27	.26	.26	.29	.30	.31	.31	.30	.30	.30	.29	.29
1921	.17	.15	.13	.11	.12	.14	.14	.14	.14	.15	.16	.16	.14
1922	.16	.16	.14	.14	.15	.17	.18	.20	.21	.23	.23	.21	.18
1923	.20	.20	.19	.19	.19	.16	.15	.15	.14	.15	.15	.14	.17
1924	.14	.16	.14	.12	.12	.12	.13	.16	.16	.16	.17	.17	.15

COUNTRY HIDES

1910	$0.14	$0.13	$0.12	$0.13	$0.12	$0.12	$0.11	$0.12	$0.13	$0.12	$0.12	$0.11	$0.12
1911	.11	.11	.11	.11	.11	.12	.13	.13	.13	.13	.14	.13	.12
1912	.13	.13	.13	.13	.14	.14	.14	.15	.16	.16	.16	.16	.14
1913	.15	.15	.15	.15	.14	.14	.15	.15	.16	.17	.17	.16	.15
1914	.16	.16	.16	.15	.17	.16	.16	.16	.17	.17	.19	.20	.17
1915	.20	.20	.18	.17	.17	.18	.21	.20	.20	.22	.21	.20	.20
1916	.18	.19	.18	.19	.20	.20	.20	.21	.21	.23	.27	.26	.21
1917	.24	.24	.24	.24	.25	.26	.26	.27	.24	.28	.29	.26	.26
1918	.23	.21	.17	.19	.28	.28	.28	.24	.24	.24	.22	.22	.23
1919	.22	.22	.22	.24	.28	.34	.43	.47	.41	.38	.36	.28	.32
1920	.33	.33	.30	.28	.28	.24	.23	.20	.19	.18	.16	.14	.24
Av. 1914–1920	.22	.22	.21	.21	.23	.24	.25	.25	.24	.24	.24	.22	.23
1921	.13	.11	.10	.09	.09	.09	.08	.08	.08	.09	.10	.10	.10
1922	.10	.09	.08	.09	.09	.11	.13	.14	.14	.15	.15	.14	.12
1923	.13	.13	.13	.14	.14	.12	.11	.11	.10	.10	.08	.08	.11
1924	.09	.09	.09	.09	.09	.08	.09	.11	.11	.12	.13	.13	.10

Division of Statistical and Historical Research. Compiled from data in "Hide and Leather."

HORSES AND MULES

TABLE 593.—*Horses and mules: Number and value on farms, United States, January 1, 1910–1925*

Jan. 1—	Horses			Mules		
	Number	Price per head Jan. 1	Farm value Jan. 1	Number	Price per head Jan. 1	Farm value Jan. 1
	Thousands	*Dollars*	*Thousand dollars*	*Thousands*	*Dollars*	*Thousand dollars*
1910, Apr. 15	*19,833*	108.03	2,142,524	*4,210*	120.20	506,049
1911	20,277	111.46	2,259,981	4,323	125.92	544,359
1912	20,509	105.94	2,172,694	4,362	120.51	525,657
1913	20,567	110.77	2,278,222	4,386	124.31	545,245
1914	20,962	109.32	2,291,638	4,449	123.85	551,017
1915	21,195	103.33	2,190,102	4,479	112.36	503,271
1916	21,159	101.60	2,149,786	4,593	113.83	522,834
1917	21,210	102.89	2,182,307	4,723	118.15	558,006
1918	21,555	104.24	2,246,970	4,873	128.81	627,679
1919	21,482	98.45	2,114,897	4,954	135.83	672,922
1920	19,766	96.51	1,907,646	5,427	148.42	805,495
Av. 1914–1920	21,047	102.38	2,154,764	4,785	126.62	605,889
1921	19,208	84.31	1,619,423	5,455	116.69	636,563
1922	19,056	70.54	1,344,136	5,467	88.09	481,578
1923	18,627	69.83	1,300,729	5,485	85.94	471,385
1924	18,059	64.45	1,163,914	5,446	84.18	458,463
1925 [1]	17,589	62.95	1,107,248	5,411	80.60	436,122

Division of Crop and Livestock Estimates; figures in italics are census returns.

[1] Preliminary.

TABLE 594.—*Horses and mules: Number and value on farms, by States, January 1, 1924 and 1925*

State	Horses						Mules					
	Number, Jan. 1		Average price per head, Jan. 1 [1]		Farm value, Jan. 1		Number, Jan. 1		Average price per head, Jan. 1		Farm value, Jan. 1	
	1924	1925 [2]	1924	1925	1924	1925 [2]	1924	1925 [2]	1924	1925	1924	1925 [2]
	Thousands	*Thousands*	*Dollars*	*Dollars*	*Thousand dollars*	*Thousand dollars*	*Thousands*	*Thousands*	*Dollars*	*Dollars*	*Thousand dollars*	*Thousand dollars*
Maine	88	88	122.00	118.00	10,736	10,384						
New Hampshire	34	32	111.00	103.00	3,774	3,296						
Vermont	74	73	104.00	102.00	7,696	7,446						
Massachusetts	46	44	136.00	123.00	6,256	5,412						
Rhode Island	6	5	123.00	122.00	738	610						
Connecticut	36	34	128.00	125.00	4,608	4,250						
New York	505	485	110.00	106.00	55,550	51,410	7	7	113.00	110.00	791	770
New Jersey	70	67	115.00	109.00	8,050	7,303	6	6	120.00	122.00	720	732
Pennsylvania	476	466	99.00	94.00	47,124	43,804	55	54	110.00	103.00	6,050	5,562
Delaware	25	24	63.00	73.00	1,575	1,752	9	9	83.00	88.00	747	792
Maryland	135	132	77.00	74.00	10,395	9,768	33	33	101.00	92.00	3,333	3,036
Virginia	285	276	77.00	70.00	21,945	19,320	97	96	100.00	90.00	9,700	8,640
West Virginia	159	157	79.00	75.00	12,561	11,775	15	15	87.00	84.00	1,305	1,260
North Carolina	163	158	103.00	98.00	16,789	15,484	260	260	128.00	118.00	33,280	30,680
South Carolina	64	62	103.00	96.00	6,592	5,952	213	215	134.00	121.00	28,542	26,015
Georgia	89	86	83.00	86.00	7,387	7,396	371	375	109.00	114.00	40,439	42,750
Florida	37	36	101.00	97.00	3,737	3,492	43	43	141.00	138.00	6,063	5,934
Ohio	763	748	80.00	84.00	61,040	62,832	32	32	89.00	88.00	2,848	2,816
Indiana	682	655	66.00	67.00	45,012	43,885	101	101	70.00	70.00	7,070	7,070
Illinois	1,148	1,125	67.00	67.00	76,916	75,375	170	167	73.00	72.00	12,410	12,024
Michigan	570	542	80.00	82.00	45,600	44,444	6	6	84.00	83.00	504	498
Wisconsin	624	605	96.00	87.00	59,904	52,635	4	4	83.00	84.00	332	336
Minnesota	852	843	71.00	75.00	60,492	63,225	10	10	78.00	80.00	780	800
Iowa	1,241	1,229	74.00	70.00	91,834	86,030	97	97	77.00	73.00	7,469	7,081
Missouri	826	793	48.00	46.00	39,648	36,478	369	369	63.00	60.00	23,247	22,140
North Dakota	781	765	49.00	53.00	38,269	40,545	8	8	61.00	63.00	488	504
South Dakota	745	745	48.00	46.00	35,760	34,270	14	14	61.00	61.00	854	854
Nebraska	883	857	55.00	55.00	48,565	47,135	114	116	69.00	69.00	7,866	8,004
Kansas	958	920	41.00	44.00	39,278	40,480	286	272	55.00	57.00	15,730	15,504
Kentucky	344	334	56.00	50.00	19,264	16,700	278	272	66.00	60.00	18,348	16,320
Tennessee	300	291	66.00	60.00	19,800	17,460	336	326	78.00	70.00	26,208	22,820
Alabama	123	121	77.00	69.00	9,471	8,349	314	314	99.00	89.00	31,086	27,946
Mississippi	190	180	69.00	61.00	13,110	10,980	308	308	95.00	87.00	29,260	26,796
Louisiana	160	150	66.00	60.00	10,560	9,000	180	180	93.00	89.00	16,740	16,020
Texas	980	980	55.00	53.00	53,900	51,940	854	854	86.00	81.00	73,444	69,174
Oklahoma	653	633	34.00	38.00	22,202	24,054	337	330	53.00	58.00	17,861	19,140
Arkansas	218	218	42.00	41.00	9,156	8,938	328	328	61.00	63.00	20,008	20,664
Montana	611	593	31.00	30.00	18,941	17,790	9	9	55.00	50.00	495	450
Wyoming	190	180	30.00	28.00	5,700	5,040	3	3	55.00	51.00	165	153
Colorado	400	384	42.00	40.00	16,800	15,360	36	36	58.00	54.00	2,088	1,944
New Mexico	176	167	39.00	37.00	6,864	6,179	21	21	60.00	58.00	1,260	1,218
Arizona	130	130	62.00	58.00	8,060	7,540	12	12	93.00	84.00	1,116	1,008
Utah	124	119	62.00	58.00	7,688	6,902	3	3	59.00	55.00	177	165
Nevada	47	44	54.00	54.00	2,538	2,376	2	2	55.00	57.00	110	114
Idaho	265	252	50.00	43.00	13,250	10,836	8	7	63.00	53.00	504	371
Washington	230	223	70.00	60.00	16,100	13,380	22	22	78.00	66.00	1,716	1,452
Oregon	230	221	69.00	64.00	15,870	14,144	13	13	71.00	71.00	923	923
California	323	317	83.00	76.00	26,809	24,092	62	62	103.00	91.00	6,386	5,642
United States	18,059	17,589	64.45	62.95	1,163,914	1,107,248	5,446	5,411	84.18	80.60	458,463	436,122

Division of Crop and Livestock Estimates.

[1] As reported by farmers.
[2] Preliminary.

TABLE 595.—*Horses and mules:*[1] *Estimated yearly losses per 1,000 from disease, 1888–1924*

Year ended Apr. 30—	Losses per 1,000	Year ended Apr. 30—	Losses per 1,000	Year ended Apr. 30—	Losses per 1,000	Year ended Apr. 30—	Losses per 1,000
1888	18.3	1898	20.0	1908	17.1	1918	16.5
1889	14.6	1899	23.4	1909	18.2	1919	15.7
1890	16.4	1900	18.3	1910	19.9	1920	17.8
1891	16.6	1901	18.2	1911	19.0	1921	14.7
1892	15.3	1902	20.2	1912	21.9	1922	15.7
1893	17.0	1903	19.7	1913	22.6	1923	15.0
1894	21.0	1904	19.6	1914	20.6	1924	15.2
1895	22.3	1905	17.9	1915			
1896	20.2	1906	17.7	1916	17.5		
1897	21.3	1907	18.9	1917	16.9		

Division of Crop and Livestock Estimates. As reported by crop reporters on May 1 for year ending Apr. 30.

[1] Including mules since 1912.

TABLE 596.—*Horses and mules: Receipts at principal markets and at all markets reported, 1900–1924*

[Thousands—i. e., 000 omitted]

Year	Chicago	Denver	East St. Louis	Fort Worth	Kansas City	Omaha	St. Joseph	St. Paul	Sioux City	Total	All other markets reporting	Total all markets reporting[1]
1900	99	23	145	(2)	103	60	13	27	31	501	----	----
1901	109	17	129	(2)	97	36	23	15	18	444	----	----
1902	102	24	109	5	77	42	20	8	19	406	----	----
1903	101	19	129	10	67	53	20	8	12	419	----	----
1904	106	13	181	18	68	47	29	6	4	472	----	----
1905	127	16	178	18	66	45	32	6	15	503	----	----
1906	127	17	166	21	70	42	28	9	19	499	----	----
1907	102	11	117	19	62	44	27	15	16	413	----	----
1908	92	11	109	12	56	40	23	7	13	363	----	----
1909	91	15	122	21	68	32	23	6	15	393	----	----
1910	83	16	130	34	70	30	28	5	16	412	----	----
1911	105	18	171	37	85	32	42	8	17	515	----	----
1912	93	15	164	49	73	33	39	5	10	481	----	----
1913	91	16	157	57	82	32	32	5	10	482	----	----
1914	106	17	148	48	87	31	25	6	10	478	----	----
1915	165	72	271	55	102	42	41	10	22	780	327	1,107
1916	205	53	267	79	123	27	27	12	17	810	668	1,478
1917	107	20	280	115	128	33	34	10	29	756	720	1,476
1918	88	15	242	79	85	22	39	7	23	600	616	1,216
1919	46	23	250	60	83	25	43	11	16	557	511	1,068
1920	43	18	141	45	72	19	30	10	23	401	324	725
1921	34	10	68	13	30	7	12	5	7	186	131	317
1922	32	13	95	29	38	9	16	2	8	242	201	443
1923	26	23	102	58	43	17	15	3	15	302	249	551
1924	21	37	64	46	36	12	11	4	14	245	223	468
1924												
January	1	2	15	10	5	1	2	(3)	1	37	40	77
February	3	2	8	5	5	1	1	1	2	28	30	58
March	4	3	4	2	3	1	1	1	2	21	18	39
April	2	1	3	2	2	(3)	1	(3)	1	12	13	25
May	2	1	2	1	1	1	(3)	(3)	(3)	8	7	15
June	1	2	2	(3)	(3)	(3)	(3)	(3)	(3)	5	9	14
July	1	3	2	1	1	1	(3)	1	1	11	5	16
August	1	5	4	4	3	2	1	(3)	2	22	9	31
September	2	6	7	7	4	1	1	(3)	1	29	21	50
October	1	5	5	6	4	2	2	(3)	1	26	26	52
November	1	4	6	5	4	1	1	(3)	2	24	24	48
December	2	3	6	3	4	1	1	1	1	22	21	43

Division of Statistical and Historical Research. Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Figures prior to 1915 not available. [2] Not in operation. [3] Not over 500.

TABLE 597.—*Horses and mules: Receipts at public stockyards in the United States, 1915–1924*

Market	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Albany, N. Y.		6,014	3,303				40			33
Amarillo, Tex.	5,006	14,390	13,367	14,655	15,014	12,804	2,050	3,331	6,230	6,994
Atlanta, Ga.				78,160	60,327	25,931	3,119	7,955	33,865	35,195
Augusta, Ga.			23,125	33,219	22,089	7,055	905	269	471	182
Baltimore, Md.	3,956	13,901	7,442	8,670	4,961	4,313	2,284	2,453	2,714	1,416
Boston, Mass.	3,237	8,106	627	253	276					
Buffalo, N. Y.	12,280	56,482	16,515	10,034	18,594	22,526	23,687	21,159	18,365	12,312
Cheyenne, Wyo.			5,539	3,824	2,076	1,782	965	3,264	1,365	1,406
Chicago, Ill.	165,253	205,449	107,311	87,820	45,762	43,020	33,723	31,689	26,065	21,030
Cincinnati, Ohio	30,425	19,671	27,279	18,521	18,880	14,181	5,699	4,248	4,244	3,486
Cleveland, Ohio			9,060	4,320	5,260	5,580	2,300	2,020	1,100	440
Dayton, Ohio		221	58	74	47				52	117
Denver, Colo.	71,870	52,800	19,758	14,599	22,936	17,591	9,639	13,485	22,591	36,844
Detroit, Mich.			13,755	3,544	1,835	2,584	667	821	1,847	2,572
East St. Louis, Ill.	270,612	266,818	279,837	241,751	250,311	141,230	67,756	95,048	101,535	64,012
El Paso, Tex.	7,892	23,385	15,052	9,126	16,295	13,931	9,574	6,106	6,758	5,879
Evansville, Ind.		658	993	1,080	1,135	962	43	192	412	761
Fort Wayne, Ind.									2	
Fort Worth, Tex.	53,640	79,209	115,233	78,881	60,363	45,362	13,086	28,610	58,437	46,071
Indianapolis, Ind.	28,203	29,444	61,692	19,608	9,080	8,854	2,710	2,481	1,409	1,269
Jacksonville, Fla.		526	131		18	6		14	154	286
Jersey City, N. J.	62,122	154,721	70,268	42,185	10,574	2,624	1,602	1,267	678	1,771
Kansas City, Mo.	102,153	123,141	127,823	84,628	82,852	71,797	30,453	38,310	42,987	36,288
Knoxville, Tenn.	7,040	7,378	8,254	6,430	7,214	4,160	2,276	4,057	9,122	5,999
Lancaster, Pa.	1,017	1,417	8,342	11,228	2,008	3,432	1,360	1,790	2,603	1,474
Laredo, Tex.									801	625
Los Angeles, Calif.									130	24
Louisville, Ky.	2,800	5,200	14,127	16,967	11,274	9,031	1,598	2,718	2,487	1,344
Marion, Ohio.				141	977	2,444	836	914	480	336
Memphis, Tenn.		39,816	60,848	33,116	32,598	8,006	14,770	46,249	60,216	47,283
Milwaukee, Wis.	1,126	1,714	1,849	2,185	1,879	2,246	1,243	1,878	1,502	1,573
Montgomery, Ala.			7,169	24,102	22,291	11,969	4,002	14,133	4,801	9,430
Nashville, Tenn.		15,855	74,280	103,818	97,425	29,572	101			436
New Orleans, La.		852	2,614	556	368	1,254	51	224	268	657
New York, N. Y.	17,447	8,529	7,574	307	1,952	1,723	568	1,007	2,340	2,280
North Salt Lake, Utah		1,785	1,981	1,573	1,484	1,641	627	1,715	2,887	2,303
Ogden, Utah			25,425	18,809	6,467	5,630	1,460	1,387	2,359	1,970
Oklahoma, Okla.	36,954	47,381	62,306	12,687	9,951	5,847	1,824	4,798	8,321	10,155
Omaha, Nebr.	41,679	27,486	32,781	22,212	25,201	18,751	6,779	8,871	16,809	12,435
Pasco, Wash.				159	380	303	126	320	226	235
Peoria, Ill.	389	764	637	125	171	535	501	475	351	591
Philadelphia, Pa.	7,214	11,002	9,892	7,800	7,222	5,792	2,731	2,836	2,902	2,065
Pittsburgh, Pa.	48,340	53,505	39,073	35,265	17,992	20,472	10,742	14,131	12,442	8,354
Portland, Oreg.	4,668	2,904	6,933	2,483	2,308	1,887	1,042	1,076	1,388	2,039
Pueblo, Colo.	8,359	8,250	6,665	3,798	3,812	3,563	857	1,314	1,429	2,671
Richmond, Va.		17,514	25,004	23,970	25,100	16,167	10,266	13,161	16,185	8,616
Roanoke, Va.									22	
St. Joseph, Mo.	41,254	27,206	33,584	39,260	43,380	29,768	11,580	15,961	15,199	11,066
St. Paul, Minn.	10,091	11,777	9,959	6,541	11,228	10,488	4,848	2,053	3,309	3,578
San Antonio, Tex.	14,094	41,105	31,898	29,955	29,881	24,573	6,314	9,212	10,531	14,405
Seattle, Wash.		20		420	923	671	292	443	413	607
Sioux City, Iowa.	21,742	16,717	29,391	23,306	16,272	23,238	7,262	7,954	14,921	13,935
Sioux Falls, S. Dak.			49	243	253	176	69	375	370	189
Spokane, Wash.	3,657	6,493	7,125	4,733	2,926	2,535	761	1,103	828	991
Toledo, Ohio.		1,336	1,969	1,789	2,788	4,558	960	922	442	297
Washington, D. C.		178	1,556	396	30	60	43	220	64	18
Wichita, Kans.	14,472	17,146	19,312	11,150	16,750	24,714	10,885	17,936	22,863	21,358
Discontinued [1]	7,509	49,717	27,089	15,300	16,347	7,512	309	691	431	
Total	1,106,501	1,477,983	1,475,854	1,215,776	1,067,597	724,811	317,445	442,646	550,703	467,708

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

[1] Includes only those markets which have been totally discontinued.

TABLE 598.—*Horses and mules: Receipts at all public stockyards, 1915–1924*

[Thousands—i. e., 000 omitted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1915	97	95	95	88	98	103	94	74	85	111	97	70	1,107
1916	118	105	111	84	120	104	162	138	139	153	129	115	1,478
1917	148	95	117	93	68	63	83	58	129	236	223	163	1,476
1918	161	149	133	44	36	45	53	84	128	162	145	76	1,216
1919	115	87	71	53	37	43	53	92	148	130	146	93	1,068
1920	146	112	87	48	43	34	38	75	62	40	23	17	725
1921	35	41	44	25	18	14	11	17	22	36	29	25	317
1922	48	37	47	29	21	16	17	24	41	61	55	47	443
1923	86	54	61	36	20	14	17	32	50	75	59	47	551
1924	77	58	39	25	15	14	16	31	50	52	48	43	468

Division of Statistical and Historical Research. Compiled from data of the reporting service of the Livestock, Meats, and Wool Division.

TABLE 599.—*Horses and mules: Imports, exports, and prices, 1896–1924*

Year ended June 30—	Imports of horses			Exports of horses			Exports of mules		
	Number	Value	Average import price	Number	Value	Average export price	Number	Value	Average export price
1896	9,991	$662,591	$66.32	25,126	$3,530,703	$140.52	5,918	$406,161	$68.63
1897	6,998	464,808	66.42	39,532	4,769,265	120.64	7,473	545,331	72.97
1898	3,085	414,899	134.49	51,150	6,176,569	120.75	8,098	664,789	82.09
1899	3,042	551,050	181.15	45,778	5,444,342	118.93	6,755	516,908	76.52
1900	3,102	596,592	192.32	64,722	7,612,616	117.62	43,369	3,919,478	90.38
1901	3,785	985,738	260.43	82,250	8,873,845	107.89	34,405	3,210,267	93.31
1902	4,832	1,577,234	326.41	103,020	10,048,046	97.53	27,586	2,692,208	97.60
1903	4,999	1,536,296	307.32	34,007	3,152,159	92.69	4,294	521,725	121.50
1904	4,726	1,460,287	308.99	42,001	3,189,100	75.93	3,658	412,971	112.90
1905	5,180	1,591,083	307.16	34,822	3,175,259	91.19	5,826	645,464	110.79
1906	6,021	1,716,675	285.11	40,087	4,365,981	108.91	7,167	989,639	138.08
1907	6,080	1,978,105	325.35	33,882	4,359,957	128.68	6,781	850,901	125.48
1908	5,487	1,604,392	292.40	19,000	2,612,587	137.50	6,609	990,667	149.90
1909	7,084	2,007,276	283.35	21,616	3,386,617	156.67	3,432	472,017	137.53
1910	11,620	3,296,022	283.65	28,910	4,081,157	141.17	4,512	614,094	136.10
1911	9,593	2,692,074	280.63	25,145	3,845,253	152.92	6,585	1,070,051	162.50
1912	6,607	1,923,025	291.06	34,828	4,764,815	136.81	4,901	732,095	149.38
1913	10,008	2,125,875	212.42	28,707	3,960,102	137.95	4,744	733,795	154.68
1914	33,019	2,605,029	78.89	22,776	3,388,819	148.79	4,883	690,974	141.51
1915	12,652	977,380	77.25	289,340	64,046,534	221.35	65,788	12,726,143	193.44
1916	15,556	1,618,245	104.03	357,553	73,531,146	205.65	111,915	22,960,312	205.16
1917	12,584	1,888,303	150.06	278,674	59,525,329	213.60	136,089	27,800,854	203.39
1918	5,111	1,187,443	232.33	84,765	14,923,663	176.06	28,879	4,885,406	169.17
1919	4,003	750,264	187.43	27,975	5,206,251	186.10	12,452	2,333,929	187.43
1920	4,906	799,012	162.86	18,952	3,285,066	173.34	8,991	1,815,888	201.97
1921	4,044	1,205,457	298.09	12,638	1,923,041	152.16	6,770	1,063,254	157.05
1922	3,136	531,783	169.57	17,827	1,868,099	104.79	11,241	1,009,567	89.81
1923	2,816	845,658	300.30	8,641	1,048,339	121.32	12,719	1,324,566	104.14
1924	2,458	942,170	383.31	11,693	964,534	81.63	16,170	1,711,611	105.85

Division of Statistical and Historical Research.

TABLE 600.—*Horses and mules: Farm price per head, by age groups, United States, Jan. 1, 1894–1925*

Jan. 1—	Horses			Mules		
	Under 1 year old	1 and under 2 years	2 years and over	Under 1 year old	1 and under 2 years	2 years and over
1894	$20.19	$30.20	$57.32	$26.79	$39.11	$72.99
1895	14.79	22.39	43.60	19.79	29.26	56.01
1896	13.49	20.29	39.73	17.87	26.46	53.61
1897	13.07	19.47	37.77	16.96	24.94	48.96
1898	14.94	21.76	40.78	18.03	26.17	51.46
1899	16.51	24.05	44.40	18.81	27.20	52.51
1900	19.44	28.67	53.01	22.71	32.87	62.21
1901	20.44	30.59	57.63	26.14	37.74	69.66
1902	22.02	33.39	63.99	27.01	39.55	73.61
1903	25.08	39.21	67.46	31.96	47.73	78.07
1904	26.86	42.19	73.68	34.39	51.73	84.94
1905	28.05	43.67	76.30	37.85	56.93	94.13
1906	32.91	51.36	87.35	43.46	64.36	106.04
1907	39.12	61.77	101.02	51.35	74.73	120.82
1908	(1)	(1)	(1)	(1)	(1)	(1)
1909	(1)	(1)	(1)	(1)	(1)	(1)
1910	46.05	72.63	116.57	56.76	84.53	128.96
1911	48.09	75.68	120.04	59.89	88.13	135.11
1912	45.75	71.96	114.24	56.12	83.00	129.46
1913	48.75	76.54	121.06	59.31	86.56	134.05
1914	47.95	74.87	119.77	57.45	83.87	133.76
1915	45.36	70.62	113.10	51.80	76.46	121.46
1916	44.30	69.08	111.34	51.59	76.82	123.55
1917	45.17	70.21	112.64	53.98	80.28	128.17
1918	45.20	70.21	114.30	57.61	86.32	139.88
1919	42.62	65.94	108.17	59.14	89.14	147.65
1920	37.22	58.88	103.53	60.12	90.48	160.54
1921	31.57	49.72	90.70	47.49	71.76	126.39
1922	26.32	41.24	76.02	35.18	53.04	95.44
1923	26.14	41.01	75.07	34.20	51.54	93.19
1924	24.03	37.85	69.34	31.71	48.43	91.61
1925	24.07	37.65	67.68	31.41	47.13	87.62

Division of Crop and Livestock Estimates.

[1] No data.

TABLE 601.—*Horses: Farm price per head, 15th of month, United States, 1910–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average
1910	$140	$147	$150	$154	$148	$151	$148	$148	$145	$144	$143	$141	$146
1911	143	144	145	147	146	145	139	141	139	137	136	134	141
1912	134	137	140	142	144	145	142	142	141	140	139	139	140
1913	140	146	146	148	145	146	143	141	141	138	136	135	142
Av. 1910–1913	139	144	145	148	146	147	143	143	142	140	138	137	142
1914	137	139	138	138	139	136	137	135	132	131	130	130	135
1915	130	132	132	132	133	132	134	131	131	129	127	126	130
1916	128	129	131	133	134	132	133	131	131	130	129	129	130
1917	129	131	133	136	138	137	135	132	132	130	129	129	132
1918	130	133	137	137	136	135	132	131	128	126	122	121	130
1919	120	121	124	127	129	127	127	125	119	114	113	113	121
1920	118	123	127	131	132	130	127	124	119	112	103	97	119
Av. 1914–1920	127	130	132	133	134	133	132	130	127	125	122	121	128
1921	96	98	101	100	98	98	94	93	89	85	82	81	92
1922	82	84	86	87	89	88	88	86	84	81	79	79	84
1923	81	85	85	86	88	87	85	78	82	80	78	75	82
1924	73	74	75	76	78	77	77	79	78	77	76	73	76

Division of Crop and Livestock Estimates, as reported by country dealers.

TABLE 602.—*Horses: Farm price per head, 15th of month, by States, 1924*

State	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Av.
Maine	$160	$160	$160	$156	$155	$150	$152	$154	$151	$155	$150	$145	$154
New Hampshire	130	125	130	130	130	130	130	150	148	150	------	100	132
Vermont	130	125	120	121	115	110	105	100	100	100	95	93	110
Massachusetts	140	------	------	------	------	------	150	160	------	100	------	------	138
Rhode Island	------	------	------	------	------	150	------	150	------	------	125	130	139
Connecticut	150	140	140	145	145	150	150	150	150	150	153	155	148
New York	120	120	122	120	120	115	117	120	118	116	112	114	118
New Jersey	125	120	125	125	125	130	130	133	135	140	140	145	131
Pennsylvania	100	105	110	112	110	108	110	110	108	110	105	105	108
Delaware	70	70	70	72	70	75	75	76	75	------	------	72	72
Maryland	75	75	74	75	78	76	74	80	78	76	80	78	77
Virginia	80	80	82	83	80	80	78	81	83	85	82	78	81
West Virginia	80	80	85	87	88	90	88	86	84	80	81	79	84
North Carolina	102	100	100	100	105	105	104	103	102	100	100	96	101
South Carolina	103	102	100	100	101	98	99	95	98	95	98	95	98
Georgia	90	90	92	91	89	90	88	90	85	80	80	77	87
Florida	100	97	100	98	100	98	100	------	95	90	85	90	96
Ohio	90	92	95	96	100	95	97	97	95	90	92	93	94
Indiana	72	73	75	78	76	73	71	75	73	71	69	71	73
Illinois	75	76	78	80	82	80	82	82	85	83	80	75	80
Michigan	95	94	95	96	98	100	100	97	95	100	102	98	98
Wisconsin	102	104	106	108	109	110	108	110	112	109	105	100	107
Minnesota	78	80	85	86	88	90	92	98	95	90	89	90	88
Iowa	89	88	90	92	93	93	94	96	98	98	94	88	93
Missouri	50	52	53	54	54	52	55	56	55	52	52	48	53
North Dakota	56	58	60	63	64	65	65	69	68	70	70	65	64
South Dakota	63	65	66	68	70	69	67	65	67	63	61	60	65
Nebraska	70	72	75	78	80	79	79	83	80	75	73	70	76
Kansas	50	51	53	55	57	58	60	63	60	57	55	53	56
Kentucky	63	61	62	60	62	63	64	65	63	64	60	56	62
Tennessee	67	69	70	70	72	73	71	69	68	65	62	59	68
Alabama	74	75	77	78	80	82	79	75	68	67	70	65	74
Mississippi	63	64	64	63	65	67	66	70	67	64	67	64	65
Louisiana	68	68	68	66	68	69	70	70	68	65	60	55	66
Texas	64	61	61	60	62	63	61	60	59	57	58	59	60
Oklahoma	44	45	43	45	47	47	48	47	44	45	43	45	45
Arkansas	50	51	53	54	55	54	53	54	53	52	53	50	54
Montana	44	42	43	45	46	43	45	45	46	44	46	43	44
Wyoming	42	43	44	43	43	45	45	48	49	45	------	40	44
Colorado	54	55	57	58	60	59	60	60	62	58	60	55	58
New Mexico	60	58	59	57	57	57	57	55	------	------	------	------	58
Arizona	81	78	75	72	70	68	66	70	70	75	------	------	72
Utah	85	87	88	90	90	90	85	86	82	81	80	82	86
Nevada	------	------	95	------	------	------	------	------	------	------	------	------	------
Idaho	70	65	67	65	65	62	60	65	67	65	62	59	64
Washington	87	83	84	82	80	80	82	87	85	------	77	72	82
Oregon	76	76	78	75	75	75	72	80	78	------	78	73	76
California	94	89	90	85	86	88	90	100	98	96	93	91	92
United States	73.43	73.78	75.46	76.40	77.55	77.08	77.47	79.14	78.33	76.54	75.60	72.93	76.14

Division of Crop and Livestock Estimates, as reported by country dealers.

TABLE 603.—*Livestock in specified countries*

[Thousands—i. e., 000 omitted]

Country	Date	Cattle[1]	Swine	Sheep	Goats	Horses	Mules	Asses	Miscellaneous
United States (see general note)	Jan. 1, 1914	56,800	55,000	42,200	[2] 3,030	24,145	4,719	[2] 123	
	Jan. 1, 1924	68,500	68,200	38,800	[3] 3,564	19,969	5,814	87	
Alaska (on farms and not on farms)	Jan. 1, 1910	*1*	(4)	(4)	(4)	*2*		(4)	[5] *42*
	Jan. 1, 1920	*1*	*1*	(4)	(4)	*1*		(4)	[5] *111*
Guam	----do	(4)	*1*		*1*	*4*			*6*
Hawaii (on farms and not on farms)	Apr. 15, 1910	*149*	*31*	77	*5*	*28*	*9*	*3*	
	Jan. 1, 1920	*142*	*39*	*44*	*5*	*24*	*11*	*2*	
Panama, Canal Zone	1923	7			(4)	(4)	(4)		
Porto Rico (on farms and not on farms)	Apr. 15, 1910	*316*	*106*	*6*	*49*	*58*	*5*	*1*	
	Jan. 1, 1920	*279*	*137*	*4*	*58*	*57*	*7*	*1*	
Samoa	----do	(4)	4			(4)			
Virgin Islands:									
On farms	Nov. 1, 1917	12	2	1	2	2	2	1	
Not on farms	----do	(4)	(4)	(4)	(4)	(4)	(4)	(4)	
Algeria	Sept., 1913	1,108	112	8,811	3,848	216	193	272	[6] 202
	Sept., 1923	1,022	111	8,991	3,768	195	174	269	[6] 197
Andaman and Nicobar Islands (British)	1923	9		1	1	(4)			
Argentina	June 1, 1914	*25,867*	*2,901*	*43,225*	*4,325*	*8,324*	*566*	*260*	
	Dec. 31, 1922	*37,065*	*1,457*	*36,209*	[7] *4,820*	[7] *9,432*	[7] *623*	[7] *289*	
Australia	Dec. 31, 1913	11,484	801	85,057	262	2,522	8		[6] 13
	Dec. 31, 1922	14,337	986	78,803	230	2,390	4	13	[6] 11
Austria	Dec. 31, 1910 [8]	2,356	1,932	301	239	310			
	Mar. 7, 1923	2,163	1,473	597	382	282			
Azores and Madeira Islands	1900	89	93	87	38	2	3	9	
Bahamas	1913	2	12	12	5	1			
	1918	2		14	6	1			
Barbados	1913					2	4	5	
	1922					2	4	4	
Basutoland	1911	*437*		*1,369*	*989*	*88*	*1*		
	1921	*574*		*1,854*	*894*	*152*	*1*	*5*	
Bechuanaland Protectorate	1911	*324*		*358*		*2*		*2*	
	1921	426		120	238	2		6	
Belgium	Dec. 31, 1910 [8]	1,925	1,553	189	230	325	8	60	
	Dec. 31, 1923	1,603	1,176	[9] 126	[9] 33	243			
Bolivia	1910	734	114	1,449	468	97	45	173	
Brazil	1912-13	[1] 30,705	18,401	10,550	10,049	7,290	3,208		
	Sept. 1, 1920	[2] *34,271*	*16,169*	*7,632*	*5,087*	*6,254*	*1,865*		
British Cameron	1923	12	[10] 6	31	55				
British Guiana	1913	111	14	18	14	1	2	6	
	1923	102	12	15	8	2	2	5	
British South West Africa (former German Southwest Africa)	1913	206	8	555	517	16	14		[6] 1
	1923	550	6	937	924	21	2	30	(4)
Bulgaria [11]	Dec. 31, 1910 [8]	[1] 2,048	546	8,551	1,632	425	24	147	
	Dec. 31, 1920	[2] *2,295*	*1,090*	*8,923*	*1,332*	*398*	*26*	*166*	
Cape Verde Islands (Portuguese)	1914	8	14	4	30	1	1	10	
	1916	9	17	6	38	1	1	17	
Canada	June 30, 1914	6,037	3,434	2,058		2,948			
	June 15, 1923	9,246	4,405	2,754		3,531	9		
Cayman Islands (British)	1913	2	1		(4)	(4)			
	1922	1			(4)	(4)	(4)	(4)	
Ceylon	1913	[1] 1,484	86	90	203	5			
	1923	[1] 1,398	50	60	158	2			

[1] Buffaloes included with cattle for countries reporting buffaloes.
[2] Census 1910.
[3] Census 1920.
[4] Less than 500.
[5] Includes 22,000 reindeer and 20,000 work dogs in 1910 and 93,000 reindeer and 18,000 work dogs in 1920.
[6] Camels.
[7] Year 1921.
[8] Estimated for present boundaries.
[9] Year 1920.
[10] Data for preceding year.
[11] The number of work animals only within present boundaries in 1921 compared with the estimated number within the same territory in 1910, in parentheses, is as follows: Cattle, 875,000 (837,000); buffaloes, 148,000 (150,000); horses, 174,000 (149,000).

TABLE 603.—*Livestock in specified countries*—Continued

[Thousands—i. e., 000 omitted]

Country	Date	Cattle	Swine	Sheep	Goats.	Horses	Mules	Asses	Miscellaneous
Chile	1913	2,084	184	4,567	288	489	34	30	.....
	1922	1,996	263	4,569	525	329	44	34	.....
China	1914	21,997	76,819	22,186	.....	4,934	.....	4,394	.....
	1916 [12]	15,973	44,711	22,232	.....	4,401	.....	3,660	.....
Colombia	1915	3,035	711	164		526	201	139	.....
	1921	*9,428*	.....	.....	.....	.....	.....	.....	.....
Costa Rica	1914	336	*64*	(4)	1	*52*	*2*	(4)	.....
	1923	426	92	1	1	105	8	(4)	.....
Cuba	Dec. 31, 1913	3,141	.....	.....	.....	625	46	2	.....
	Dec. 31, 1923	5,085	.....	.....	.....	844	77	4	.....
Cyprus	Mar. 31, 1914	61	37	[13] 269	255		67		.....
	Mar. 31, 1923	47	39	[13] 255	177	3	9	43	[5] 1
Czechoslovakia	1910-11	4,596	2,516	1,322	711	692	.....	.....	.....
	Dec. 31, 1920	4,377	[14] 12,201	986	1,221	591	.....	.....	.....
Denmark	1913-14 [5]	2,718	2,715	533	44	605	.....	.....	.....
	July 15, 1924	2,686	2,862	302	29	548	.....	.....	.....
Dominican Republic (Santo Domingo)	May 15, 1921	*647*	*674*	.....	*706*	*165*	*65*	.....	.....
Dominica (British)	1903	1	.....	1	.....	1	.....	.....	.....
	1922	.....	.....	.....	.....	1	.....	.....	.....
Dutch East Indies: Java and Madura	1915	[1] *6,784*	.....	.....	.....	*304*	.....	.....	.....
	1921	[1] 5,060	97	842	1,421	273	.....	.....	.....
Outer possessions	1915	*718*	.....	.....	.....	*525*	.....	.....	.....
	1921	[1] 1,874	805	113	533	429	.....	.....	.....
Dutch West Indies: Curacao and dependencies	1916	4	4	18	61	1	(4)	4	.....
	1923	3	5	26	67	(4)	(4)	5	.....
Dutch Guiana or Surinam	Dec. 31, 1913	8	5	(4)	3	(4)	(4)	1	.....
	Dec. 31, 1923	14	6	(4)	4	(4)	(4)	1	.....
Egypt [15]	1914	[1] 1,169	.....	816	331	40	22	632	[6] 118
	September-October, 1923.	[1] 1,291	.....	962	401	37	22	603	[6] 141
Esthonia	Summer, 1913 [8]	528	252	486	1	193	.....	.....	.....
	1923	513	338	666	.....	210	.....	.....	.....
Eritrea (Italian)	1915	517	.....	1,585		2	9	34	[6] 51
	1922	553	(4)	1,701		2	10	47	[6] 68
Falkland Islands (British)	1913	8	(4)	698	.....	4	.....	.....	.....
	1922	8	(4)	667	.....	4	.....	.....	.....
Faroe Islands (Danish)	1914	4	(4)	112	(4)	1	.....	.....	.....
	1919	4	.....	69	(4)	1	.....	.....	.....
Fiji Islands (British)	1913	49	2	3	14		7		.....
	1922	59	2	1	17		8		.....
Finland	September, 1910.	*1,606*	*422*	*1,350*	*11*	*386*	.....	.....	[16] *187*
	1922	1,844	378	1,571	12	398	.....	.....	[8] [16] 53
France	Dec. 31, 1913 [8]	15,338	7,529	16,176	1,510	3,359	188	358	.....
	Dec. 31, 1923	13,749	5,406	9,925	1,353	2,848	192	284	.....
French Cameron	1922	290	.....	298	.....	15	.....	.....	.....
French Equatorial Africa (French Congo)	1922	750	.....	1,128		46	.....	45	.....
French establishments in India	1913	[1] 51	13	24	.....	(4)	.....	(4)	.....
	1923	[1] 84	25	31	.....	(4)	.....	(4)	.....
French Guiana	1916	6	7	(4)	(4)	(4)	.....	.....	.....
French Indo-China	1916	[1] 4,616	2,663	.....	.....	70	.....	.....	.....
	1922	[1] 3,680	3,000	.....	.....	114	.....	.....	.....

[1] Buffaloes included with cattle for countries reporting buffaloes.
[3] Census 1920.
[4] Less than 500.
[6] Camels.
[8] Estimated for present boundaries.
[12] Excludes provinces of Szechwan, Kwangtung, Yunnan, Kweichow, and Hunan in 1916. The number in these provinces in 1914 were estimated as follows: Cattle, 8,476,000; swine, 33,794,000; sheep, 4,279,000; horses, 567,000; asses, 163,000.
[13] One year of age and over, 30 per cent may be added for rough approximation of number under that age.
[14] No official estimate was made of hogs over 1 year, exclusive of boars and sows, for 1920. Assuming the percentage decrease in this class to be the same as that for all other swine an estimate has been made and included in the 1920 figure.
[16] Excludes animals belonging to British Army.
[16] Reindeer.

TABLE 603.—*Livestock in specified countries*—Continued

[Thousands—i. e., 000 omitted]

Country	Date	Cattle	Swine	Sheep	Goats	Horses	Mules	Asses	Miscellaneous
French West Africa:									
Ivory Coast	1922	56	17	111	164	1		(4)	
Dahomey	1922	102	43	86	105	2			
French Guinea	1922	389	3	91	96	3		1	
Upper Volta	1923	400	2	600	500	40		55	
Mauritania	1921	219		2,106		3		47	[6] 38
Niger	1922	563		527	676	44		79	[6] 32
Senegal	1922	427	5	215	259	30		43	[6] 4
French Sudan	1923	1,215	[7] 28	2,324	1,724	48		92	[6] [10] 22
Germany	Dec. 1, 1913	18,474	22,533	4,988	3,164	3,807	[10] 2	[10] 9	
	Oct. 1, 1923	16,691	17,308	6,105	4,675	[10] 3,651	[10] 26	[10] 5	
Gold Coast (British)	1913	50	11	250		2	(4)	8	
	1921	80	15	352		3	(4)	9	
Grenada (British)	1911	5				2			
	1918		2	4	5		1	1	
Greece	1911 [8]	665	346	5,884	3,759	204	121	250	
	1921	689	404	5,789	3,717	177	127	244	
Guadeloupe	1914	26	51	12	17	9	4	4	
	1920	22	50	11	16	7	3	4	
Guatemala	1913	557	188	514	11	64	33		
	July, 1922	319	96	185	17	86			
Honduras, Republic of	1913–14	489	180	5	23	68	20	4	
	1918	466							
Hongkong (British)	1913	1		(4)	(4)	(4)			
	1922	2		(4)	(4)				
Hungary	1911 [8]	2,193	3,200	2,302	34	881	(4)	8	
	1922	1,828	2,473	1,352		717			
Iceland	1913	27		635	1	47			
	1922	26		571	3	51			
India (British)	1913–14	[1] 143,179		23,081	30,694	1,644	79	1,508	[6] 492
	1921–22	[1] 145,000		22,082	24,333	1,684	76	1,368	[6] 410
India (native States)	1913–14	[1] 14,046		8,326		176	182		[6] 54
	1921–22	[1] 34,375		11,930	7,306	515	6	308	[6] 118
Italy	Mar. 19, 1908 [8]	6,590	2,685	11,615	2,784	982	392	872	
	1918 [8]	6,624	2,509	12,029	3,146	1,015	500	969	
Jamaica	1913	116	31	10	[10] 17	53			
	1922	141	32	7	30	50		17	
Japanese Empire:									
Japan	Dec. 31, 1913	1,389	310	3	89	1,582			
	Dec. 31, 1922	1,459	512	11	151	1,576			
Chosen (Korea)	Dec. 31, 1913	1,211	761	(4)	10	51	1	13	
	1922	1,608	1,101	2	23	53	2	10	
Formosa (Taiwan)	Dec. 31, 1913	[1] 419	1,322	(4)	129	(4)			
	Dec. 31, 1921	[1] 422	1,281	(4)	102	(4)			
Karafuto	Dec. 31, 1913	1	1			2			
	Dec. 31, 1922	3	2			6			
Kwantung (Japanese leased territory)	Dec. 31, 1913	31	66	2	12	3	13	27	
	1922	33	100	1	8	7	17	30	
Kenya Colony and Protectorate (British East Africa)	Mar., 1913	780	3	6,500	4,020	1			
	June, 1923	3,190	12	2,547	3,406	2	1	36	[6] 150
Latvia	1913	912	557	996	104	320			
	1923	911	487	1,488	20	341			
Lithuania	1913	918	1,358	1,152		451			
	1923	1,285	1,697	1,413		506			
Luxemburg	Dec. 1, 1913	*102*	*137*	*5*	*10*	*19*			
	Dec. 31, 1922	83	89	4	10	17			
Madasgascar	1915	6,606	666	299	173	3			
	Feb. 28, 1923	7,819	[10] 400	[10] 175	[10] 150				
Malay States, Unfederated:									
Kedah	1922	76		(4)	26				
Kelantan	1921	146							
Perlis	1922	12							
Trengganu	1923	40	1	180	300				
Malta	Mar. 31, 1914	4	4	18	13	3			
	1923	9	7	29	44	5	5	7	
Mauritius [11]	1913	22	8	1	[10] 6	1	(4)	(4)	
	1923	17	3	2	7			1	

[1] Buffaloes included with cattle for countries reporting buffaloes.
[4] Less than 500.
[6] Camels.
[7] Year 1921.
[8] Estimated for present boundaries.
[10] Data for preceding year.
[11] Animals on sugar estates only.

TABLE 603.—*Livestock in specified countries*—Continued

[Thousands—i. e., 000 omitted]

County	Date	Cattle	Swine	Sheep	Goats	Horses	Mules	Asses	Miscellaneous
Mexico	1902	*5,142*	*616*	*3,424*	*4,206*	*859*	*334*	*288*	
	1923	*1,750*	*552*	*1,382*	*1,671*	*556*	*249*		
Morocco, French	1915	[1] 676	16	3,175	1,062	123		226	[6] 59
	1923	1,683	49	7,121	[2] 2,359	162	63	483	[6] 106
Mozambique (Portuguese East Africa)	1913	25	15	10	29				
	1923	303	[18] 24	[18] 10	[18] 34				
Netherlands	June, 1913	2,097	1,350	842	232	334			
	May-June, 1921	2,063	1,519	668	272	364			
New Caledonia (French)		130				7			
Newfoundland	1911	*32*	*19*	*75*	*15*	*13*			
	1921	*28*	*14*	*86*	*14*	*16*			
New Zealand	April, 1911	*2,020*	*349*	*25,996*	*6*	*404*	(4)	(4)	
	Jan. 31, 1924	3,546	421	[19]23,585	[10] 17	331	([4] [10])	(4)	
Nicaragua	1908	*252*	*12*	(4)	*1*	*28*	*6*	*1*	
	1921	1,200							
Nigeria (British)	1922	2,910	51	1,832	4,272	171		442	[6] [10] 4
Norway [20]	Dec. 31, 1907	1,022	158	990	222	162			
	Nov. 20, 1923	1,131	237	1,525	242	193			
Nyasaland Protectorate	Mar. 31, 1914	76	23	28	137		(4)		
	1922	120	30	60	176	(4)	(4)	(4)	
Palestine	1923	[1] [10] 93	(4)	271	496	[10] 6			[6] 16
Panama	1916	200	30		5	15	2		
Papua (territory of British)	1913	2	(4)	(4)	1	(4)			
	1921	2	1	(4)	1	(4)		(4)	
Paraguay	1915	5,249	61	600	87	478	17	18	
	1923	[21] 4,000	[22] 87	[22] 600	[22] 93	[22] 490	[22] 19	[22] 20	
Peru	Apr. 1, 1923	1,293	429	11,034	74	119			[23] 2,200
Philippine Islands	Dec. 31, 1913	418	2,017	104	529	179			[24] 1,047
	1921	1,806	4,477	223	892	*279*			[24] 1,536
Poland	Pre-war	8,351	5,231	4,268		3,385			
	Sept. 30, 1921	*7,895*	*5,171*	*2,178*		*3,201*			
Portugal	October, 1906	*705*	*1,111*	*3,073*	*1,034*	*88*	*58*	*144*	
	March, 1920	741	921	3,851	1,493	90			
Rhodesia	1911-12	719	10	300	602			20	
	Dec. 31, 1923	1,921	22	[10] 317	[25] 20	3	2	10	
Rumania	1910-11 [8]	[1] 5,648	3,262	11,128	558	1,911	14		
	1923	[1] 5,739	2,925	12,481	585	1,828	3	11	
Russia (European, including Ukraine and Northern Caucasia)	1913 [8]	30,132	11,250	41,995	1,160	22,169			
	1922	27,747	6,722	32,476	758	14,351			
Asiatic	1913 [8]	15,609	2,037	33,237	4,442	10,239			
	1922 [26]	7,278	1,038	9,314	1,745	5,456			
Salvador	1906	284	423	21		74			
St. Helena (British)	1911	*1*	(4)	*4*	*1*	(4)			
	1921	*1*	(4)	*3*	*1*	(4)	(4)	*1*	
St. Lucia (British)	1914					1			
	1922					1			
Shetland Islands	1919	14	(4)	141		5			
Seychelles Islands (British)	1913	1	6	(4)	(4)	(4)			
	1923	1	3	(4)	(4)	(4)	(4)	(4)	
Siam	Mar. 31, 1913	[1] 4,501	749			81			
	Mar. 31, 1924	[1] 6,270	[10] 864			166			
Sierra Leone (British)	1910	2	(4)	1		(4)			
	1921	21		1					
Somaliland (Italian)	February, 1920	1,246		1,666		11			[6] 2,101
Spain	1913	2,879	2,710	16,441	3,394	542	948	849	[6] 5
	1923	3,435	4,728	18,550	3,804	1,626	1,100	1,033	[6] 4

[1] Buffaloes included with cattle for countries reporting buffaloes.
[4] Less than 500.
[6] Camels.
[8] Estimated for present boundaries.
[10] Data for preceding year.
[18] Year 1916.
[19] Apr. 30.
[20] In rural districts only. The numbers in cities on Jan. 1, 1918, compared with Dec. 31, 1907, in parentheses were as follows: Cattle, 3,754 (5,133); swine, 4,478 (5,772); sheep, 1,479 (1,650); goats, 843 (500); horses, 7,945 (8,580).
[21] Unofficial.
[22] Year 1918.
[23] Llamas and alpacas.
[24] Carabao.
[25] European owned.
[26] Includes 1920 census figures for Turkestan and Azerbaijan.

TABLE 603.—*Livestock in specified countries*—Continued

[*Thousands—i. e., 000 omitted*]

Country	Date	Cattle	Swine	Sheep	Goats	Horses	Mules	Asses	Miscellaneous
Straits Settlements and Labuan	1913	40	158			2			
	1919	67	267			2			
Swaziland (British)	1913	73	9	170		1	(4)	2	
	1923	268	10	76	164	1	(4)	3	
Sweden	*Estimated av., 1913–14*	3,069	1,023	1,205	119	660			
	1920	2,736	1,011	1,568	113	728			
Switzerland	Apr. 11, 1911	*1,448*	*670*	*161*	*541*	*144*	*5*	*2*	
	Apr. 11, 1921	*1,425*	*640*	*245*	*550*	*134*	*4*	*1*	
Syria	1923	196		2,047	907		44		[6] 46
Tanganyika Territory (former German East Africa)	1911	1,489	1	2,793					
	1923	3,800	2	3,940		(4)	(4)	25	
Trinidad and Tobago	Mar. 31, 1914	13	9	2		5			
	1920	10	9	3	(4)	4	4		
Tunis	Dec. 31, 1913	217	17	729	505	37	23	95	
	1923	400	13	1,451	777	72	31	123	[6] 114
Turkey, European and Asiatic	1907 and 1909 [8 27]	[28] 6,438	79	[29] 16,218	[30] 14,534	950	163	1,411	[6] 248
	1923	3,551		11,914		350	78	333	[6] 52
Turks and Caicos Islands	1913	1	(4)	(4)		(4)			
	1919	1	(4)	(4)		(4)			
Uganda Protectorate	May 31, 1914	775		537		(4)			
	1923	920	(4)	267	837	(4)	(4)	(4)	
Union of South Africa	Dec. 31, 1911	*5,797*	*1,082*	*80,657*	*11,768*	*719*	*94*	*387*	
	Apr. 30, 1922	9,201	941	31,696	8,337	988	129	809	
United Kingdom:									
England and Wales	June 4, 1914	5,878	2,481	17,260		1,400			
	June 4, 1924	5,894	3,227	14,843		1,232			
Scotland	June 4, 1914	1,215	153	7,026		209			
	June 4, 1924	*1,163*	198	*6,840*		193			
Northern Ireland	June 4, 1914 [8]	815	222	366	44	133	1	10	
	June 4, 1924	736	140	509	55	96	(4)	9	
Irish Free State	June 4, 1914 [8]	4,237	1,083	3,234	198	486	30	234	
	June 4, 1923	4,215	1,156	2,994	195	312	24	220	
Uruguay	1908	*8,195*	*180*	*26,286*	*20*	*556*	22		
	1923	[21] 9,000	[18] 304	17,510	[18] 12	[15] 555	[18] 14	[18] 3	
Venezuela	1912	2,004	1,618	177	1,667	191	89	313	
	1922	2,778	[10] 512	[10] 113	[10] 2,155	[10] 168	[10] 55	[10] 200	
Yugoslavia	1910–11 [8]	5,155	3,956	10,496	2,920	1,188	24	99	
	Jan. 1, 1924	3,870	2,497	7,639	1,730	1,063	[10] 15	[10] 89	
Comparable totals: [30]									
Pre-war		518,957	179,115	[31] 558,968	[31] 108,603	[33] 111,801	[35] 11,609	[36] 8,177	
Post-war		578,565	179,234	[32] 490,043	[32] 100,441	[34] 92,895	[35] 11,376	[36] 8,305	
Estimated world totals [37]									
Pre-war		566,000	260,800	636,900	150,300	118,800	12,200	14,300	
Post-war		625,600	261,400	563,700	139,000	100,200	12,300	13,900	

Division of Statistical and Historical Research. Census returns are in italics; other returns are in Roman. United States figures for cattle, sheep, and swine are estimates prepared in Bureau of Animal Industry by adjustment of the census figures to a Jan. 1 basis and include all ages and all animals in towns, villages, and ranges, as well as on farms. The estimates of the Division of Crop and Livestock Estimates have been used to obtain the fluctuations between census years. The figures for horses and mules comprise those of the Division of Crops and Livestock Estimates for animals on farms and the 1910 and 1920 census figures for animals not on farms.

[4] Less than 500.
[6] Camels.
[8] Estimated for present boundaries.
[10] Data for preceding year.
[27] Year 1909 for Asiatic Turkey and 1907 for European Turkey.
[28] In addition there were 832,163 buffaloes.
[29] Year 1914.
[30] These totals are for countries giving both pre-war and post-war estimates. The latest pre-war estimate giving statistics for each class of animal is compared with the most recent estimates available. In countries having changed boundaries estimates have been made of the number of livestock within the present territory. Estimates from China have been omitted from these totals.
[31] 13,482,000 designated as "sheep and goats" included with sheep.
[32] 5,993,000 designated as "sheep and goats" included with sheep.
[33] 94,000 designated as "horses, mules, and asses" and "horses and mules" included with horses.
[34] 11,000 designated as "horses, mules, and asses" and "horses and mules" included with horses.
[35] 3,449,000 designated as "mules and asses" included with mules.
[36] 1,865,000 designated as "mules and asses" included with mules.
[37] These totals include China and rough estimates for all other countries not reporting.

POULTRY

TABLE 604.—*Poultry and chickens on farms, and chicken eggs produced, United States, 1919–1925*

Year	On hand Jan. 1				Production			
	All poultry		Chickens		Chickens		Chicken eggs	
	Number	Value	Number	Value	Number	Value	Dozens	Value
	Thousands	*Thousand dollars*	*Thousands*	*Thousand dollars*	*Thousands*	*Thousand dollars*	*Thousands*	*Thousand dollars*
1919 (census)					473,302	386,240	1,654,045	676,137
1920	[1] 372,825	[1] 373,394	[1] 359,537	[1] 349,509	474,700	412,734	1,647,043	725,188
1921	370,600		357,700	319,415	549,700	392,334	1,888,318	552,616
1922	423,400		408,600	330,015	579,000	378,450	1,970,755	509,592
1923	439,900		424,800	316,940	648,900	417,080	2,176,558	593,648
1924	487,700	373,880	470,300	348,105	678,300	445,018	1,968,276	521,574
1925	442,800	349,006	427,000	336,177				

Division of Crop and Livestock Estimates. [1] Census.

TABLE 605.—*Poultry: Number of different kinds in specified countries* [1]

[Thousands—i. e., 000 omitted]

Country	Date	Chickens	Turkeys	Ducks	Geese	Guinea fowls, pigeons, and undesignated poultry	Total
United States	Apr. 15, 1910	*280,341*	*3,689*	*2,907*	*4,432*	*4,496*	*295,865*
	Jan. 1, 1920	*359,537*	*5,627*	*2,818*	*2,959*	*3,904*	*372,825*
	Jan. 1, 1921	357,700				12,900	370,600
	Jan. 1, 1922	408,600				14,800	423,400
	Jan. 1, 1923	424,800				15,100	439,900
	Jan. 1, 1924	474,500				17,100	491,600
Alaska	Apr. 15, 1910	*5*		[2]	[2]		*5*
	Jan. 1, 1920	*5*		[2]	[2]	[2]	*5*
Hawaii	Apr. 15, 1910	*64*	*2*	*26*	[2]	*4*	*96*
	Jan. 1, 1920	*66*	*2*	*9*	[2]	*2*	*79*
Porto Rico	Apr. 15, 1910	*599*	*14*	*9*	*1*	*46*	*669*
	Jan. 1, 1920	599	12	8	2	57	678
Samoa	do	*13*		[2]			*13*
Austria	Dec. 31, 1910	31,743		647	1,990	1,601	35,981
	Mar. 1923 [3]	5,707	11	74	115		5,907
Bulgaria	Dec. 31, 1900	*4,045*	*200*	*184*	*373*		*4,752*
Costa Rica	1914	656					656
Canada	June 1, 1911	29,773	863	527	630		31,793
	June 15, 1923	41,356	2,105	1,046	961		45,468
China	1919 [4]	128,550		41,397			169,947
Denmark	July 15, 1914	15,140	49	1,022	162		16,373
	July 15, 1923 [5]	20,000	51	793	283		21,127
Finland	Sept. 1, 1920	*869*				*10*	*879*
French Indo-China	1921					18,982	18,982
Germany [3]	Dec. 1, 1913					71,880	71,880
	Dec. 1, 1922	58,144		1,668	5,392		65,205
Greece	1917					3,794	3,794
	1920					5,073	5,073
Italy	1906					[6] 50,000	[6] 50,000
	1924					[6] 65,000	[6] 65,000

[1] Census returns in italics; other returns in Roman. For earlier years see the United States Department of Agriculture Yearbook for 1923, p. 1037. No data available for Argentina, Australia, Belgium, Brazil, Chile, France, Hungary, India, Rumania, Tunis, Uruguay, and Venezuela.

[2] Less than 500.

[3] New boundaries.

[4] Excluding provinces of Kwangtung, Kwangsi, Szechwan, Yunnau, and Kweichow.

[5] Includes South Jutland, where the number of chickens amounted to 900,000 in 1923; turkeys 3,000; ducks 14,000; geese 13,000.

[6] Unofficial estimates based on information gained from poultry investigators, instructors, wholesalers, and superintendents of markets in important Italian cities.

TABLE 605.—*Poultry: Number of different kinds in specified countries*—Contd.

[Thousands—i. e. 000 omitted]

Country	Date	Chickens	Turkeys	Ducks	Geese	Guinea fowls, pigeons, and undesignated poultry	Total
Japanese Empire:							
Japan	1913	19,533		337			19,870
	1921	27,731		496			28,227
Chosen (Korea) and Karafuto	1913					4,211	4,211
	1920					6,002	6,002
Kenya Colony (British East Africa Protectorate)	1923					[7] *39*	[7] *39*
Luxemburg	Dec. 31, 1922	428					428
Netherlands	May-June, 1910.	*9,778*					*9,778*
	May-June, 1921.	*9,661*					*9,661*
New Zealand	1911	*5,215*	*98*	*529*	*45*	*6*	*5,693*
	Jan. 31, 1921	*5,492*	*75*	*380*	*46*		*5,991*
Norway	Sept. 30, 1907 [8]	1,391	3	8	10		1,412
	June 20, 1918 [8]					*1,676*	*1,676*
	June 20, 1918					*1,736*	*1,736*
Poland	Sept. 30, 1921	*19,148*			*5,609*	*2,434*	*26,191*
Rhodesia [7]	Dec. 31, 1923					161	161
Russia:							
European, including Ukraine and Northern Caucasia	1920	63,773	309	1,801	4,829		70,712
Asiatic	1920	12,979	86	927	2,419		16,411
Spain	1921					25,103	25,103
Sweden	June 1, 1917	6,035	5	23	17		6,080
	June 1, 1919	4,829	4	17	21		4,871
Switzerland	1918	2,386		19			2,405
	Apr. 21, 1921	*3,247*		*49*			*3,296*
Turkey (Asiatic)	1909					35,063	35,063
Union of South Africa	1911	*9,581*	*269*	*612*	*272*		*10,534*
	Apr. 30, 1922	9,182	262	416	204		10,064
United Kingdom:							
England and Wales [9]	June 4, 1908	28,249	628	2,669	686		32,232
	June 4, 1913	29,026	652	2,188	577		32,443
	June 4, 1921	24,816	445	2,391	517		28,169
Scotland	June 4, 1913	4,054	57	209	21		4,341
	June 4, 1921	4,216	70	240	23		4,549
	June 4, 1922	4,276	67	243	22		4,608
Ireland [10]	June 4, 1914					26,919	26,919
	June 4, 1918					24,424	24,424
Yugoslavia	Jan. 31, 1921					*15,175*	*15,175*

[7] Owned by Europeans only.

[8] Rural communities only.

[9] The agricultural schedule for 1921 included an inquiry as to the number of poultry on farms on June 4. Similar inquires were made in 1908 and 1913.

[10] It was found impracticable to make an estimate of the number of poultry in 1919 and 1920, but the returns indicated an increase.

TABLE 606.—*Poultry, dressed: Receipts at four markets, 1920–1924*

[Thousand pounds—i. e., 000 omitted]

Market and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Boston:													
1920	3,934	1,749	1,597	1,037	1,464	2,221	1,858	1,696	2,096	2,628	5,911	7,895	34,086
1921	3,377	2,229	1,465	1,707	1,795	2,086	1,499	2,437	2,482	3,581	7,472	9,791	39,921
1922	4,175	2,765	2,478	1,705	2,551	2,883	2,091	2,198	2,479	3,306	7,488	10,444	44,563
1923	7,690	3,785	2,917	1,946	2,439	2,778	2,427	2,661	2,674	4,418	10,752	11,526	56,013
1924	6,210	4,607	3,072	2,235	2,602	2,952	3,492	2,856	3,270	4,402	11,842	13,724	61,264
New York:													
1920	11,217	7,557	3,928	1,367	5,480	5,292	6,129	4,428	6,273	8,053	17,651	23,718	101,093
1921	11,441	7,006	5,190	5,021	4,883	6,150	5,314	8,992	10,277	11,887	21,182	27,208	124,551
1922	10,783	6,909	6,371	6,399	7,896	8,822	6,785	7,768	9,115	12,594	22,232	32,538	138,212
1923	21,730	12,335	8,590	6,916	6,804	8,589	9,414	9,497	9,653	16,509	26,822	27,289	163,948
1924	15,603	11,927	9,893	7,368	10,172	10,157	10,502	10,504	12,981	15,916	28,875	35,464	179,362
Philadelphia:													
1920	1,553	1,881	1,906	918	1,466	1,286	1,019	1,215	1,044	1,588	2,348	5,382	21,606
1921	1,498	1,071	1,411	1,005	1,303	1,565	1,226	1,419	1,587	2,020	2,882	5,905	22,892
1922	1,947	1,790	1,077	664	1,182	1,304	1,237	1,217	1,237	1,356	2,653	5,655	21,319
1923	2,206	1,530	1,388	1,042	1,055	1,509	1,343	1,618	1,348	1,749	3,281	6,542	24,611
1924	2,614	1,818	1,704	1,194	1,234	1,458	1,536	1,660	1,421	1,873	4,053	7,075	27,640
Chicago:													
1920	6,646	2,687	980	816	1,512	2,369	2,379	2,659	3,370	4,001	10,752	19,153	57,324
1921	6,343	3,328	2,794	2,104	2,421	2,524	2,097	2,615	3,804	4,157	15,723	17,082	64,992
1922	5,345	3,042	3,394	2,744	2,744	3,597	3,590	4,250	4,290	4,178	13,167	23,320	73,661
1923	11,497	5,208	4,057	2,532	2,912	3,329	3,679	4,018	4,724	5,411	15,163	27,743	90,273
1924	12,723	8,043	5,675	4,385	3,311	3,295	4,042	2,523	2,196	4,791	15,675	21,805	88,464
Total four markets:													
1920	23,350	13,874	8,411	4,138	9,922	11,168	11,385	9,998	12,783	16,270	36,662	56,148	214,109
1921	22,659	13,634	10,860	9,837	10,402	12,325	10,136	15,463	18,150	21,645	47,259	59,986	252,356
1922	22,250	14,506	13,320	11,512	14,373	16,606	13,703	15,433	17,121	21,434	45,540	71,957	277,755
1923	43,123	22,858	16,752	12,436	13,210	16,205	16,863	17,794	18,399	28,087	56,018	73,100	334,845
1924	37,150	26,395	20,344	15,182	17,319	17,862	19,572	17,543	19,868	26,982	60,445	78,068	356,730

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

Gross weight.

TABLE 607.—*Poultry, dressed: Receipts, gross, at five markets, by States of origin, 1924*

[Thousand pounds—i. e., 000 omitted]

BOSTON

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Chicago	111	118	84	----	16	38	46	5	3	40	20	106	587
Illinois	3,294	2,343	1,603	887	1,183	1,077	970	617	898	1,289	3,017	2,390	19,568
Indiana	605	487	338	246	382	510	565	660	688	990	928	983	7,382
Iowa	628	489	176	218	164	221	357	447	447	679	1,002	2,007	6,834
Kansas	126	128	80	103	255	349	306	238	121	162	379	557	2,864
Kentucky	32	3	2	2	3	1	----	21	----	----	415	375	854
Maine	59	26	14	11	9	39	19	38	63	133	178	117	706
Maryland	1	76	----	9	----	----	----	----	----	1	2	2	91
Massachusetts	11	4	5	9	13	17	22	29	67	47	40	80	344
Michigan	81	49	17	9	23	----	----	39	75	118	198	302	911
Minnesota	193	76	19	54	----	75	213	217	298	255	760	1,719	3,879
Missouri	70	82	132	201	179	284	250	127	210	273	231	501	2,540
Montana	----	7	7	----	----	----	----	----	----	----	29	94	137
Nebraska	80	34	63	93	72	98	242	155	140	65	97	197	1,336
New Hampshire	3	3	1	1	----	2	2	6	7	8	9	8	50
New York	132	116	210	97	23	34	19	13	32	25	325	85	1,111
North Dakota	22	20	37	3	----	----	----	----	----	----	74	159	315
Ohio	44	88	29	6	8	16	76	66	97	165	404	217	1,216
Oklahoma	134	151	122	173	100	141	88	45	58	68	260	398	1,738
Pennsylvania	5	8	1	1	23	16	29	26	1	----	2	2	114
South Dakota	21	1	----	----	----	----	37	----	----	----	----	41	100
Texas	----	----	----	----	----	----	----	----	----	----	3,183	3,002	6,185
Vermont	4	2	3	----	----	1	1	2	2	10	58	22	105
Wisconsin	5	2	51	----	----	21	93	74	45	40	144	137	612
Other States	549	294	78	112	149	12	97	32	19	34	87	223	1,686

TABLE 607.—*Poultry, dressed: Receipts, gross, at five markets, by States of origin, 1924*—Continued

[Thousand pounds—i. e., 000 omitted]

NEW YORK

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
California	8	13	144	39	82	6	4	56	5	3	103	65	528
Delaware	9	6	2	4	4	8	6	8	6	4	10	17	84
Illinois	5,125	4,493	4,352	3,048	4,135	3,781	3,522	3,120	4,069	4,922	6,833	9,846	57,246
Indiana	1,106	834	1,061	936	1,083	709	881	692	1,354	1,142	2,031	3,057	44,886
Iowa	2,302	1,380	597	223	691	873	1,012	1,078	1,599	2,378	3,057	3,585	18,775
Kansas	1,024	430	460	284	437	622	583	794	651	959	1,029	1,156	8,429
Kentucky	219	139	449	616	676	392	309	239	391	442	721	489	5,082
Maryland	76	126	13	10	20	42	52	54	56	80	178	252	959
Massachusetts	40	21	11	54	331	38	235	77	79	22	68	432	1,408
Michigan	75	134	22	11	62	44	264	143	80	119	297	148	1,399
Minnesota	496	689	425	178	138	441	664	438	774	1,124	1,052	1,824	9,143
Missouri	1,202	885	587	420	853	1,384	1,446	1,724	1,782	2,184	2,547	3,614	18,629
Nebraska	418	539	236	145	79	283	286	279	510	531	655	649	4,610
New Jersey	458	292	88	43	60	54	52	47	71	74	166	256	1,661
New York	299	531	491	821	309	183	62	93	40	41	91	159	3,120
North Dakota	40	34	6	3	----	----	----	----	----	----	125	307	515
Ohio	384	383	387	139	310	251	130	169	170	286	828	901	4,338
Oklahoma	129	199	158	2	196	95	90	162	77	2	704	739	2,553
Pennsylvania	85	34	68	76	43	60	83	102	195	157	119	126	1,148
South Dakota	188	32	48	----	----	46	47	71	65	131	219	452	1,299
Tennessee	127	187	70	202	349	241	290	385	356	671	621	571	4,070
Texas	1,259	297	162	47	132	125	69	78	53	20	4,857	5,009	12,108
Utah	----	----	----	----	----	----	----	----	2	----	44	69	115
Virginia	112	58	12	11	33	214	148	403	344	354	431	468	2,589
Washington	56	----	----	2	18	27	----	1	----	48	21	----	173
Wisconsin	290	109	28	41	108	222	208	261	236	295	702	452	2,862
Other States	76	82	6	11	23	15	59	30	15	17	465	659	1,458
Canada	----	----	10	2	----	----	----	----	----	----	1	162	175

PHILADELPHIA

Delaware	3	2	2	3	8	2	2	3	2	7	23	20	77
Illinois	1,199	734	901	499	451	521	569	528	478	726	1,163	1,687	9,456
Indiana	84	78	51	81	56	74	91	146	99	42	140	289	1,231
Iowa	159	61	36	27	70	39	120	115	206	316	334	401	7,883
Kansas	120	114	48	33	36	33	51	----	23	52	109	313	932
Kentucky	1	43	81	63	80	105	42	----	----	----	4	31	459
Maryland	6	9	3	3	4	7	30	1	6	12	36	45	162
Minnesota	281	72	55	4	21	101	76	101	67	190	308	976	2,252
Missouri	91	47	28	84	74	107	25	74	46	45	131	250	1,002
Nebraska	32	57	----	58	----	62	84	10	40	1	31	77	452
New Jersey	28	4	2	1	93	----	----	----	75	23	----	1	227
New York	82	113	126	3	26	1	----	213	21	33	104	325	1,047
North Carolina	3	1	2	4	9	8	1	2	5	6	4	1	56
North Dakota	43	28	6	1	----	----	----	----	----	----	42	475	595
Ohio	122	127	53	21	7	59	70	137	26	92	265	227	1,206
Oklahoma	1	1	24	1	----	63	143	106	60	43	246	192	880
Pennsylvania	68	60	52	68	75	70	65	69	76	71	140	105	919
Tennessee	3	9	1	----	----	----	----	----	----	----	41	8	62
Texas	22	24	----	----	----	----	----	----	----	1	202	549	798
Virginia	161	165	140	165	147	117	90	104	115	141	459	644	2,448
West Virginia	69	58	60	54	69	49	48	51	52	50	176	246	892
Wisconsin	29	2	31	----	----	40	29	----	----	22	23	92	268
Other States	7	9	2	21	----	----	----	----	24	----	72	111	246

TABLE 607.—*Poultry, dressed: Receipts, gross, at five markets, by States of origin, 1924*—Continued

[Thousand pounds—i. e., 000 omitted]

CHICAGO

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Arkansas	32	25	91	75	24	8	12	4	2	1	8	33	315
Indiana	157	94	66	58	51	52	47	34	10	56	140	84	849
Illinois	2,220	1,475	1,284	1,717	1,275	1,068	1,171	251	216	359	658	1,490	13,184
Iowa	2,706	1,725	1,031	781	607	699	893	738	643	1,761	3,690	5,750	21,024
Kansas	292	130	90	35	61	74	91	121	239	387	715	1,017	3,252
Kentucky	36	59	95	104	82	34	50	5	1	.....	32	10	508
Michigan	45	13	11	13	11	10	12	2	.....	4	30	35	186
Minnesota	1,924	1,100	663	348	140	105	149	129	107	660	2,485	3,615	11,425
Mississippi	4	5	8	9	6	7	5	.....	.....	.....	1	4	49
Missouri	696	306	228	210	321	198	429	448	459	521	857	1,307	5,980
Montana	340	292	187	26	4	2	.....	.....	.....	.....	557	687	2,094
Nebraska	232	138	131	51	67	82	104	35	93	27	243	487	1,690
New York	.....	.....	.....	18	61	35	27	50	22	87	15	24	339
North Dakota	734	697	411	68	41	32	14	35	34	64	1,545	2,309	5,984
Ohio	1	1	.....	.....	1	1	5	1	.....	1	14	13	38
Oklahoma	162	93	79	29	97	91	72	45	1	222	426	847	2,164
South Dakota	766	690	554	338	79	178	141	151	161	267	1,383	1,688	6,396
Tennessee	52	69	31	43	18	18	46	88	81	74	7	37	564
Texas	1,190	371	46	1	56	28	118	88	1	118	1,127	933	4,077
Wisconsin	1,112	741	591	446	307	570	654	298	126	174	1,469	1,283	7,771
Wyoming	10	8	10	.....	.....	.....	.....	.....	.....	.....	39	42	109
All other	12	12	68	15	2	3	2	.....	.....	8	234	110	466

SAN FRANCISCO

California	639	834	99	61	46	182	269	116	55	71	759	1,017	4,178
Idaho	24	.....	28	.....	13	.....	26	27	51	71	.....	96	336
Illinois	.....	.....	.....	52	84	.....	28	.....	.....	.....	.....	.....	164
Kansas	60	25	71	118	.....	29	45	.....	.....	25	33	52	458
Nevada	3	15	.....	.....	.....	.....	.....	.....	.....	.....	232	.....	230
Oregon	12	34	21	17	.....	.....	.....	22	9	40	245	14	414
Washington	3	35	12	32	11	30	2	.....	111	74	.....	29	339
All other	25	.....	54	49	.....	24	.....	.....	.....	.....	70	92	314

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

TABLE 608.—*Frozen poultry: Cold-storage holdings, 1916–1924*

[Thousand pounds—i. e. 000 omitted]

Year beginning September	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1
1916	.....	.....	.....	.....	.....	.....	.....	.....	67,242	64,286	60,194	54,132
1917	56,093	46,737	51,743	49,561	64,557	68,238	56,950	44,115	26,523	18,929	17,652	18,756
1918	23,034	29,798	44,433	71,238	108,722	119,675	109,627	92,897	71,162	55,616	49,212	40,573
1919	32,918	30,492	33,139	54,749	87,512	92,253	78,421	61,436	40,525	30,535	24,790	22,364
1920	21,331	22,953	31,070	49,046	79,025	81,096	79,001	62,315	47,651	35,408	27,268	21,188
1921	20,064	25,602	34,876	65,167	103,697	103,350	88,709	68,471	50,840	38,602	34,837	30,659
1922	27,671	25,984	30,238	51,781	100,170	121,632	113,503	94,872	74,562	57,274	49,100	41,250
1923	34,131	33,142	40,362	63,274	93,434	99,486	93,497	76,067	52,068	39,299	34,886	33,604
1924	33,837	40,070	55,139	87,939	.....	.....	.....	.....	.....	.....	.....	.....

Division of Statistical and Historical Research.

TABLE 609.—*Poultry (live): International trade, calendar years 1909–1923*

[Thousands—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Austria							942	14
Austria-Hungary	2,453	4,114						
Do.[1]	8,435	16,617						
Canada	15	[2]	249	857	418	609	473	579
China	15	2,462	36	3,871	31	3,743	27	3,639
Finland	17	30	[3]	[3]				
Italy [1]	2,010	9,606	786	2,185	3,967	2,575	5,552	2,742
Netherlands	[4]	[4]	24	129	63	339	83	247
PRINCIPAL IMPORTING COUNTRIES								
Belgium [1]	1,797	685	763	383	1,299	1,442	1,024	2,158
Denmark	26	2	2	[3]	2	[3]		
France [1]	8,967	795	11,345	118	17,504	294	21,252	1,041
Germany:								
Geese	8,111	32	297	[5] 1	54	1	25	[3]
Other poultry [1]	29,829	278	256	[5] 55	339	76	115	36
Switzerland [1]	1,382	28	1,144	4	879	4	987	5
United Kingdom	877	50	61	8	239	14	1,170	18
Total reported in number	11,514	6,690	669	4,866	807	4,706	2,720	4,497
Total reported in pounds	52,420	28,009	14,294	2,745	23,988	4,391	28,930	5,982

Division of Statistical and Historical Research. Official sources.

[1] 1,000 pounds.
[2] Expressed only in value.
[3] Less than 500.
[4] Not separately stated.
[5] Eight months, May–December.

TABLE 610.—*Poultry (dead): International trade, calendar years 1909–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Austria-Hungary	371	9,854						
Belgium	232	1,649	149	89	159	290	138	902
China	[1]	1,211	[1]	1,644	[1]	1,989	[1]	2,837
Finland	373	1,162	1	876		797		914
France	2,920	12,296	1,997	5,334	3,659	6,627	3,672	11,141
Italy	288	6,019	957	2,335	1,029	3,786	792	4,075
Netherlands	[1]	[1]	37	502	44	933	68	1,653
PRINCIPAL IMPORTING COUNTRIES								
Austria			3,012	288			7,560	491
Cuba	76		866		147			
Denmark	1,765	10	418	25	866	39		
Germany	18,875	535	95	[2] 51	65	69	166	44
Norway	63		24	2	75	[3]		
Sweden	349	12	227	4	284	2		
Switzerland	8,319	13	4,196	2	4,245	4	4,884	12
United Kingdom	10,994	127	8,818	185	18,644	272	34,825	321
Total, 15 countries	44,625	32,888	20,797	11,337	29,217	14,808	52,105	22,390

Division of Statistical and Historical Research. Official sources.

[1] Not separately stated. [2] Eight months, May–December. [3] Less than 500.

TABLE 611.—*Chickens: Farm price per pound, 15th of month, United States, 1910–1924*

Year beginning July—	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Weighted average
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1910	12.2	12.0	11.8	11.4	11.0	10.6	10.6	10.6	10.7	10.9	11.0	11.1	11.0
1911	11.2	11.2	11.0	10.6	10.0	9.7	10.0	10.4	10.6	11.0	11.1	11.0	10.4
1912	11.2	11.3	11.4	11.4	11.0	10.8	10.8	11.0	11.4	11.7	11.9	12.0	11.2
1913	13.0	12.8	12.7	13.0	11.4	11.3	11.5	12.0	12.4	13.0	12.7	13.1	12.0
Av. 1910–1913	11.9	11.8	11.7	11.6	10.8	10.6	10.7	11.0	11.3	11.6	11.7	11.8	11.2
1914	13.4	13.1	12.8	12.0	11.1	10.7	10.9	11.3	11.7	11.9	12.0	12.2	11.5
1915	12.2	12.2	12.0	11.8	11.5	11.2	11.5	12.1	12.5	13.1	13.6	14.0	12.0
1916	14.1	14.1	14.2	14.4	13.9	13.6	14.1	15.1	15.7	17.3	17.5	17.7	14.6
1917	17.4	16.7	18.4	18.5	17.0	17.5	18.4	20.3	20.2	20.7	20.6	21.3	18.4
1918	23.2	23.4	23.6	22.2	21.7	22.4	22.1	21.8	23.4	25.7	26.7	26.4	23.0
1919	26.8	26.1	25.0	23.3	22.0	22.0	23.3	25.7	26.9	28.4	28.0	27.4	24.2
1920	28.4	26.6	26.9	24.6	22.9	20.6	21.7	22.3	22.8	22.2	21.8	21.5	22.8
Av. 1914–1920	19.4	18.9	19.0	18.1	17.2	16.9	17.4	18.4	19.0	19.9	20.0	20.1	18.1
1921	21.7	21.4	20.2	19.1	18.6	18.2	18.9	19.0	19.4	20.0	20.2	20.6	19.3
1922	20.7	18.9	18.6	18.1	17.2	17.2	17.3	18.6	18.8	19.4	20.1	20.3	18.2
1923	20.6	19.8	19.7	19.0	17.7	16.6	17.5	18.2	18.9	19.4	20.3	20.5	18.3
1924	20.2	20.0	19.8	19.4	18.5	17.9							

Division of Crop and Livestock Estimates.

TABLE 612.—*Turkeys: Farm price per pound, 15th of month, United States, 1912–1925*

Year beginning October—	Oct. 15	Nov. 15	Dec. 15	Jan. 15	Year beginning October—	Oct. 15	Nov. 15	Dec. 15	Jan. 15
	Cents	*Cents*	*Cents*	*Cents*		*Cents*	*Cents*	*Cents*	*Cents*
1912	13.6	14.4	14.8	14.9	1919	26.6	28.3	31.1	32.0
1913	14.6	15.2	15.5	15.5	1920	30.0	31.8	33.1	33.0
1914	14.1	14.1	14.5	14.5	1921	25.7	28.2	32.5	30.7
1915	13.7	14.8	15.5	15.6	1922	25.1	29.5	32.3	29.7
1916	17.0	18.6	19.6	19.5	1923	26.6	27.9	24.5	23.1
1917	20.0	21.0	23.0	22.9	1924	23.3	24.2	25.8	26.2
1918	23.9	25.7	27.0	27.3					

Division of Crop and Livestock Estimates.

EGGS

TABLE 613.—*Eggs: receipts, at five markets, 1917–1924*

[Thousand cases—i. e., 000 omitted]

Market and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Boston:													
1917	56	75	171	252	318	193	113	87	84	80	43	30	1,502
1918	31	59	192	309	305	171	133	119	91	96	46	52	1,604
1919	67	116	184	327	235	189	148	128	80	97	48	40	1,659
1920	72	113	149	253	384	204	119	110	95	66	49	34	1,648
1921	84	138	206	359	294	183	137	130	100	88	52	52	1,823
1922	101	133	214	403	312	224	143	105	85	106	74	70	1,970
1923	99	106	244	285	381	219	128	131	101	108	73	69	1,944
1924	91	97	185	282	367	212	163	121	85	90	64	72	1,829
New York:													
1917	143	139	405	747	738	565	395	337	333	284	169	102	4,357
1918	106	155	712	908	681	551	483	450	333	288	183	177	5,027
1919	214	486	667	1,026	911	669	532	438	377	318	192	178	6,008
1920	207	315	618	563	697	725	470	370	334	272	209	211	4,991
1921	314	476	999	1,012	742	681	525	517	440	362	251	260	6,579
1922	335	424	919	1,178	994	784	574	427	381	337	226	242	6,821
1923	386	447	981	924	1,163	796	596	528	416	377	270	272	7,156
1924	301	410	717	1,082	970	789	599	429	405	361	221	259	6,543

TABLE 613.—*Eggs: Receipts at five markets, 1917–1924*—Continued

[Thousand cases—i. e., 000 omitted]

Market and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Philadelphia:													
1918	----	----	112	164	190	164	147	107	102	112	63	56	1,217
1919	64	100	174	301	271	185	129	115	107	119	76	63	1,704
1920	76	81	120	164	242	180	107	116	118	81	57	54	1,396
1921	64	120	202	237	235	158	121	145	124	100	66	70	1,642
1922	109	113	192	316	273	142	126	124	108	76	60	64	1,703
1923	104	111	179	187	278	196	131	128	141	110	74	88	1,727
1924	88	96	152	270	249	158	139	117	108	90	50	78	1,595
Chicago:													
1917	118	86	376	927	1,200	897	626	450	361	295	193	150	5,679
1918	108	29	415	1,027	926	733	564	460	338	240	124	86	5,050
1919	101	253	458	1,024	915	767	401	275	220	125	51	27	4,617
1920	109	251	458	840	800	620	380	260	217	132	47	40	4,154
1921	133	356	679	750	684	460	297	258	201	137	86	114	4,155
1922	210	296	525	887	898	695	389	300	191	140	82	71	4,684
1923	198	308	619	775	943	763	424	332	276	191	84	96	5,009
1924	176	347	519	823	879	637	458	318	228	156	76	62	4,679
San Francisco:													
1917	50	76	94	91	92	79	52	45	35	37	28	37	716
1918	53	81	80	93	83	71	51	39	34	27	26	29	667
1919	48	59	73	83	93	80	66	62	42	32	27	33	698
1920	44	55	102	114	80	76	67	55	42	43	36	43	757
1921	58	71	123	109	100	79	62	57	44	40	33	35	811
1922	54	59	102	118	106	81	72	63	51	45	42	45	838
1923	65	60	95	97	87	92	70	61	54	58	54	62	855
1924	58	56	81	82	79	75	72	57	50	51	46	53	760

Division of Statistical and Historical Research. Compiled from reports of the Division of Dairy and Poultry Products.

TABLE 614.—*Eggs: Receipts, at five markets, by States of origin, 1924*

[Thousand cases—i. e., 000 omitted]

BOSTON

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Chicago	9	7	5	3	----	2	1	1	----	----	2	3	33
Illinois	31	40	93	126	148	79	43	26	19	24	16	14	659
Indiana	7	5	19	38	49	21	15	11	7	6	4	3	185
Iowa	3	3	8	20	44	19	31	19	14	13	7	5	186
Kansas	5	5	2	2	3	2	2	11	5	6	8	6	57
Kentucky	1	----	1	1	4	----	----	----	----	----	1	----	8
Maine	10	9	11	13	14	10	9	6	6	3	2	6	99
Massachusetts	2	3	1	2	1	1	----	1	----	2	1	2	16
Michigan	1	----	1	6	11	9	6	4	3	3	3	1	48
Minnesota	2	1	16	30	36	30	24	14	14	11	5	8	191
Missouri	4	5	7	13	18	9	8	5	2	2	2	4	80
Nebraska	2	4	2	3	2	2	4	4	1	4	1	2	31
New Hampshire	3	3	4	3	3	3	2	1	2	1	1	2	28
New York	3	1	1	1	4	3	3	2	1	5	6	7	37
North Dakota	----	----	1	2	3	1	3	2	1	----	----	----	13
Ohio	3	2	4	10	14	13	6	7	6	5	2	3	75
Vermont	3	2	2	3	4	3	2	2	2	1	----	1	25
Wisconsin	----	----	----	2	3	3	2	3	2	2	1	1	19
Other States	2	6	6	4	6	3	1	2	----	1	2	4	37

NEW YORK

California	22	67	53	14	15	5	11	16	13	30	35	50	331
Delaware	6	7	10	12	12	10	8	5	4	3	2	3	82
Illinois	42	60	158	251	176	158	108	77	64	69	33	27	1,223
Indiana	16	22	47	98	96	77	53	40	31	25	12	9	526
Iowa	16	11	59	163	168	151	115	83	83	60	21	12	942
Kansas	4	10	27	32	18	13	17	10	18	14	9	9	181
Kentucky	4	5	9	18	9	5	4	2	1	1	1	2	61
Maryland	8	11	16	20	19	13	12	8	6	4	3	4	124
Michigan	2	3	4	14	16	18	14	6	5	5	5	5	97
Minnesota	4	7	15	37	50	41	40	24	23	11	6	3	261

TABLE 614.—*Eggs: Receipts, at five markets, by States of origin, 1924*—Continued

[Thousand cases—i. e., omitted]

NEW YORK—Continued

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Missouri	18	27	57	88	54	41	21	24	25	29	14	17	415
Nebraska	2	4	9	15	6	6	3	2	6	2	1	1	57
New Jersey	20	20	24	30	34	25	18	13	10	8	8	12	222
New York	42	39	50	83	96	87	62	43	36	28	19	30	615
Ohio	10	8	19	60	77	52	37	16	21	17	6	4	327
Oregon	4	5	9	2	5	1	----	1	4	3	1	5	40
Pennsylvania	21	17	27	41	40	32	30	23	17	10	7	9	274
South Dakota	----	----	----	2	2	4	1	2	----	3	----	----	14
Tennessee	12	23	40	28	12	3	4	4	3	2	3	7	141
Texas	----	7	9	----	----	----	----	1	----	----	----	----	17
Utah	3	5	11	8	5	3	1	2	3	1	2	3	46
Virginia	9	11	13	26	15	8	7	4	3	3	2	3	104
Washington	28	24	27	14	15	17	19	11	17	19	26	37	254
Wisconsin	1	1	3	10	18	9	7	6	4	7	1	1	68
Parcel post	3	3	5	7	7	5	5	4	4	3	2	2	51
Other States	4	13	16	9	5	5	2	2	3	4	2	4	69

PHILADELPHIA

Delaware	3	5	6	7	7	5	3	2	2	2	1	2	46
Illinois	20	22	44	45	31	25	24	20	16	19	15	23	304
Indiana	3	2	2	22	20	13	15	9	7	6	2	2	103
Iowa	1	1	3	20	26	16	9	9	10	7	2	2	106
Kansas	5	10	4	2	2	1	3	6	4	3	2	3	45
Maryland	5	6	10	12	7	6	3	2	2	2	1	2	58
Michigan	1	----	2	29	37	24	18	11	11	10	2	3	148
Minnesota	4	2	8	10	8	6	6	10	14	10	4	2	84
Missouri	8	7	18	23	11	10	11	11	10	9	7	9	134
Nebraska	2	4	2	2	1	2	1	1	----	----	----	----	15
New York	4	2	2	----	2	----	----	1	1	2	3	9	26
Ohio	4	2	3	21	24	12	10	11	9	4	2	1	103
Pennsylvania	14	15	18	26	23	17	14	9	7	5	4	4	156
South Dakota	----	----	1	2	1	----	3	2	2	1	----	----	12
Tennessee	1	1	2	----	2	----	----	----	1	1	1	3	12
Virginia	9	10	14	33	30	14	14	10	6	5	2	6	153
West Virginia	2	2	2	3	3	2	2	1	1	1	1	1	21
Wisconsin	1	----	2	5	9	4	3	1	3	2	1	4	35
Other States	1	6	9	7	5	1	----	1	2	1	----	2	35

CHICAGO

Indiana	1	1	1	2	3	3	1	1	1	1	----	1	16
Illinois	8	14	18	38	33	32	21	11	7	5	3	4	194
Iowa	34	56	64	181	187	135	97	43	36	27	18	14	892
Kansas	19	60	83	51	52	37	29	46	22	17	7	10	433
Michigan	1	1	1	2	3	6	2	1	1	1	1	----	20
Minnesota	26	35	73	119	126	84	64	44	35	25	8	5	644
Missouri	26	36	65	127	132	107	54	33	30	25	14	12	661
Nebraska	16	35	67	66	79	58	57	45	23	14	3	2	465
North Dakota	1	3	6	7	9	3	5	5	5	2	----	----	46
Oklahoma	4	28	28	6	----	1	----	1	1	----	1	2	72
South Dakota	11	27	63	107	107	84	69	53	40	21	10	3	595
Texas	1	16	2	----	1	----	----	1	----	----	4	----	25
Wisconsin	25	29	42	116	146	85	58	33	27	17	7	7	592
Other States	3	6	6	1	1	2	1	1	----	1	----	2	24

SAN FRANCISCO

California	57	56	80	78	76	70	69	56	48	49	45	53	737
Other States	1	----	1	4	3	5	3	1	2	2	1	----	23

Division of Statistical and Historical Research. Compiled from monthly reports of the Division of Dairy and Poultry Products.

TABLE 615.—*Case eggs:*[1] *Cold-storage holdings, 1915–1924*

[Thousand cases—i. e., 000 omitted]

Year beginning March	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1
1915							5,683	5,019	3,687	2,788	1,508	458
1916	35	264	2,327	4,593	5,574	6,060	5,600	4,868	3,985	2,140	920	149
1917	7	190	2,105	4,922	6,617	6,895	6,436	5,837	4,638	2,948	1,300	200
1918	20	344	2,957	5,499	6,554	6,568	6,265	5,369	3,812	2,071	740	130
1919	26	320	3,278	6,098	7,659	7,850	7,685	6,858	5,087	3,341	1,542	342
1920	29	122	2,135	5,143	6,747	6,872	6,372	5,295	3,838	1,824	408	43
1921	43	1,926	4,909	6,844	7,534	7,605	7,210	6,269	4,380	2,403	889	179
1922	13	950	4,648	8,056	9,811	10,161	9,608	7,924	5,726	3,257	1,311	213
1923	13	453	3,737	7,890	10,222	10,509	9,883	8,737	6,645	4,028	1,927	500
1924	44	579	3,563	6,875	8,685	9,267	8,778	7,409	5,267	3,102	------	------

Division of Statistical and Historical Research.

[1] 30-dozen cases.

TABLE 616.—*Eggs in the shell: International trade, calendar years, average 1909–1913, annual 1921–1923*

[Thousand dozen—i. e., 000 omitted]

Country	Average, 1909-1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Argentina	2,351	------	11	6,358	317	3,557	------	3,336
Austria			5,417	------	------	------	9,564	26
Austria-Hungary	91,561	177,163						
China	270	25,542	139	98,393	234	98,498	788	91,754
Denmark	2,243	34,340	86	54,007	414	61,258	1,403	66,602
Finland	2,899	3	(1)	871	------	324	------	35
Italy	4,104	33,482	316	392	2,534	13,363	3,621	13,173
Netherlands	19,542	29,360	1,047	9,738	1,392	13,087	964	19,874
United States	[2] 1,701	12,108	3,063	33,291	1,019	34,620	412	30,659
PRINCIPAL IMPORTING COUNTRIES								
Belgium	19,148	11,521	4,413	137	9,506	1,181	5,414	5,356
Canada	6,341	148	6,583	5,444	8,141	3,619	6,623	2,900
Cuba	4,732	------	16,353	------	11,006	------	------	------
France	37,215	8,920	11,847	1,451	26,711	6,588	28,983	30,763
Germany	228,279	675	2,038	[3] 944	194	1,069	1,150	93
Japan	6,867	------	53,277	------	------	------	------	------
Norway	387	4	4,089	2	4,522	3	1,828	------
Sweden	4,207	3,781	2,637	977	2,519	814	3,092	1,127
Switzerland	19,747	48	14,685	(1)	14,633	(1)	17,623	2
United Kingdom	190,015	------	105,305	28	135,670	38	200,487	------
Total 19 countries	641,609	337,095	231,306	212,033	218,812	238,019	281,952	265,700

Division of Statistical and Historical Research. Official sources.

[1] Less than 500 dozen.
[2] One year only.
[3] Eight months, May-December.

TABLE 617.—*Eggs not in the shell: International trade, calendar years 1909–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Austria-Hungary	1,100	188						
China		17,217		64,545		94,455		100,387
PRINCIPAL IMPORTING COUNTRIES								
Denmark	526	[1] 6	291	9	557	2		
France	1,967	426	2,037	26	3,860	15	5,764	52
Germany	11,214	3,225	7,582	[2] 556	9,717	1,362	6,417	1,350
Italy	381	4	202	27	1,056	6	949	1
Netherlands			3,014	486	3,247	796	2,833	3,582
Sweden	[3] 255	(4)	195	5	318	12		
United Kingdom	(5)	(5)	42,609	453	41,875	452	54,060	
United States			22,537	(6)	24,809	718	23,300	328
Total, 10 countries	15,443	21,066	78,467	66,107	85,439	97,818	93,323	105,700

Division of Statistical and Historical Research. Official sources.

[1] Three-year average.
[2] Eight months, May—December.
[3] Two-year average.
[4] Less than 500 pounds.
[5] Not separately stated.
[6] Expressed only in value.

TABLE 618.—*Eggs: Farm price per dozen, 15th of month, United States, 1910–1924*

Year beginning April	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Weighted av.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1910	18.6	18.4	18.2	17.9	18.5	20.9	23.8	27.2	29.7	26.2	19.3	15.7	19.3
1911	14.8	14.6	14.4	14.8	16.4	18.7	21.8	26.1	29.1	29.3	26.8	21.2	18.2
1912	17.4	16.9	16.7	17.0	18.2	20.6	24.0	27.8	28.2	24.8	21.1	17.9	18.9
1913	15.9	16.5	16.8	16.4	17.7	21.3	26.0	31.3	32.9	29.8	25.3	22.2	19.8
Av. 1910–1913	16.7	16.6	16.5	16.5	17.7	20.4	23.9	28.1	30.0	27.5	23.1	19.2	19.0
1914	16.4	16.9	17.2	17.5	19.1	22.5	23.7	28.2	31.9	31.7	23.7	16.5	19.3
1915	16.6	16.5	16.1	16.3	17.3	20.6	24.6	29.4	31.1	28.8	24.2	18.2	19.0
1916	17.7	18.5	18.9	19.9	21.6	25.3	30.4	34.9	38.3	38.1	35.7	25.3	23.3
1917	28.5	30.2	29.9	29.0	30.5	35.8	38.5	41.2	45.9	48.9	45.8	30.9	33.0
1918	30.4	30.6	29.5	33.0	35.2	39.1	44.9	51.7	59.3	55.3	34.8	33.9	34.9
1919	36.0	38.9	36.1	37.9	40.6	43.1	51.0	59.1	69.6	60.9	48.5	40.5	41.8
1920	36.6	37.5	35.9	37.8	42.5	48.6	54.6	62.9	67.1	54.5	31.0	26.8	39.3
Av. 1914–1920	26.0	27.0	26.2	27.3	29.5	33.6	38.2	43.9	49.0	45.5	34.8	27.4	30.1
1921	20.5	19.4	20.1	24.3	28.9	30.9	39.4	50.0	51.1	31.7	31.4	19.5	25.3
1922	20.0	20.9	20.2	20.3	20.6	27.3	34.6	43.6	47.2	37.8	29.9	25.4	24.7
1923	21.6	21.8	20.9	21.3	23.6	29.8	34.6	45.6	45.5	35.4	33.6	20.4	25.2
1924	19.1	19.8	21.1	22.8	26.1	31.8	38.2	45.8	49.9				

Division of Crop and Livestock Estimates.

TABLE 619.—*Eggs: Average price per dozen at certain cities, 1910–1924*

WESTERN FIRSTS, AT BOSTON

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Average
1910	$0.32	$0.27	$0.23	$0.22	$0.21	$0.20	$0.19	$0.21	$0.24	$0.26	$0.30	$0.32	$0.25
1911	.27	.19	.17	.17	.17	.16	.18	.18	.20	.25	.29	.33	.21
1912	.33	.36	.22	.21	.20	.19	.20	.21	.25	.28	.31	.30	.26
1913	.26	.24	.20	.20	.21	.20	.18	.23	.28	.30	.40	.36	.26
1914	.33	.30	.25	.20	.21	.20	.21	.23	.25	.26	.34	.38	.26
1915	.36	.27	.20	.21	.20	.19	.19	.20	.25	.28	.32	.34	.25
1916	.31	.27	.23	.22	.23	.23	.24	.27	.31	.34	.40	.46	.29
1917	.45	.43	.31	.34	.36	.33	.34	.37	.41	.41	.49	.56	.40
1918	.63	.57	.38	.36	.35	.35	.41	.42	.46	.54	.65	.68	.48
1919	.63	.45	.42	.44	.47	.43	.45	.46	.47	.61	.67	.80	.52
1920	.71	.60	.48	.45	.45	.43	.45	.50	.55	.62	.76	.80	.57
Av. 1914–1920	.49	.41	.32	.32	.32	.31	.33	.35	.39	.44	.52	.57	.40
1921	.68	.43	.31	.27	.25	.26	.32	.34	.38	.49	.60	.54	.41
1922	.42	.40	.26	.26	.27	.25	.24	.25	.38	.44	.53	.55	.35
1923	.43	.38	.31	.28	.27	.25	.25	.28	.33	.40	.55	.48	.35
1924	.44	.38	.25	.24	.26	.27	.28	.32	.37	.44	.52	.58	.36

FRESH FIRSTS, AT NEW YORK

1910	$0.38	$0.27	$0.23	$0.22	$0.21	$0.20	$0.18	$0.21	$0.24	$0.26	$0.31	$0.34	$0.25
1911	.28	.19	.17	.17	.17	.15	.17	.18	.21	.24	.32	.35	.22
1912	.34	.36	.22	.20	.19	.19	.20	.21	.24	.26	.31	.29	.25
1913	.24	.22	.19	.19	.20	.19	.19	.23	.27	.29	.39	.36	.25
1914	.33	.29	.26	.20	.20	.21	.21	.24	.26	.27	.35	.38	.27
1915	.38	.26	.20	.21	.20	.20	.20	.22	.26	.30	.35	.34	.26
1916	.31	.26	.22	.22	.22	.23	.25	.29	.33	.34	.41	.46	.30
1917	.46	.45	.31	.34	.35	.33	.34	.38	.41	.41	.49	.57	.40
1918	.65	.58	.38	.35	.35	.36	.41	.43	.47	.53	.65	.67	.49
1919	.62	.44	.44	.43	.46	.44	.46	.48	.51	.62	.69	.79	.53
1920	.71	.59	.48	.44	.44	.43	.47	.51	.57	.64	.77	.78	.57
Av. 1914–1920	.49	.41	.33	.31	.32	.31	.33	.36	.40	.44	.53	.57	.40
1921	.67	.42	.31	.27	.25	.27	.33	.35	.39	.49	.58	.54	.41
1922	.41	.38	.25	.26	.27	.25	.24	.26	.39	.43	.53	.53	.35
1923	.42	.37	.31	.27	.27	.24	.25	.29	.35	.39	.53	.47	.35
1924	.42	.39	.25	.24	.25	.27	.29	.33	.39	.44	.52	.57	.36

WESTERN EXTRA FIRSTS AT PHILADELPHIA

1910	$0.36	$0.29	$0.23	$0.22	$0.22	$0.21	$0.22	$0.24	$0.26	$0.29	$0.33	$0.37	$0.27
1911	.28	.21	.18	.18	.18	.17	.18	.20	.23	.27	.34	.33	.23
1912	.34	.36	.23	.21	.20	.21	.22	.23	.26	.30	.34	.31	.27
1913	.26	.23	.19	.19	.21	.21	.22	.27	.30	.33	.39	.37	.26
1914	.34	.28	.27	.20	.21	.22	.22	.26	.28	.30	.35	.40	.28
1915	.39	.27	.20	.21	.20	.20	.20	.23	.27	.32	.39	.36	.27
1916	.31	.26	.23	.22	.23	.24	.26	.29	.33	.36	.41	.45	.30
1917	.47	.45	.31	.35	.36	.35	.36	.39	.42	.42	.48	.56	.41
1918	.62	.61	.37	.37	.36	.39	.43	.46	.50	.56	.67	.69	.50
1919	.63	.44	.41	.44	.47	.46	.51	.52	.54	.66	.73	.80	.55
1920	.73	.62	.48	.44	.45	.47	.50	.54	.60	.67	.81	.80	.59
Av. 1914–1920	.50	.42	.32	.32	.33	.33	.35	.38	.42	.47	.55	.58	.41
1921	.66	.43	.32	.28	.25	.28	.35	.39	.41	.53	.64	.57	.43
1922	.42	.40	.26	.27	.27	.27	.26	.27	.39	.48	.59	.55	.37
1923	.43	.38	.31	.28	.29	.27	.29	.33	.42	.43	.62	.52	.38
1924	.43	.40	.24	.25	.27	.29	.31	.37	.46	.52	.61	.63	.40

TABLE 619.—*Eggs: Average price per dozen at certain cities, 1910–1924*—Continued

FRESH FIRSTS AT CHICAGO

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Average
1910	$0.34	$0.26	$0.21	$0.20	$0.19	$0.18	$0.16	$0.18	$0.22	$0.24	$0.28	$0.30	$0.23
1911	.26	.18	.16	.15	.15	.13	.14	.16	.18	.21	.28	.29	.19
1912	.33	.32	.21	.19	.18	.17	.18	.19	.22	.24	.26	.25	.23
1913	.24	.21	.18	.18	.18	.18	.17	.21	.24	.26	.33	.33	.23
1914	.32	.27	.22	.18	.19	.18	.19	.21	.22	.23	.28	.32	.23
1915	.34	.25	.18	.19	.18	.17	.17	.19	.23	.26	.29	.29	.23
1916	.29	.24	.19	.20	.21	.21	.22	.24	.28	.31	.36	.39	.26
1917	.41	.42	.28	.32	.34	.31	.32	.34	.37	.37	.43	.48	.37
1918	.58	.51	.35	.33	.32	.32	.37	.38	.43	.50	.61	.62	.44
1919	.58	.38	.39	.40	.43	.40	.42	.42	.46	.57	.63	.73	.48
1920	.65	.52	.45	.41	.41	.39	.42	.47	.53	.57	.68	.71	.52
Av. 1914–1920	.45	.37	.29	.29	.30	.28	.30	.32	.36	.40	.47	.51	.36
1921	.60	.35	.27	.24	.22	.24	.28	.30	.33	.44	.52	.51	.36
1922	.37	.32	.23	.23	.24	.22	.21	.22	.29	.35	.48	.48	.30
1923	.38	.33	.26	.25	.24	.23	.23	.26	.31	.35	.48	.42	.31
1924	.41	.35	.22	.22	.24	.25	.26	.30	.36	.41	.48	.52	.34

FRESH EXTRAS AT SAN FRANCISCO

1910	$0.34	$0.26	$0.21	$0.24	$0.25	$0.27	$0.30	$0.35	$0.41	$0.47	$0.54	$0.40	$0.34
1911	.31	.25	.19	.19	.21	.21	.26	.31	.38	.46	.51	.40	.31
1912	.33	.24	.20	.21	.21	.22	.25	.29	.38	.44	.48	.34	.30
1913	.28	.21	.18	.19	.20	.24	.27	.32	.39	.50	.57	.47	.32
1914	.40	.27	.20	.22	.23	.24	.28	.33	.40	.47	.48	.46	.33
1915	.31	.23	.21	.22	.23	.23	.25	.31	.36	.46	.51	.41	.31
1916	.33	.26	.20	.22	.23	.25	.27	.33	.39	.47	.50	.40	.32
1917	.38	.32	.26	.31	.34	.31	.35	.43	.46	.53	.57	.52	.40
1918	.63	.46	.39	.40	.40	.43	.48	.55	.62	.75	.82	.80	.56
1919	.61	.41	.42	.48	.52	.52	.54	.59	.69	.78	.87	.78	.60
1920	.64	.49	.44	.44	.46	.47	.57	.60	.72	.83	.87	.78	.61
Av. 1914–1920	.47	.35	.30	.33	.34	.35	.39	.45	.52	.61	.66	.59	.45
1921	.60	.37	.33	.29	.26	.29	.41	.45	.52	.65	.68	.57	.45
1922	.39	.30	.26	.28	.27	.28	.29	.33	.48	.64	.61	.52	.39
1923	.38	.28	.24	.27	.27	.28	.27	.34	.38	.44	.43	.43	.33
1924	.34	.26	.23	.23	.23	.29	.31	.35	.41	.45	.47	.45	.34

Division of Statistical and Historical Research. Average of daily prices from New York Journal of Commerce, Philadelphia Commercial List, and Price Current and Chicago Dairy Produce; average of weekly prices in reports of the Boston Chamber of Commerce and Pacific Dairy Review.

TABLE 624.—*National forests, State forests and parks, and municipal forests, areas 1923* [1]

State	Aggregate	National forests (net area) [2]	State forest lands.				Municipal and county forest land
			Total [2]	State forests	State parks	Other State forest land	
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Alabama	291,430	97,198	175,000			175,000	19,232
Arizona	11,235,434	11,204,304	31,130			31,130	
Arkansas	957,247	957,247					
California	19,211,472	19,147,587	56,245		11,400	44,845	7,640
Colorado	13,426,668	13,277,038	120,000			120,000	29,630
Connecticut	28,472		14,150	6,529	5,121	2,500	14,322
District of Columbia	1,632						1,632
Florida	339,858	337,938	1,920		1,920		
Georgia	153,457	153,457					
Idaho	19,984,185	19,056,871	927,154	685,000	14,814	227,340	160
Illinois	25,040		40		40		25,000
Indiana	4,351		4,351	2,851	1,500		
Iowa	4,500		4,500		4,500		
Kansas	455		255		255		200
Maine	418,059	32,256	385,000			385,000	803
Maryland	13,235		5,835	3,835		2,000	7,400
Massachusetts	129,513		83,353	50,353	13,000	20,000	46,160
Michigan	773,117	124,082	648,000	338,000	10,000	300,000	1,035
Minnesota	1,784,069	1,047,941	736,068	381,000	5,068	350,000	60
Missouri	50,000		50,000			50,000	
Montana	16,447,715	15,881,715	566,000	460,000		106,000	
Nebraska	205,986	205,944					42
Nevada	4,976,513	4,976,513					
New Hampshire	431,951	404,945	18,950	18,000		950	8,056
New Jersey	53,164		17,064	16,504	560		36,100
New Mexico	8,705,984	8,535,984	170,000			170,000	
New York	2,215,853		2,046,853	1,992,516	33,962	20,375	169,000
North Carolina	390,279	359,690	3,725	300	1,225	2,200	26,864
North Dakota	250		250		250		
Ohio	54,948		43,471	20,371	200	22,900	11,477
Oklahoma	61,480	61,480					
Oregon	13,217,047	13,137,447	74,800		800	74,000	4,800
Pennsylvania	1,193,134		1,174,401	1,126,237	1,410	46,754	18,733
Rhode Island	104						104
South Carolina	18,558	18,558					
South Dakota	1,145,587	1,057,747	87,840	61,440		26,400	
Tennessee	266,210	241,210	25,000			25,000	
Texas	310						310
Utah	7,455,110	7,453,400					1,710
Vermont	43,945		42,100	29,300	800	12,000	1,845
Virginia	443,361	431,513	2,088	588		1,500	9,700
Washington	10,776,433	9,900,869	863,600	58,000	5,600	800,000	11,964
West Virginia	132,108	132,108					
Wisconsin	300,055		300,055	300,000	55		
Wyoming	8,417,773	8,417,773					
Alaska	20,571,549	20,571,549					
Hawaii	579,936		579,936	579,936			
Porto Rico	12,443	12,443					
Total	166,949,920	157,236,807	9,259,134	6,130,760	112,480	3,015,894	453,979

Forest Service.

[1] Few if any of the public forests are entirely covered with saw timber. They contain lakes, rocky mountain tops and other barrens, open grazing land and natural meadows, unproductive burns, brush lands, and scrub timber useful chiefly for fuel, posts, and similar small material. These are usually inseparable parts of the administrative units.

[2] National forest areas are corrected to June 30, 1923. These figures do not of course include the forested land within Indian reservations, national parks, national monuments, military reservations, and the unreserved public domain. The State and municipal forests are as of July 1, 1922.

TABLE 625.—*State forestry: Appropriations, 1923* [1]

State	Administration publications and investigations	Protection		Nurseries and reforestation work	Purchase and maintenance of State forests	Total [2]
		Fire	Insect and disease			
Alabama	[3] $15,000	[3] $35,000				[3] $50,000
California	12,690	42,124		$2,500	$30,300	[3] 87,614
Colorado	5,000					5,000
Connecticut	10,000	30,000	$37,500	5,000	5,000	87,500
Idaho		45,000	2,500			[3] 47,500
Illinois	9,000					[3] 9,000
Indiana	5,000			8,025		[3] 13,025
Kentucky				6,000		6,000
Louisiana	15,000	35,000		4,000	6,000	60,000
Maine	17,300	[4] 167,000	25,500	1,000		210,800
Maryland	19,000	5,625		2,150	2,400	29,175
Massachusetts	36,050	51,000	148,000	30,000	162,500	427,550
Michigan	16,700	265,000		14,000	28,700	324,400
Minnesota	12,000	166,400			18,000	196,400
Montana	10,000	16,000			13,725	39,725
New Hampshire	8,500	34,300	25,000	8,500	5,000	81,300
New Jersey	13,981	68,680	125,000		6,611	214,272
New Mexico		1,960				1,960
New York	23,664	169,500	223,174	73,320	[5] 1,752,930	2,242,588
North Carolina	6,500	23,000		500	300	30,300
Ohio	20,000	9,000		12,500	118,000	159,500
Oregon	11,400	31,100				42,500
Pennsylvania	105,935	378,700		35,715	167,900	[3] 688,250
Rhode Island	2,800	3,500	18,500			24,800
South Dakota	2,300	5,820			500	8,620
Tennessee	5,130	12,060		500		17,690
Texas	10,400	15,200		4,000	10,000	39,600
Vermont	6,400	7,300	2,000		7,300	[3] 23,000
Virginia	5,175	19,350		225		24,750
Washington	9,200	48,300			[6] 106,000	163,500
West Virginia		20,000				20,000
Wisconsin	9,000	20,800		4,000		33,800
Total	423,125	1,726,719	607,174	211,935	2,441,166	5,410,119

Forest Service. From information furnished by State Forestry Departments.

[1] Exclusive of appropriations for educational institutions.
[2] Estimated. Derived from privilege taxes on lumbering, turpentining, and other forest industries.
[3] Decrease from previous appropriation.
[4] Tax on timberlands; available until expended.
[5] $1,729,330 from an issue of bonds.
[6] $100,000 from an issue of bonds.

TABLE 626.—*Forest areas of the world, by principal divisions and countries*

Division and country	Forest area	Division and country	Forest area
	Acres.		*Acres.*
Asiatic Russia	1,136,153,150	Belgian Congo	180,000,000
India	260,139,520	Rhodesia	170,304,000
China	190,000,000	Nigeria	139,776,000
Dutch East Indies	154,339,000	French Congo	80,000,000
Japan	90,484,640	Cameroon	35,000,000
Other Asia	264,898,280	Ivory Coast	30,000,000
		Other Africa	162,378,000
Asia	2,096,014,590		
		Africa	797,458,000
Brazil	1,000,000,000		
Argentina	264,000,000	Russia	440,000,000
Peru	224,000,000	Sweden	55,550,000
Colombia	150,000,000	Finland	49,410,000
Bolivia	128,000,000	Germany	30,905,840
Venezuela	103,840,000	France	25,508,420
Other South America	222,850,000	Other Europe	172,744,200
South America	2,092,690,000	Europe	774,118,460
		New Guinea	160,020,000
Canada	596,746,000	Australian Commonwealth	90,291,500
United States [1]	550,000,000	New Zealand	17,073,920
Alaska	95,000,000	Other Oceania	16,073,300
Mexico	74,100,000		
Other North America	128,111,000	Australia and Oceania	283,458,720
North America	1,443,957,000	Total world divisions	7,487,696,770

Forest Service. Compiled from "Forest Resources of the World."

[1] Includes approximately 80,000,000 acres incapable of producing saw timber on a commercial scale. The figures for many other countries also include areas of low-grade forest land.

TABLE 630.—*Forest fires: Causes, United States, 1916–1923*

Group	Calendar year	Number of fires, by causes									
		Lightning	Railroads	Camp fires	Smokers	Brush burning	Incendiary	Lumbering	Miscellaneous	Unknown	Total
United States	1916	3,434	4,599	3,951	.....	6,623	6,112	2,764	2,191	11,329	41,003
	1917	2,523	6,209	5,182	.....	5,668	5,416	2,594	2,185	8,526	38,303
	1918	3,066	4,467	3,441	.....	3,256	2,317	1,406	1,959	6,249	26,161
	1919	2,721	3,820	4,041	.....	3,106	3,125	1,435	2,039	6,718	27,005
	1920	3,956	4,818	3,679	.....	3,188	3,078	1,724	1,781	5,929	28,153
	1921	2,188	5,515	7,638	.....	4,358	5,336	1,826	2,804	8,770	38,435
	1922	3,933	7,139	5,272	5,694	7,492	10,201	2,694	4,074	5,392	51,891
	1923	3,605	8,666	6,519	7,625	14,077	20,496	4,904	7,030	5,907	78,829
Adjusted average of 8-year period		3,197	5,714	[1] 6,676	.....	6,032	7,038	2,431	2,959	7,456	41,503
Summary by groups:											
Northeastern [2]—											
Softwood subgroup	1923	26	605	300	380	146	31	30	71	144	1,733
Hardwood subgroup	1923	1	1,603	117	611	426	78	8	330	1,337	4,511
Appalachian [3]	1923	30	1,650	1,143	230	600	529	371	319	825	5,697
Southeastern [4]	1923	685	2,819	1,950	3,707	7,649	14,917	3,242	3,029	1,623	39,621
East Mississippi [5]	1923	277	564	576	370	904	942	238	361	76	4,308
West Mississippi [6]	1923	196	474	1,107	829	3,338	3,629	527	2,270	419	12,789
Lake States [7]	1923	13	680	487	259	611	37	90	282	1,118	3,577
Prairie [8]	1923	13	1	1	7	5	1	.....	.....	.....	28
Rocky Mountain [9]—											
Northern subgroup	1923	725	54	187	121	50	19	35	20	53	1,264
Southern subgroup	1923	326	8	81	128	20	10	23	22	.....	618
Pacific [10]	1923	1,313	208	570	983	328	303	340	326	312	4,683

Forest Service. Compiled from Forest Service and State data.

[1] Includes smokers 1922 and 1923.

[2] Northeastern: Softwood subgroup—Maine, New Hampshire, Vermont, New York; hardwood subgroup—Massachusetts, Rhode Island, Connecticut, New Jersey.

[3] Appalachian: Pennsylvania, Delaware, Maryland, Virginia, West Virginia.

[4] Southeastern: North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi.

[5] East Mississippi: Ohio, Indiana, Illinois, Kentucky, Tennessee.

[6] West Mississippi: Missouri, Arkansas, Oklahoma, Louisiana, Texas.

[7] Lake States: Michigan, Minnesota, Wisconsin.

[8] Prairie: North Dakota, South Dakota, Nebraska, Kansas, Iowa.

[9] Rocky Mountain: Northern subgroup—Montana, Idaho, Wyoming. southern subgroup—Colorado, New Mexico, Arizona, Utah, Nevada.

[10] Pacific: California, Oregon, Washington.

TABLE 631.—*Grazing in the national forests: Number of permits issued and stock grazed, 1905–1923*

Year ended June 30—	Cattle, horses, and hogs				Sheep and goats		
	Number of permits	Number grazed			Number of permits	Number grazed	
		Cattle	Horses	Hogs		Sheep	Goats
1904	7,981	632,793	59,331	.....	(1)	1,709,987	.....
1905	14,093	1,015,148	(1)	.....	[illegible]	5,762,200	(1)
1906	17,979	1,200,158	(1)	.....	[illegible]	6,697,083	(1)
1907	19,845	1,304,142	[illegible]	.....	[illegible]	6,960,919	126,192
1908	22,163	1,491,385	[illegible]	.....	[illegible]	7,679,608	139,896
1909	20,602	1,409,879	[illegible]	.....	[illegible]	7,558,650	99,999
1910	20,499	1,351,[illegible]	[illegible]	.....	[illegible]	7,371,747	77,999
1911	21,[illegible]	[illegible]	[illegible]	.....	[illegible]	7,467,899	[illegible]
1912	22,[illegible]	[illegible]	[illegible]	.....	[illegible]	7,790,953	[illegible]
1913	[illegible]	[illegible]	[illegible]	.....	[illegible]	7,560,[illegible]	[illegible]
1914	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1915	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1916	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1917	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1918	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1919	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1920	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1921	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1922	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]
1923	[illegible]	[illegible]	[illegible]	.....	[illegible]	[illegible]	[illegible]

TABLE 632.—*National forests: Permits for special uses, by districts, in force Dec. 31, 1923*

Nature of permit	Charge permits by districts								
	1	2	3	4	5	6	7	8	All districts
Agriculture and cultivation	86	320	377	93	185	53	273	8	1,395
Apiary			10		56		1		67
Bark, herbs, seeds, sand, gravel, etc	3		1		2	1	7		14
Barn, garage, stable	12	5	8	5	24	3	5	1	63
Cabin	20		5			23	1		49
Camp	12	12	7		12	7	7		57
Corral	7	2	2		8	1			20
Dam and weir	3								3
Dipping vat			3						3
Drift fence					1				1
Fish and fruit cannery and saltery							1	74	75
Fish hatchery, etc	5	27		1					33
Fishing, hunting, and trapping				3		1			4
Fox and rabbit ranch		3			4	4		173	184
Golf and tennis grounds						1			1
Hay cutting	16	17	1	7	3		1		45
Hotel and roadhouse	11	19	5	7	142	11		2	197
Icehouse plant and pond			1		1			3	5
Log chute, flume, skidway, etc	5	3			4	2	1		15
Lumber yard	2	1	2		3		1		9
Mill and factory site	2	1	2	3	5	2			15
Mineral spring					1	1	1		3
Mining and prospecting							19		19
Orchard			1				8		9
Park, playground, etc					2	1			3
Pasture	429	1,236	1,995	274	594	303	58	1	4,890
[illegible]uarry				1			2		3
[illegible]road (logging)		2	1		12	10			25
[illegible]oad (common carrier)	4	5			5				14
[illegible]and storage grounds	3		1	3	2			12	21
[illegible]	13	3	2	1	1	3	2		25
[illegible]	374	663	290	296	3,875	616	94	186	6,364
[illegible]d clubhouse	13	60	26	18	132	25	12	2	288
[illegible]e driveway and trail	1						4		5
[illegible]	1				1				2
[illegible]	5	10		1	6	6	5		33
[illegible]e					1				1
[illegible]iscellaneous occupancy)		5	3			2	5		15
[illegible]pen			2	1	1				4
[illegible]unds		1		1	3				5
[illegible]	1		53						54
[illegible], and office	8	8	13	5	89	12		9	144
[illegible]line			1		1				2
[illegible]connection	18	192	17	23	3	29	1		283
[illegible]line	1	37	3	16	1	17			75
[illegible]				1					1
[illegible]	4	13	2	3	3	1	1	1	28
[illegible] still							1		1
[illegible]ly (wells, spring, windmill, [illegible]	4	2			1		4		11
[illegible]mission (conduit, ditch, etc.)	4	22	7	5	10	12	4	3	67
[illegible]thouse, etc	3				5	3	1	1	13
[illegible]ower permits:									
[illegible]nsmission line only			12		16		1		29
[illegible]ower house, reservoir, conduit, etc			2		2				4
Total	1,070	2,669	2,855	738	5,217	1,150	521	476	14,696

TABLE 630.—*Forest fires: Causes, United States, 1916–1923*

Group	Calendar year	Number of fires, by causes									
		Lightning	Railroads	Camp fires	Smokers	Brush burning	Incendiary	Lumbering	Miscellaneous	Unknown	Total
United States	1916	3,434	4,599	3,951	.....	6,623	6,112	2,764	2,191	11,329	41,003
	1917	2,523	6,309	5,182	.....	5,668	5,416	2,594	2,185	8,526	38,303
	1918	3,066	4,467	3,441	.....	3,256	2,317	1,406	1,959	6,249	26,161
	1919	2,721	3,820	4,041	.....	3,106	3,125	1,435	2,039	6,718	27,005
	1920	3,956	4,818	3,679	.....	3,188	3,078	1,724	1,781	5,929	28,153
	1921	2,188	5,515	7,638	.....	4,358	5,336	1,826	2,804	8,770	38,435
	1922	3,033	7,139	5,272	5,694	7,492	10,201	2,694	4,074	5,392	51,891
	1923	3,605	8,666	6,519	7,625	14,077	20,496	4,904	7,030	5,907	78,829
Adjusted average of 8-year period		3,197	5,714	[1] 6,676	.....	6,032	7,038	2,431	2,959	7,456	41,503
Summary by groups:											
Northeastern [2]—											
Softwood subgroup	1923	26	605	300	380	146	31	30	71	144	1,733
Hardwood subgroup	1923	1	1,603	117	611	426	78	8	330	1,337	4,511
Appalachian [3]	1923	30	1,650	1,143	230	600	529	371	319	825	5,697
Southeastern [4]	1923	685	2,819	1,950	3,707	7,649	14,917	3,242	3,029	1,623	39,621
East Mississippi [5]	1923	277	564	576	370	904	942	238	361	76	4,308
West Mississippi [6]	1923	196	474	1,107	829	3,338	3,629	527	2,270	419	12,789
Lake States [7]	1923	13	680	487	250	611	37	90	282	1,118	3,577
Prairie [8]	1923	13	1	1	7	5	1	.....	.....	.....	28
Rocky Mountain [9]—											
Northern subgroup	1923	725	54	187	121	50	19	35	20	53	1,264
Southern subgroup	1923	326	8	81	128	20	10	23	22	.....	618
Pacific [10]	1923	1,313	208	570	983	328	303	340	326	312	4,683

Forest Service. Compiled from Forest Service and State data.

[1] Includes smokers 1922 and 1923.
[2] Northeastern: Softwood subgroup—Maine, New Hampshire, Vermont, New York; hardwood subgroup—Massachusetts, Rhode Island, Connecticut, New Jersey.
[3] Appalachian: Pennsylvania, Delaware, Maryland, Virginia, West Virginia.
[4] Southeastern: North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi.
[5] East Mississippi: Ohio, Indiana, Illinois, Kentucky, Tennessee.
[6] West Mississippi: Missouri, Arkansas, Oklahoma, Louisiana, Texas.
[7] Lake States: Michigan, Minnesota, Wisconsin.
[8] Prairie: North Dakota, South Dakota, Nebraska, Kansas, Iowa.
[9] Rocky Mountain: Northern subgroup—Montana, Idaho, Wyoming; southern subgroup—Colorado, New Mexico, Arizona, Utah, Nevada.
[10] Pacific: California, Oregon, Washington.

TABLE 631.—*Grazing in the national forests: Number of permits issued and stock grazed, 1905–1923*

Year ended June 30—	Cattle, horses, and hogs				Sheep and goats		
	Number of permits	Number grazed			Number of permits	Number grazed	
		Cattle	Horses	Hogs		Sheep	Goats
1904	7,981	632,793	59,331	.....	(2)	1,709,987	.....
1905	14,093	1,015,148	(1)	.....	2,500	5,762,200	(3)
1906	17,979	1,200,158	(1)	.....	3,809	6,657,083	(3)
1907	19,845	1,304,142	76,003	2,076	4,282	6,960,919	126,192
1908	22,163	1,491,385	90,019	4,501	5,074	7,679,098	139,896
1909	20,692	1,409,873	84,552	3,145	4,995	7,558,650	90,300
1910	20,499	1,351,922	91,516	4,500	5,105	7,371,747	77,668
1911	21,188	1,403,026	95,343	4,330	5,313	7,467,890	83,849
1912	22,032	1,455,922	97,919	3,277	5,434	7,790,953	76,898
1913	23,757	1,517,945	99,835	3,381	5,188	7,560,186	58,616
1914	25,641	1,627,321	96,933	2,792	4,969	7,232,276	51,409
1915	28,052	1,758,764	98,903	2,968	5,270	7,843,205	43,268
1916	31,136	1,953,198	98,880	2,306	5,502	7,586,034	49,989
1917	32,600	2,137,854	102,150	3,371	6,513	8,454,240	57,908
1918	32,528	2,135,527	93,251	5,154	6,624	7,935,174	60,789
1919–20	31,301	2,033,800	83,015	4,066	6,199	7,271,136	53,685
1920 (last 6 months)	2,146	88,599	6,444	1,010	652	553,263	3,346
1921 (calendar year)	31,027	1,999,680	78,115	2,453	6,214	6,936,377	43,574
1922 (calendar year)	30,148	1,882,491	67,856	2,149	5,811	6,497,912	36,153
1923 (calendar year)	27,800	1,804,274	64,104	1,347	5,584	6,377,759	31,379

Forest Service.

[1] Included with cattle. [2] Included in number of permits for cattle. [3] Included with sheep.

TABLE 632.—*National forests: Permits for special uses, by districts, in force Dec. 31, 1923*

Nature of permit	Charge permits by districts								
	1	2	3	4	5	6	7	8	All districts
Agriculture and cultivation	86	320	377	93	185	53	273	8	1,395
Apiary			10		56		1		67
Bark, herbs, seeds, sand, gravel, etc	3		1		2	1	7		14
Barn, garage, stable	12	5	8	5	24	3	5	1	63
Cabin	20		5			23	1		49
Camp	12	12	7		12	7	7		57
Corral	7	2	2		8	1			20
Dam and weir	3								3
Dipping vat			3						3
Drift fence					1				1
Fish and fruit cannery and saltery							1	74	75
Fish hatchery, etc	5	27		1					33
Fishing, hunting, and trapping				3		1			4
Fox and rabbit ranch		3			4	4		173	184
Golf and tennis grounds						1			1
Hay cutting	16	17	1	7	3		1		45
Hotel and roadhouse	11	19	5	7	142	11		2	197
Icehouse plant and pond			1		1			3	5
Log chute, flume, skidway, etc	5	3			4	2	1		15
Lumber yard	2	1	2		3		1		9
Mill and factory site	2	1	2	3	5	2			15
Mineral spring					1	1	1		3
Mining and prospecting							19		19
Orchard			1				8		9
Park, playground, etc					2	1			3
Pasture	429	1,236	1,995	274	594	303	58	1	4,890
Quarry				1			2		3
Railroad (logging)		2	1		12	10			25
Railroad (common carrier)	4	5			5				14
Refuse and storage grounds	3		1	3	2			12	21
Reservoir	13	3	2	1	1	3	2		25
Residence	374	663	290	266	3,875	616	94	186	6,364
Resort and clubhouse	13	60	26	18	132	25	12	2	288
Road, bridge driveway and trail	1						4		5
Sanitarium	1				1				2
Sawmill	5	10		1	6	6	5		33
Schoolhouse					1				1
Settlers (miscellaneous occupancy)		5	3			2	5		15
Slaughter pen			2	1	1				4
Station grounds		1		1	3				5
Stock tank	1		53						54
Store, shop, and office	8	8	13	5	89	12		9	144
Telegraph line			1		1				2
Telephone connection	18	192	17	23	3	29	1		283
Telephone line	1	37	3	16	1	17			75
Theater				1					1
Tramway	4	13	2	3	3	1	1	1	28
Turpentine still							1		1
Water supply (wells, spring, windmill, etc.)	4	2			1		4		11
Water transmission (conduit, ditch, etc.)	4	22	7	5	10	12	4	3	67
Wharf, boathouse, etc	3				5	3	1	1	13
Water-power permits:									
Transmission line only			12		16		1		29
Power house, reservoir, conduit, etc			2		2				4
Total	1,070	2,669	2,855	738	5,217	1,150	521	476	14,696

TABLE 632.—*National forests: Permits for special uses, by districts, in force Dec. 31, 1923*—Continued

Nature of permit	Free permits by districts								
	1	2	3	4	5	6	7	8	All districts
Agriculture and cultivation	11	3	25	3	5	4	3	17	71
Bark, herbs, seeds, sand, gravel, etc	3	2		1	3	2	1		12
Barn, garage, stable	4	8	8	2	15	7			44
Botanical garden				1					1
Cabin	93	250	119	109	138	95	7	92	903
Camp	13	33	16	3	67	5	2		139
Cemetery	7	7	11	2	4	4	3	1	39
Charcoal kiln	1								1
Church and mission		3	5		1		4	2	15
Corral	25	140	997	245	81	49	6		1,543
Dam and weir	8	4	8	4	2	2			28
Dipping vat	1	2	6	36			3		48
Drift fence	175	573	1,016	163	559	191	31		2,708
Excavation of ruins	1	1							2
Fence (other than drift)	4	1	2	2					9
Ferry				1					1
Fish hatchery, etc	2	8	2	3	2	11	1	1	30
Fishing, hunting, and trapping			1		1	2	13		17
Golf and tennis grounds					1				1
Icehouse plant and pond	1								1
Log chute, flume, skidway, etc	15	3	1		2	3			24
Lumber yard		1	1						2
Mill and factory site	2			4	6	6		1	19
Monument							3		3
Observatory			1		1	1			3
Orchard			1						1
Park, playground, etc	2		3		5	2			12
Pasture	21	141	408	76	101	25			772
Pipeline (oil and gas)					5				5
Quarry				2	3	1			6
Railroad (electric)					1				1
Railroad (logging)		5	9		12	7		1	34
Railroad (common carrier)	5	15	10	10	10	23	1		74
Refuse and storage grounds	1	2	4	4	2				13
Reservoir	153	457	83	195	119	60	2	1	1,070
Residence	6		49	21	6		2		84
Resort and clubhouse	1	4	1	5	13	3	8	3	38
Road, bridge driveway and trail	42	33	18	31	44	24	13	1	206
Sawmill	49	161	44	190	35	14		10	503
Schoolhouse	39	50	30	13	27	15	13	2	189
Settlers (miscellaneous occupancy)		11	7			1			19
Sign	2		1			3			6
Station grounds		2	2		3	2		1	10
Stock tank	16	2	656	16	13	2	2		707
Store, shop, and office	4	1	1		1			1	8
Telegraph line	1	2	5		14	4			26
Telephone connection	248	21	22	10	115	67	10		493
Telephone line	85	192	89	92	268	155	16	4	901
Tramway	4	4		2	5	5		9	29
Warehouse				2					2
Watershed	1	17	1			10			29
Water supply (wells, spring, windmill, etc.)	13	43	560	18	26	3			663
Water transmission (conduit, ditch, etc.)	210	495	367	402	595	270	6	23	2,368
Wharf, boathouse, etc						1		2	3
Water-power permits:									
Transmission line only	1		4		2		1		8
Power house, reservoir, conduit, etc			1		6				7
Total	1,270	2,697	4,504	1,668	2,619	1,079	181	172	15,961

Forest Service.

TABLE 633.—*Timber sales from national forests, 1905–1923*

Year ended June 30—	Number of sales			Amount cut in board feet (000 omitted)			Value of timber cut			Other timber products [2]
	Commercial	"Cost" sales [1]	Total	Commercial sales	"Cost" sales [1]	Total	Commercial sales	"Cost" sales [1]	Total	
1905	411		411	68,475		68,475	[3] $85,597		[3] $85,597	
1906	1,023		1,023	138,665		138,665	[3] 203,333		[3] 203,333	
1907	1,508		1,508	194,872		194,872	337,952		337,952	
1908	5,062		5,062	392,792		392,792	794,252		794,252	
1909	4,980		4,980	352,434		352,434	677,784		677,784	
1910	5,398		5,398	379,616		379,616	906,308		906,308	
1911	5,653		5,653	374,678		374,678	842,993		842,993	
1912	5,772		5,772	431,492		431,492	942,819		942,819	
1913	6,091	91	6,182	494,950	718	495,668	1,074,682	$503	1,075,185	
1914	5,957	2,341	8,298	616,661	9,645	626,306	1,264,490	6,570	1,271,060	
1915	6,343	4,562	10,905	546,508	19,246	565,754	1,165,268	14,180	1,179,448	
1916	6,407	4,433	10,840	575,552	19,470	595,022	1,241,105	14,593	1,255,698	
1917	6,921	4,686	11,607	706,558	20,858	727,416	1,490,814	16,095	1,506,909	$394
1918	7,130	5,907	13,037	706,342	21,641	727,983	1,507,121	16,300	1,523,421	4,837
1919	6,570	6,022	12,592	685,172	19,597	704,769	1,497,702	14,671	1,512,373	7,779
1920	7,690	5,582	13,272	783,947	22,184	806,131	1,754,600	15,801	1,770,401	10,381
1920 (last 6 months)	3,608	3,045	6,653	489,841	14,272	504,113	1,168,885	9,874	1,178,759	7,562
1921 (calendar year)	7,069	6,621	13,690	666,191	21,731	687,922	1,646,818	16,364	1,663,182	4,511
1922 (calendar year)	7,200	5,726	12,926	856,147	20,826	876,973	2,218,165	17,332	2,235,497	8,096
1923 (calendar year)	7,730	4,990	12,720	1,037,229	17,806	1,055,035	2,736,154	15,606	2,751,760	11,317

Forest service.

[1] "Cost" sales are special sales made to farmers and settlers who are entitled by law to purchase for domestic use mature or dead national forest timber at the cost of making and administering the sale.

[2] Value of other timber products, not convertible into board feet, taken from the national forests.

[3] Estimated.

TABLE 634.—*Timber granted without charge from national forests, to local residents, under "free use" regulations, 1907–1923*

Year ended June 30—	Number of users	Amount cut, M board feet	Estimated value	Year ended June 30—	Number of users	Amount cut, M board feet	Estimated value
1907	17,399	86,818	$100,362	1916	42,070	119,488	$184,720
1908	30,377	131,977	169,320	1917	41,427	115,073	149,802
1909	33,431	105,205	169,081	1918	38,073	96,616	127,688
1910	35,364	104,796	176,167	1919	34,617	90,798	113,117
1911	40,660	123,488	196,930	1920	37,336	88,060	113,000
1912	38,749	123,233	196,335	1920 (last 6 months)	21,168	56,813	60,391
1913	38,264	121,750	191,825	1921 (calendar year)	40,535	123,245	117,054
1914	39,466	120,575	183,223	1922 (calendar year)	37,158	89,510	98,843
1915	40,040	123,259	206,597	1923 (calendar year)	34,032	96,985	97,984

Forest Service.

TABLE 635.—*Lumber: Production by States, 1899, 1909, 1919–1922*

[Thousand feet—i. e., 000 omitted]

State	1899	1909	1919	1920	1921	1922
	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
Alabama	1,101,386	1,691,001	1,798,746	1,439,200	1,386,426	1,457,608
Arizona	36,182	62,731	73,655	121,160	46,418	88,800
Arkansas	1,623,987	2,111,300	1,772,157	1,452,200	1,301,095	1,382,032
California	737,035	1,143,507	1,259,363	[1] 1,513,000	1,350,438	[1] 1,720,556
Colorado	133,746	141,710	64,864	70,000	41,076	38,917
Connecticut	108,093	158,371	86,708	71,600	64,841	53,198
Delaware	35,955	55,440	27,437	19,800	20,839	14,139
Florida	790,373	1,201,734	1,137,432	1,000,900	922,332	980,014
Georgia	1,311,917	1,342,249	893,965	761,800	792,579	809,391
Idaho	65,363	645,800	765,388	970,000	542,620	857,581
Illinois	388,469	170,181	64,628	56,900	42,531	24,387
Indiana	1,036,999	556,418	282,487	258,300	138,397	148,569
Iowa	352,411	132,021	18,493	14,300	5,372	6,131
Kansas	10,665	4,716	2,840	[2] 4,500	([3])	[2] 3,657
Kentucky	774,651	860,712	512,078	421,100	255,922	210,360
Louisiana	1,115,366	3,551,918	3,163,871	3,120,000	3,215,110	3,386,000
Maine	784,647	1,111,565	596,116	505,600	421,536	302,224
Maryland	183,711	267,939	113,362	85,600	71,169	54,358
Massachusetts	344,190	361,200	166,841	139,200	136,736	94,656
Michigan	3,018,338	1,889,724	875,891	749,800	571,387	656,952
Minnesota	2,342,338	1,561,508	699,639	576,300	412,145	511,744
Mississippi	1,206,265	2,572,699	2,390,135	2,224,000	2,081,520	2,267,695
Missouri	723,754	660,159	321,383	274,200	158,418	201,849
Montana	255,685	308,582	287,378	410,000	215,989	303,458
Nebraska	4,655	([3])	505	([4])	([3])	([4])
Nevada	725	([3])	20,335	([5])	([3])	([5])
New Hampshire	572,447	649,606	338,777	248,600	261,999	180,706
New Jersey	74,118	61,620	36,888	23,300	23,860	9,553
New Mexico	30,880	91,987	86,808	112,240	94,520	126,449
New York	878,448	681,440	357,764	410,900	283,863	222,257
North Carolina	1,286,638	2,177,715	1,654,435	1,246,700	931,015	936,248
Ohio	990,497	542,904	280,076	247,400	133,218	136,877
Oklahoma	22,104	225,730	168,403	163,400	120,371	149,323
Oregon	734,538	1,898,995	2,577,403	3,317,000	2,022,219	3,023,768
Pennsylvania	2,333,278	1,462,771	630,471	520,000	368,102	333,289
Rhode Island	18,528	25,489	11,030	8,900	4,946	3,030
South Carolina	466,429	897,660	621,679	610,500	684,333	854,799
South Dakota	[6] 33,734	31,057	42,970	45,100	27,062	35,395
Tennessee	950,958	1,223,849	792,132	779,800	451,937	485,979
Texas	1,232,404	2,099,130	1,379,774	1,328,800	1,502,333	1,542,708
Utah	17,548	12,638	11,917	7,750	7,689	6,827
Vermont	375,809	351,571	218,479	164,500	139,183	95,967
Virginia	959,119	2,101,716	1,098,038	1,014,400	592,979	617,493
Washington	1,429,032	3,862,916	4,961,220	5,525,000	3,831,800	5,836,277
West Virginia	778,051	1,472,942	763,103	697,600	467,002	554,277
Wisconsin	3,389,166	2,025,038	1,116,338	1,059,900	800,477	775,540
Wyoming	16,963	28,602	8,674	7,550	5,750	7,850
All other	[7] 6,571	[8] 11,230			[9] 13,310	
United States	[10] 35,084,166	44,509,761	[10 11] 34,552,076	[12] 33,798,800	[12] 26,960,864	[12] 31,568,888

[1] Includes cut of Nevada.
[2] Includes cut of Nebraska.
[3] Included in "All other."
[4] Included with Kansas.
[5] Included with California.
[6] Includes cut of North Dakota.
[7] Reported as cut of Alaska.
[8] Includes cut of Nebraska and Nevada.
[9] Includes cut of Kansas, Nebraska, and Nevada.
[10] Includes both merchant and custom sawing.
[11] Includes 2,655 mills cutting less than 5,000 feet each per year
[12] Mills cutting less than 50,000 feet each year excluded.
[13] Excludes custom mills.

TABLE 635.—*Lumber: Production by States, 1899, 1909, 1919–1922*—Continued

[Thousand feet—i. e., 000 omitted]

State	1899	1909	1919	1920	1921	1922
	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
State groups:						
Northeastern	5,709,224	5,197,012	2,583,873	2,198,000	1,797,074	1,423,377
Central	5,643,379	5,487,165	3,015,887	2,735,300	1,784,009	1,762,298
Southern	8,403,802	14,795,731	12,704,483	11,490,300	11,321,766	11,974,771
North Carolina pine	2,712,186	5,177,091	3,374,152	2,871,600	2,208,327	2,408,540
Lake	8,749,842	5,476,270	2,691,868	2,386,000	1,647,425	1,944,236
North Pacific	2,163,570	5,761,911	7,538,623	8,842,000	5,854,019	8,860,045
South Pacific	737,760	1,143,507	1,279,698	1,513,000	1,350,438	1,720,556
N. Rocky Mountain	321,048	954,382	1,052,766	1,380,000	756,609	1,161,039
S. Rocky Mountain	235,319	337,668	245,918	318,700	195,453	268,843
Prairie	[14] 408,036	[14] 179,024	64,808	63,900	[14] 45,744	45,183

Forest Service. Compiled from Forest Service and Bureau of the Census reports. Figures for 1920 include estimates for firms not reporting.

Northeastern: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
Central: Illinois, Indiana, Kentucky, Missouri, Ohio, Tennessee, West Virginia.
Southern: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, Texas.
North Carolina pine: North Carolina, South Carolina, Virginia.
Lake: Michigan, Minnesota, Wisconsin.
North Pacific: Oregon, Washington.
South Pacific: California, Nevada.
North Rocky Mountain: Idaho, Montana.
South Rock Mountain: Arizona, Colorado, New Mexico, Utah, Wyoming.
Prairie: Iowa, Kansas, Nebraska, South Dakota, North Dakota,

[14] Includes "All other."

TABLE 636.—*Lumber production: By species, 1899, 1909, 1919–1922*

[Thousand feet—i. e., 000 omitted]

Species or kind of wood	1899	1909	1919	1920	1921	1922
Yellow pine	9,658,548	16,277,135	13,062,938	11,091,000	10,959,863	11,500,771
Douglas fir	1,736,507	4,856,378	5,902,169	6,960,000	4,642,122	6,831,580
White pine	7,742,391	3,900,034	1,723,642	1,500,000	1,273,710	1,382,755
Hemlock	3,420,673	3,051,399	1,754,998	1,850,000	1,201,063	1,534,641
Western yellow pine	944,560	1,499,985	1,755,015	2,290,000	1,432,273	2,080,994
Spruce	1,448,091	1,748,547	979,968	825,000	629,256	731,371
Cypress	495,836	955,635	656,212	625,000	770,920	868,952
Redwood	360,167	521,630	410,442	476,500	467,804	565,965
Cedar	232,978	346,008	332,234	260,000	234,576	334,083
Larch	50,619	421,214	388,121	390,000	213,397	274,589
White fir		89,318	223,422	280,000	186,363	297,727
Sugar pine	53,558	97,191	133,658	146,000	133,566	194,067
Balsam fir		108,702	68,030	85,000	29,350	32,903
Lodgepole pine		23,733	16,281	31,000	11,241	13,936
All other soft woods	9,135					
Softwoods	26,153,063	33,896,959	27,407,130	26,809,500	22,185,504	26,644,334
Oak	4,438,027	4,414,457	2,708,280	2,500,000	1,592,175	1,605,154
Maple	633,466	1,106,604	857,489	875,000	609,852	639,781
Gum, red and sap	285,417	706,945	851,431	850,000	683,398	808,461
Yellow poplar	1,115,242	858,500	328,538	350,000	235,418	273,971
Chestnut	206,688	663,891	545,696	475,000	312,486	310,801
Birch	132,601	452,370	375,079	405,000	319,192	263,094
Beech		511,244	358,985	325,000	190,387	163,448
Basswood	308,060	399,151	183,562	195,000	125,633	134,168
Elm	456,731	347,456	194,417	225,000	132,276	142,702
Cottonwood	415,124	265,600	144,155	155,000	122,305	113,829
Ash	269,120	291,209	154,931	170,000	127,843	130,735
Hickory	96,636	333,929	170,013	150,000	73,523	56,682
Tupelo		96,676	143,730	180,000	134,751	158,938
Walnut	38,681	46,108	39,218	35,000	31,121	38,735
Sycamore	29,715	56,511	28,114	31,000	17,932	17,901
Cherry		24,594				
All other hardwoods	208,504					
Minor species		37,557	61,308	68,300	67,068	66,154
Hardwoods	8,634,021	10,612,802	7,144,946	6,989,300	4,775,360	4,924,554
Total	34,787,084	44,509,761	34,552,076	33,798,800	26,960,864	31,568,888

Forest Service. Compiled from Forest Service and Bureau of the Census reports. Figures for 1920 include estimates for firms not reporting.

TABLE 637.—*Lath and shingles: Production, by States, calendar years, 1899, 1909, 1919, 1922*

[Thousands, i. e., 000 omitted]

State	1899		1909		1919		1922	
	Lath	Shingles	Lath	Shingles	Lath	Shingles	Lath	Shingles
Alabama	28,721	267,273	50,979	245,871	42,502	62,241	50,885	27,108
Arizona	2,040	350	7,816	583	13,402	176	20,287	130
Arkansas	21,164	349,522	78,362	208,080	72,827	98,937	75,172	6,571
California	11,507	650,090	32,615	574,342	53,042	191,831	[1] 88,018	184,009
Colorado	5,558	5,165	11,494	657	1,927	500	31	195
Connecticut	418	3,214	203	2,801	325	770	305	241
Delaware	1,130	30	1,086	570	552		460	26
District of Columbia								
Florida	21,761	177,123	55,741	283,206	76,402	128,286	153,329	43,295
Georgia	31,496	243,797	58,704	443,260	19,718	114,806	57,784	29,347
Idaho	3,220	15,806	86,740	62,308	69,150	22,657	99,420	35,048
Illinois	30,674	42,825	1,055	2,245	10		100	
Indiana	10,138	34,198	3,600	7,340	155	420	304	
Iowa	58,638	66,140	22,978	8,264	15			
Kansas	4							
Kentucky	17,091	59,375	19,776	55,010	3,288	2,562	1,683	2,032
Louisiana	99,852	504,819	377,708	757,868	199,018	300,784	364,545	208,604
Maine	217,376	465,862	337,086	598,131	104,223	188,576	188,706	144,941
Maryland	5,369	22,824	17,583	12,352	1,280	3,282	273	303
Massachusetts	8,807	20,500	11,885	15,347	595	760	322	563
Michigan	259,017	1,926,110	218,308	891,649	51,469	144,173	81,834	110,945
Minnesota	387,064	498,800	478,008	74,818	115,741	4,451	197,927	11,170
Mississippi	6,083	32,027	90,926	151,303	96,204	34,002	161,897	14,481
Missouri	24,835	28,227	19,931	51,932	1,724	9,541	822	4,978
Montana	14,231	6,880	35,430	525	21,362	253	53,312	202
Nebraska	1		[2]					
Nevada			[2]		1,237			
New Hampshire	74,221	40,499	26,873	30,132	6,656	3,386	5,550	1,649
New Jersey	3,559	33,835	19,143	35,727	6,016	9,440	2,869	2,448
New Mexico	2,165	4,800	10,571	150	12,549		23,220	
New York	66,468	160,294	70,878	91,886	3,537	4,935	6,909	2,336
North Carolina	48,782	212,467	70,724	280,942	19,079	92,139	21,642	40,958
North Dakota								
Ohio	18,519	13,605	17,508	3,227	1,612	100	495	
Oklahoma	[3] 75	[3] 103	1,233	4,635	9,905	50	20,183	125
Oregon	41,779	31,189	161,512	293,644	122,548	530,066	275,590	488,116
Pennsylvania	266,949	369,858	143,059	79,336	14,287	8,027	6,871	1,939
Rhode Island	16	2,267		1,000		685		
South Carolina	26,311	88,878	28,303	122,709	6,656	11,932	35,610	8,881
South Dakota	1,856	800	5,730	93	1,534	100	7,921	189
Tennessee	33,199	59,735	31,179	35,692	8,997	6,574	12,722	8,400
Texas	4,181	210,633	59,627	137,719	35,916	13,581	60,287	5,562
Utah	793	2,460	264	725	147	531	404	675
Vermont	9,314	52,899	7,249	24,001	1,089	8,343	943	3,638
Virginia	36,502	27,784	127,555	39,172	27,073	1,637	35,995	2,096
Washington	145,134	4,337,992	451,384	8,879,467	339,058	7,095,122	618,102	6,664,876
West Virginia	58,440	34,350	150,820	6,829	22,005	120	49,651	
Wisconsin	418,011	994,427	299,845	392,863	138,936	96,928	158,275	74,852
Wyoming	629	2,185	1,224	900	10		60	313
All other States			[4] 500					
United States	2,523,998	12,102,017	3,703,195	14,907,371	1,724,078	9,192,704	2,940,714	8,131,242

Forest Service.
Compiled from Forest Service and Bureau of the Census reports.

[1] Includes cut of Nevada.
[2] Included in "All other States."
[3] Includes Indian Territory.
[4] Includes Nebraska and Nevada.

TABLE 638.—*Lumber: Quantity used in manufactures, by kinds of wood*

Kind of wood	Quantity	Kind of wood	Quantity
	Feet b. m.		*Feet b. m.*
Yellow pine	8,610,685,624	Buckeye	5,486,047
White pine	3,112,698,017	Persimmon	3,571,760
Douglas fir	2,273,788,484	Cucumber	2,660,700
Oak	1,983,584,491	Butternut	2,310,793
Maple	919,420,274	Red alder	2,248,700
Spruce	805,050,195	Lodgepole pine	1,979,500
Red gum	797,343,658	Red fir	1,854,830
Hemlock	708,752,769	Circassian walnut	1,744,779
Yellow poplar	680,936,848	Padouk	1,386,530
Cypress	668,353,342	Hackberry	1,128,000
Western yellow pine	563,816,810	Lignum-vitæ	952,126
Birch	481,293,680	Teak	926,969
Hickory	389,604,531	West Indian boxwood	870,412
Basswood	369,640,782	Alpine fir	780,000
Cottonwood	322,642,796	Locust	639,228
Chestnut	298,849,801	Hornbeam	608,484
Ash	295,461,482	Ebony	528,812
Beech	278,203,632	Osage orange	520,076
Elm	218,200,988	Rosewood	471,734
Tupelo	127,958,309	Primavera	380,568
Redwood	122,326,779	Sassafras	360,268
Larch	114,029,275	Eucalyptus	338,800
Cedar	102,248,253	Applewood	320,935
Sugar pine	59,211,298	Cocobola	279,400
Balsam fir	53,262,030	Yucca	172,300
Mahogany	50,575,999	Holly	86,680
Spanish cedar	30,323,441	Laurel	72,400
Sycamore	26,052,812	Satinwood	67,958
Black walnut	23,988,346	Koko	32,600
Cherry	12,047,210	Turkish boxwood	29,189
White fir	11,338,580	Miscellaneous foreign	630,345
Willow	10,664,770	Miscellaneous native	432,158
Dogwood	7,518,177		
Noble fir	6,653,500	Total	24,576,556,564
Magnolia	6,156,500		

Forest Service.

Compiled from Forest Service and State bulletins on secondary wood-using industries, showing quantity used in one year, based on studies made from 1909 to 1913.

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TABLE 639.—*Lumber: Quantity used in manufactures, by industries and by States*

Industries	Quantity	States	Quantity
	Feet b. m.		*Feet b. m.*
Planing-mill products, sash, doors, blinds, and general millwork.	13,428,862,066	New York	1,738,522,217
Boxes and crates	4,550,016,430	Illinois	1,731,637,120
Car construction	1,262,090,371	Washington	1,631,859,030
Furniture	944,677,807	Arkansas	1,359,039,000
Vehicles and vehicle parts	739,144,483	Louisiana	1,351,204,101
Woodenware, novelties, and dairymen's, poulterers', and apiarists' supplies.	405,286,436	Michigan	1,276,661,200
Agricultural implements	321,239,336	Pennsylvania	1,111,959,150
Chairs and chair stock	289,790,560	Minnesota	956,765,398
Handles	280,234,571	Ohio	915,272,369
Musical instruments	260,195,026	Virginia	882,534,684
Tanks and silos	225,619,686	Wisconsin	838,256,464
Ship and boat building	199,598,228	Oregon	821,596,840
Fixtures	187,132,848	Texas	762,091,112
Caskets and coffins	153,394,557	Alabama	721,116,900
Refrigerators and kitchen cabinets	137,616,266	North Carolina	666,950,250
Matches and toothpicks	85,442,111	Indiana	649,742,593
Laundry appliances	79,502,040	Mississippi	617,270,030
Shade and map rollers	79,291,575	California	616,795,551
Paving material and conduits	76,067,000	Georgia	554,940,426
Trunks and valises	74,667,997	Massachusetts	532,874,001
Machine construction	69,459,430	Florida	521,166,078
Boot and shoe findings	66,240,200	Missouri	439,367,993
Picture frames and molding	65,477,783	South Carolina	423,640,507
Shuttles, spools, and bobbins	65,148,190	New Hampshire	409,497,075
Tobacco boxes	64,127,476	Tennessee	407,453,167
Sewing machines	59,946,527	Kentucky	395,434,300
Pumps and wood pipe	55,826,938	Maryland	271,984,395
Pulleys and conveyors	35,862,900	West Virginia	271,904,150
Professional and scientific instruments	35,070,928	Iowa	262,596,757
Toys	28,926,552	New Jersey	261,676,895
Gates and fencing	27,450,540	Maine	243,114,150
Sporting and athletic goods	25,191,907	Vermont	219,121,636
Patterns and flasks	24,299,403	Idaho	132,739,050
Bungs and faucets	21,112,342	Connecticut	110,051,373
Plumbers' woodwork	20,313,450	Oklahoma	84,901,676
Electrical machinery and apparatus	18,188,910	Kansas	61,107,064
Mine equipment	16,987,697	Montana	58,718,787
Brushes	12,878,986	Delaware	54,376,889
Dowels	11,980,500	Rhode Island	42,429,496
Elevators	10,018,680	Colorado	36,961,190
Saddles and harness	9,218,000	New Mexico	36,946,000
Playground equipment	9,064,812	Arizona	35,287,900
Butchers' blocks and skewers	8,197,050	Nebraska	27,870,500
Clocks	7,894,249	Utah	14,874,600
Signs and supplies	6,888,366	South Dakota	6,058,600
Printing material	5,324,794	District of Columbia	4,473,515
Weighing apparatus	5,021,550	Wyoming	2,954,100
Whips, canes, and umbrella sticks	4,946,880	Nevada	1,674,285
Brooms and carpet sweepers	2,277,334	North Dakota	1,086,000
Firearms	2,093,901		
Artificial limbs	687,080		
Tobacco pipes	489,515		
Airplanes	74,300		
All industries	24,576,556,564	United States	24,576,556,564

Forest Service. Compiled from Forest Service and State bulletins on secondary wood-using industries, showing quantity used in one year, based on studies made from 1909 to 1913.

TABLE 640.—*Lumber: Average prices per M feet, f. o. b. mill, Douglas fir and southern yellow pine, 1913–1924.*

Year	Douglas fir		Yellow pine	
	Price	Index (1913=100)	Price	Index (1913=100)
1913	$11.44	100.0	$14.77	100.0
1914	10.58	92.5	13.68	92.6
1915	9.80	85.5	13.02	88.2
1916	11.63	101.7	16.12	109.2
1917	16.93	147.9	21.13	143.1
1918	21.21	186.3	26.45	179.1
1919	25.83	225.9	33.94	229.8
1920	36.78	323.3	44.74	302.9
1921	19.98	174.7	21.18	143.4
1922	23.90	208.9	26.44	179.0
1923	28.93	252.9	30.81	208.6
1924	23.14	202.3	28.16	190.7
1920 [1]				
January	41.98	366.0	52.21	353.5
February	46.31	404.8	57.94	392.3
March	46.66	407.0	61.60	417.1
April	43.15	377.1	57.53	389.5
May	40.21	351.2	54.65	370.0
June	36.05	315.1	40.05	271.2
July	33.69	294.5	41.34	279.9
August	32.86	287.2	43.42	294.0
September	31.29	273.4	41.09	278.2
October	27.57	241.0	34.44	233.2
November	24.05	210.0	26.67	180.6
December	22.61	197.6	25.88	175.2
1923				
January	28.54	249.5	30.42	205.9
February	29.42	257.2	32.81	222.1
March	30.22	264.2	33.71	228.2
April	31.46	275.0	33.38	226.0
May	31.02	271.2	33.85	229.2
June	30.36	265.4	32.40	219.4
July	27.68	241.9	31.14	210.8
August	26.97	235.7	30.82	208.6
September	27.18	237.5	27.53	186.4
October	27.24	238.1	28.77	194.7
November	28.97	253.2	27.83	188.4
December	26.94	235.5	26.56	179.8
1924				
January	28.30	247.4	29.40	199.1
February	26.33	230.2	30.16	204.1
March	24.69	215.8	29.83	202.0
April	24.39	213.2	29.14	197.3
May	22.40	195.8	27.55	186.5
June	22.99	201.0	27.36	185.2
July	21.93	191.7	25.91	175.4
August	22.42	196.0	27.77	188.0
September	21.58	188.6	29.46	199.3
October	21.10	184.5	26.71	180.8
November	21.48	187.7	25.81	174.7
December	21.82	190.7	30.13	204.0

Forest Service. Compiled from reports of actual sales.

[1] The year 1920 was the peak year for lumber prices in the United States.

TABLE 641.—*Lumber prices per M feet, in eastern markets of the United States, 1890–1923*

Year	First quality, 1 inch		Average quality, 1 inch		Year	First quality, 1 inch		Average quality, 1 inch	
	Soft-woods	Hard-woods	Soft-woods	Hard-woods		Soft-woods	Hard-woods	Soft-woods	Hard-woods
1890	34.48	33.07	16.40	-------	1907	45.32	47.79	27.87	36.94
1891	32.43	33.11	16.00	-------	1908	44.11	50.92	27.14	38.12
1892	-------	-------	18.50	-------	1909	42.10	47.16	25.44	34.72
1893	29.32	32.86	17.45	24.80	1910	43.50	49.17	24.60	35.61
1894	30.56	36.10	17.43	24.80	1911	45.06	50.59	24.52	35.45
1895	29.39	34.52	16.55	24.76	1912	44.53	51.44	25.29	35.73
1896	28.77	34.51	16.54	24.76	1913	44.92	53.99	27.88	38.61
1897	28.75	34.51	17.09	24.76	1914	42.76	54.94	25.19	38.23
1898	28.68	24.26	16.23	24.76	1915	41.89	52.94	24.68	35.49
1899	30.06	35.72	16.01	24.69	1916	41.53	54.59	26.86	37.64
1900	34.06	39.29	21.50	27.57	1917	42.60	56.00	29.09	38.92
1901	33.98	37.06	21.32	29.32	1918	51.45	66.65	39.90	46.42
1902	-------	-------	-------	-------	1919	61.58	72.62	44.42	55.54
1903	41.93	46.43	20.40	31.75	1920	131.55	178.82	73.26	123.80
1904	39.09	46.07	21.20	33.72	1921	85.17	140.26	58.98	94.89
1905	42.59	41.97	22.06	31.80	1922	72.45	120.21	53.13	70.12
1906	44.65	44.47	24.99	34.06	1923	67.87	129.20	51.02	77.35

Forest Service. Compiled from reports of actual sales.

TABLE 642.—*Wood and saw timber: Annual world production and consumption*

[Thousand cu. ft., i. e., 000 omitted]

Country	Production		Consumption		
			Wood		
	Total wood	Saw timber	Total	Per capita	Saw timber
United States	24,300,000	13,750,000	24,104,000	228.0	13,556,000
Canada	2,500,000	1,106,900	2,058,440	285.0	665,340
Mexico	700,000	42,000	710,000	45.8	52,000
Other North and Central America	306,420	86,715	319,350		98,425
North America	27,806,420	14,985,615	27,191,790	188.0	14,371,765
Russia	7,000,000	4,000,000	6,000,000	66.0	3,600,000
Sweden	1,564,826	1,191,415	749,710	129.3	383,355
Finland	1,316,664	877,776	1,001,504	299.0	606,930
Germany	1,172,395	604,583	1,702,395	27.0	1,134,583
France	963,000	300,000	1,098,910	26.0	426,410
Great Britain and Ireland	45,000	20,000	693,719	15.3	668,719
Other Europe	4,941,202	2,166,462	4,795,059		2,024,294
Europe	17,003,087	9,160,236	16,641,297	35.8	8,844,291
Japan	2,255,620	383,455	2,220,000	28.4	347,835
China	1,972,263	284,163	1,986,000	6.0	297,900
India	1,572,275	174,000	1,575,000	5.0	176,725
Asiatic Russia	1,100,000	571,000	1,098,000	52.1	569,000
Other Asia	1,028,872	143,650	1,037,516		147,113
Asia	7,929,030	1,556,268	7,916,516	9.1	1,538,573
Brazil	1,300,000	100,000	1,296,900	42.5	96,900
Chile	684,020	45,700	687,620	177.7	49,300
Argentina	197,800	77,800	225,800	27.3	106,800
Colombia	110,000	10,000	110,000	20.1	10,000
Other South America	199,645	25,105	206,570		31,390
South America	2,491,465	258,605	2,526,890	39.2	294,390
Rhodesia	126,962	10,141	127,186	73.6	10,365
Nigeria	86,250	2,005	86,250	5.0	2,005
Union of South Africa	65,942	19,803	85,399	14.2	39,260
Other Africa	438,219	30,501	475,481		62,496
Africa	717,373	62,450	774,316	5.7	114,126
Australian Commonwealth	197,379	49,874	213,752	41.8	66,247
New Zealand	67,000	42,000	63,269	59.7	38,269
Oceania	10,309	867	19,741	10.0	9,888
Australia and Oceania	274,688	92,741	296,762	36.4	114,404
Total world production	56,222,063	26,115,915	[1] 55,347,571	32.2	[1] 25,277,549

Forest Service. Compiled from "Forest Resources of the World."

[1] The figures for total world consumption do not exactly correspond with those for production, although they must be approximately equal. The differences are due to various discrepancies in the data, such as differences in the years for which figures on individual countries are based, different converting factors used in different countries, and differences in the completeness of customs statistics. Data represent averages of recent years.

TABLE 643.—*Lumber: Imports and exports, and pulpwood imports, 1907–1924*

Year	Lumber				Pulpwood	
	Imports		Exports		Imports	
	Boards, planks, deals, and other sawed lumber		Boards, planks, and scantlings		Quantity	Value
	Quantity	Value	Quantity	Value		
	M feet b. m.		*M feet b. m.*		*Cords*	
1907	934, 195	$16, 255, 350	1, 658, 815	$39, 861, 352	827, 089	$4, 002, 795
1908	791, 288	15, 212, 788	1, 575, 462	35, 607, 508	810, 256	4, 698, 163
1909	846, 024	15, 946, 755	1, 379, 944	29, 056, 579	907, 963	5, 613, 710
1910	1, 053, 616	19, 332, 768	1, 710, 761	36, 774, 219	931, 731	6, 109, 574
1911	840, 337	14, 908, 160	2, 224, 422	47, 432, 840	889, 257	5, 682, 716
1912	1, 025, 802	17, 883, 048	2, 451, 076	55, 985, 732	933, 565	6, 227, 346
1913	969, 552	17, 616, 587	2, 592, 453	63, 081, 723	1, 034, 885	7, 007, 350
1914	910, 509	17, 166, 638	1, 789, 747	40, 734, 159	999, 649	6, 773, 198
1915	1, 047, 415	19, 550, 480	1, 127, 365	26, 653, 732	975, 974	6, 278, 948
1916	1, 210, 913	23, 427, 488	1, 094, 500	25, 518, 542	1, 097, 577	7, 202, 570
1917	1, 198, 388	27, 600, 247	1, 019, 647	33, 870, 262	1, 031, 934	8, 563, 458
1918	1, 206, 027	34, 100, 528	1, 023, 769	49, 177, 518	1, 370, 027	13, 362, 566
1919	1, 144, 187	36, 883, 988	1, 311, 210	64, 860, 806	1, 047, 299	10, 458, 753
1920	1, 338, 530	56, 639, 885	1, 551, 358	96, 380, 344	1, 241, 444	16, 902, 939
1921	830, 533	28, 793, 181	1, 204, 808	45, 699, 379	1, 081, 634	15, 387, 355
1922	1, 554, 075	45, 902, 649	1, 532, 913	57, 415, 062	1, 044, 816	11, 002, 636
1923	1, 959, 334	62, 205, 721	1, 752, 852	81, 057, 020	1, 347, 927	13, 405, 927
1924[1]	1, 722, 959	51, 872, 797	1, 906, 418	78, 630, 682	1, 279, 975	13, 107, 647

Forest Service. Compiled from reports of the Bureau of Foreign and Domestic Commerce. Pulpwood is stated in cords of 128 cubic feet. The earliest Government record of pulpwood commerce shows 322,758 cords imported in the last half of 1906. Reports of manufacturers, which are not comparable with the Government record, show foreign pulpwood, consumed in calendar years antedating this table, as follows: In 1899, 369,217 cords; in 1905, 645,428 cords; in 1906, 738,872 cords.

[1] Preliminary.

TABLE 644.—*Cooperage stock, tight: Production, 1905–1911, 1918, 1919, 1921*

Year	Staves					Heading		
	Total	Sawed	Bucked and split	Hewed	Beer and ale	Total	Sawed	Beer and ale
	1,000 pieces	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*Sets*	*Sets*	*Sets*
1905	241, 193	202, 369	10, 792	10, 396	17, 636	12, 959, 000	11, 023, 000	1, 936, 000
1906	267, 827	219, 524	18, 352	9, 781	20, 170	17, 774, 375	16, 115, 030	1, 659, 345
1907	385, 232	325, 653	25, 082	12, 737	21, 760	27, 692, 994	25, 828, 909	1, 864, 085
1908	345, 280	301, 728	18, 339	8, 019	17, 194	20, 515, 072	19, 703, 525	811, 547
1909	379, 231	341, 259	15, 104	6, 321	16, 547	20, 691, 201	19, 735, 693	955, 508
1910	355, 660	304, 060	21, 306	5, 042	25, 252	26, 073, 754	24, 342, 536	1, 731, 218
1911	357, 198	312, 172	20, 020	7, 187	17, 819	30, 310, 255	28, 316, 552	1, 993, 703
1918	286, 401	280, 171	1, 391	4, 295	544	20, 711, 271	20, 063, 254	648, 017
1919	353, 825	348, 812	1, 193	3, 269	551	24, 274, 177	24, 265, 547	8, 630
1921	255, 047	252, 533	669	453	1, 392	20, 504, 949	20, 493, 195	11, 754

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service. A set of heading supplies both heads for a barrel or similar vessel.

TABLE 645.—*Cooperage stock, tight: Production, 1905–1911, 1918, 1919, 1921*

State	Staves					Heading		
	Sawed	Bucked and split	Hewed	Beer and ale	Total	Sawed	Beer and ale	Total
	1,000 pieces	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*1,000 pieces*	*Sets*	*Sets*	*Sets*
Alabama	12,603				12,603	98,412	900	99,312
Arkansas	48,989	134	67	114	49,304	4,457,634		4,457,634
Georgia	13,365				13,365	1,029,450		1,029,450
Kentucky	8,080	100		55	8,235	41,150		41,150
Louisiana	18,986		28		19,014	1,675,948		1,675,948
Maine	(1)				(1)	224,988		224,988
Mississippi	19,934	435	17		20,386	2,785,936	10,800	2,796,736
Missouri	10,651				10,651	125,635		125,635
New Hampshire	19,959				19,959	1,759,900		1,759,900
Oregon	46,015				46,015	2,432,047		2,432,047
Tennessee	21,281				21,281	2,729,902		2,729,902
Texas	1,205		341	1,223	2,769	(1)	(1)	(1)
West Virginia	3,576				3,576	(1)	(1)	(1)
All other States	27,889				[2] 27,889	3,132,193	54	[3] 3,132,247
Total	252,533	669	453	1,392	255,047	20,493,195	11,754	20,504,949

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service.

[1] Included in "All other States."

[2] California, Florida, Maine, Massachusetts, North Carolina, South Carolina, Washington.

[3] Includes California, Florida, Iowa, Massachusetts, North Carolina, South Carolina, Ohio, Texas, Washington, West Virginia.

TABLE 646.—*Cooperage stock, slack: Production, 1906–1911, 1918, 1919, 1921*

[Thousand pieces—i. e., 000 omitted]

Years	Staves	Heading	Hoops	Years	Staves	Heading	Hoops
1906	1,097,063	129,555	330,892	1911	1,328,968	106,407	353,215
1907	1,175,977	106,074	490,570	1918	1,009,971	60,751	332,684
1908	1,557,644	123,849	336,484	1919	1,121,324	87,381	140,772
1909	2,029,548	140,234	375,793	1921	893,621	66,747	137,380
1910	1,460,878	97,037	295,712				

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service.

TABLE 647.—*Cooperage stock, slack: Production, by States, 1921*

State	Staves	Heading	Hoops	State	Staves	Heading	Hoops
	1,000 pieces	*1,000 pieces*	*1,000 pieces*		*1,000 pieces*	*1,000 pieces*	*1,000 pieces*
Alabama	37,575	19,744		North Carolina	58,279	5,542	(1)
Arkansas	255,537	1,530	23,771	Ohio	(1)		21,605
Florida	15,131	385	(1)	Pennsylvania	30,318	1,610	(1)
Georgia	5,660	2,868	(1)	South Carolina	38,128	(1)	
Indiana	(1)	(1)	22,369	Tennessee	24,833	1,959	7,174
Louisiana	44,202	450		Texas	(1)	472	
Maine	27,763	1,516	224	Virginia	98,816	3,623	
Maryland	10,073	100		West Virginia	1,010	491	
Massachusetts	4,638	378	(1)	Wisconsin	7,759	3,274	(1)
Michigan	14,898	4,045	8,357	All other States	[2] 28,658	[3] 7,741	[4] 4,810
Minnesota	(1)	4,728		Total	893,621	66,747	137,380
Mississippi	57,447	(1)	36,713				
Missouri	88,223	2,940	11,316				
New Hampshire	20,681	1,180					
New York	23,992	2,171	1,041				

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service.

[1] Included in "all other States."

[2] California, Delaware, Illinois, Indiana, Kentucky, Minnesota, New Jersey, Ohio, Oregon, Texas, Vermont.

[3] California, Indiana, Kentucky, Mississippi, Oregon, South Carolina, Vermont.

[4] Florida, Georgia, Illinois, Massachusetts, North Carolina, Pennsylvania, Wisconsin.

TABLE 648.—*Cooperage stock, slack: Production, by kinds of wood, 1906–1911, 1918, 1919, 1921*

[Thousands—i. e., 000 omitted]

STAVES

Kind of wood	1906	1907	1908	1909	1910	1911	1918	1919	1921
Red gum	142,952	210,814	317,016	416,570	332,639	338,582	495,389	358,405	349,072
Pine	187,584	205,878	275,239	306,621	267,628	229,220	109,349	327,875	174,024
Ash	47,603	70,128	74,494	71,705	65,234	66,716	83,022	53,058	66,632
Elm	248,118	158,440	192,882	245,172	130,374	92,614	83,188	61,100	64,415
Tupelo		2,000	5,120	22,500	30,605	37,501	28,751	9,206	54,899
Birch	62,754	21,479	52,739	78,897	61,438	57,929	31,758	35,691	27,551
Cottonwood	21,912	46,923	51,062	66,260	44,175	37,382	28,714	17,511	26,327
Maple	99,642	97,319	124,747	133,255	79,113	66,647	22,457	50,446	23,902
Spruce	31,605	76,445	60,012	72,219	59,898	70,189	3,224	29,683	18,784
Beech	80,052	125,354	166,383	268,237	146,451	121,727	47,228	36,460	18,689
Douglas fir				5,165		(1)	13,931	23,822	17,681
Oak	70,869	37,871	53,737	66,675	54,202	50,043	15,951	38,920	17,581
Chestnut	69,674	74,982	79,633	93,290	90,475	71,273	13,075	36,303	17,557
All other	34,298	48,344	104,580	182,982	98,646	89,145	33,934	42,844	16,507
Total	1,097,063	1,175,977	1,557,644	2,029,548	1,460,878	1,328,968	1,009,971	1,121,324	893,621

HEADING—(SETS)

Pine	28,730	27,208	39,347	38,926	19,806	25,513	26,735	42,401	27,720
Red gum	16,519	11,466	17,249	16,709	11,160	12,558	12,656	13,003	12,628
Elm	19,472	9,165	4,978	6,535	3,906	2,492	199	1,872	5,719
Beech	11,686	17,711	15,294	19,269	15,932	11,915	5,930	4,942	4,372
Maple	9,317	11,695	13,323	13,663	12,628	10,794	2,493	7,319	3,262
Tupelo		206	4,237	3,206	2,946	3,891	2,184	1,031	2,671
Ash	2,856	7,434	4,297	5,245	5,537	7,302	1,947	2,318	1,928
Basswood	15,653	9,585	10,186	13,910					1,858
Birch	2,948	2,146	3,961	4,328	3,131	4,940	2,485	3,490	1,642
Oak	2,710	2,814	2,092	1,963	2,332	5,578	620	1,986	1,399
Cottonwood	9,162	1,784	2,067	6,742	4,062	2,535	1,005		1,242
Spruce	1,027	2,555	2,245	1,861	2,358	3,647	538	2,508	987
All other	9,475	2,305	4,573	7,796	13,239	15,242	3,959	6,511	1,319
Total	129,555	106,074	123,849	140,234	97,037	106,407	60,751	87,381	66,747

HOOPS

Elm	302,628	469,734	326,894	339,477	283,029	333,297	330,353	133,983	136,445
All other	28,264	20,836	9,590	36,316	12,683	19,918	2,331	6,789	935
Total	330,892	490,570	336,484	375,793	295,712	353,215	332,684	140,772	137,380

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service.

[1] Included in all other (staves).

TABLE 649.—*Cooperage stock: Exports of staves and heading, 1909–1923*

Calendar year	Staves		Heading	
	Quantity	Value	Quantity	Value
1909	47,554,880	$4,478,532		$155,572
1910	58,651,374	5,297,466		291,292
1911	66,097,987	6,005,915		421,325
1912	73,909,719	6,144,896		340,867
1913	91,369,115	7,231,934		325,643
1914	54,048,147	3,835,176		246,504
1915	51,325,917	3,339,026		367,489
1916	58,058,719	3,565,142		239,846
1917	60,005,602	3,688,684		294,248
1918	53,373,526	3,605,332		563,564
1919	81,657,792	13,160,377		591,021
1920	82,583,710	15,408,334		1,028,026
1921	34,690,525	3,601,022		194,504
1922	48,315,799	2,591,524	2,552,346	292,597
1923	64,187,121	3,950,387	2,995,585	446,329

Forest Service. Compiled from "Monthly Summary of Foreign Commerce of the United States," Bureau of Foreign and Domestic Commerce, Department of Commerce.

This table gives only a partial view of cooperage exports, since it does not show cooperage shooks, or knockdown barrels, which in 1922 amounted to 1,153,742 sets, valued at $2,877,235, besides 507,429 barrels, casks, or hogsheads, empty, valued at $1,534,083. Imports of cooperage as such are relatively unimportant.

TABLE 650.—*Crossties: Number purchased by steam and electric railroads, 1905–1911, 1915*

Kind of wood	Number of ties, by years							
	1905	1906	1907	1908	1909	1910	1911	1915
Oak	34,677,304	45,357,874	61,757,000	48,110,000	57,132,000	68,382,000	59,508,000	49,333,881
Southern pine	[1] 18,351,037	18,841,210	34,215,000	21,530,000	21,385,000	26,264,000	24,265,000	14,115,681
Douglas fir	3,633,276	7,248,562	14,525,000	7,988,000	9,067,000	11,629,000	11,253,000	6,950,910
Cedar	6,962,827	7,083,442	8,954,000	8,172,000	6,777,000	7,305,000	8,015,000	5,122,103
Chestnut	4,717,604	6,588,975	7,851,000	8,074,000	6,629,000	7,760,000	7,542,000	4,548,352
Cypress	3,483,746	5,104,496	6,780,000	3,457,000	4,589,000	5,396,000	5,857,000	4,478,612
Eastern tamarack	3,060,082	2,576,859	4,562,000	4,025,000	3,311,000	5,163,000	4,138,000	2,606,794
Western yellow pine	[2]	3,969,605	5,019,000	3,093,000	6,797,000	4,612,000	2,696,000	1,402,836
Lodgepole pine	[2]	554,738						1,316,819
Western larch	311,120							1,251,304
Beech	34,227		52,000	192,000	195,000	798,000	1,109,000	1,173,490
Maple	25,500			151,000	158,000	773,000	1,189,000	1,069,547
Hemlock	1,713,090	2,058,198	2,367,000	3,120,000	2,642,000	3,468,000	3,686,000	859,662
Redwood	590,852	1,248,629	2,032,000	871,000	2,088,000	2,165,000	1,820,000	563,685
Gum			15,000	262,000	378,000	1,621,000	1,293,000	485,466
Birch	35,500							465,815
All other	[3] 385,062	[4] 2,201,454	5,574,000	3,421,000	2,603,000	2,895,000	2,682,000	1,361,694
All kinds	[5] 77,981,227	102,834,042	153,703,000	112,466,000	123,751,000	148,231,000	135,053,000	97,106,651

Forest Service. Compiled from Forest Service and Census bulletins.

[1] Includes western pine, white pine, and lodgepole pine.
[2] Included in southern pine.
[3] Includes 373,387 white pine crossties.
[4] Includes 148,168 spruce crossties.
[5] Steam railroads only.

TABLE 651.—*Poles: Number purchased, by kinds of wood and classes of users, 1906–1911, 1915*

Year	By kinds of wood						By classes of users			Total
	Cedar	Chestnut	Oak	Pine	Cypress	All other	Telephone and telegraph companies	Steam railroad companies	Street railroads, electric light and power companies	
1906	2,174,279	988,084	9,924	177,809	111,657	112,913	2,395,722	254,268	924,676	3,574,666
1907	2,109,477	630,282	76,450	155,960	100,368	210,731	2,311,651	294,788	676,829	3,283,268
1908	2,200,139	516,049	160,702	116,749	90,579	164,936	2,562,239	155,418	531,497	3,249,154
1909	2,439,825	608,066	236,842	179,586	77,677	196,744	2,916,005	195,321	627,414	3,738,740
1910	2,431,567	677,517	265,290	184,677	75,459	236,184	(1)	(1)	(1)	3,870,694
1911	2,100,144	693,489	199,590	161,690	72,995	190,112	(1)	(1)	(1)	3,418,020
1915	2,521,769	651,643	199,442	546,233	67,644	91,233	1,680,880	966,962	1,430,122	4,077,964

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service.

[1] Undistributed by classes of users.

TABLE 652.—*Veneers: Wood consumed in manufacture, by kinds, 1905–1911, 1919 and 1921.*

[Thousand board feet—i. e., 000 omitted]

Kind of wood	1905	1906	1907	1908	1909	1910	1911	1919	1921
Domestic:									
Red gum	39,573	73,062	102,932	119,485	129,930	158,157	136,542	198,641	146,740
Yellow pine	12,688	45,581	32,450	42,342	48,143	40,324	35,400	67,071	42,195
Birch	12,643	16,823	18,079	17,769	24,643	27,633	24,208	54,079	37,070
Cottonwood	16,357	29,063	33,174	33,904	30,842	33,149	34,911	36,739	27,882
Tupelo	314	8,311	15,097	16,442	18,476	26,548	20,976	34,175	21,494
Yellow poplar	26,164	21,619	28,764	22,898	28,826	33,812	25,835	32,653	18,370
Douglas fir	-------	370	90	333	1,111	2,006	6,262	10,604	16,518
Walnut	1,725	5,121	3,952	5,176	2,400	2,724	4,121	14,060	15,443
White oak	16,129	38,848	23,872	20,700	28,742	33,005	41,742	30,654	11,852
Maple	26,246	30,084	28,175	27,886	35,444	39,471	29,762	15,723	10,619
Elm	5,544	12,122	12,615	12,714	16,254	17,272	18,340	9,578	7,698
Basswood	11,376	15,659	13,561	11,609	13,715	11,003	11,602	11,134	5,977
Spruce	-------	6,477	6,060	5,413	4,111	6,271	9,108	11,355	5,827
Red oak	4,955	8,109	4,629	4,449	6,661	9,769	9,297	3,161	4,407
Sycamore	576	4,530	3,554	5,279	4,404	2,548	2,316	1,802	3,675
Cypress	-------	-------	-------	153	202	-------	(1)	1,924	2,659
Cedar	-------	-------	-------	104	101	-------	(1)	(1)	2,394
Beech	1,400	5,324	4,367	8,515	9,950	10,550	12,023	3,922	2,140
Magnolia	-------	-------	90	315	252	-------	(1)	268	994
Western pine	-------	-------	-------	(1)	(1)	-------	(1)	1,659	985
Ash	2,461	5,214	2,818	2,490	2,703	2,356	2,491	3,254	559
Chestnut	(1)	-------	400	1,138	1,577	1,736	1,539	(1)	(1)
Redwood	-------	-------	-------	-------	-------	-------	-------	(1)	439
Willow	-------	-------	-------	(1)	60	-------	(1)	(1)	207
All other	2,995	2,869	2,200	3,410	2,884	2,611	6,716	1,699	471
Imported:									
Mahogany	-------	-------	6,722	11,487	16,057	8,773	4,790	27,628	11,452
Spanish cedar	-------	-------	3,922	6,558	5,140	5,099	5,348	4,771	2,202
All other	-------	-------	1,000	1,973	3,353	2,662	1,557	27	119
Total	181,146	329,186	348,523	382,542	435,981	477,479	444,886	576,581	400,388

Forest service. Compiled from bulletins of the Bureau of the Census.

NOTE.—Quantity is 1,000 feet board measure, log scale—i. e., the lumber that could be cut from the logs used.

[1] Included in "All other" domestic.

TABLE 653.—*Pulp wood: Consumption, by States and kinds, 1922*

State	Number of establishments	Spruce		Hemlock	Yellow pine	Poplar		Balsam fir	Yellow poplar
		Domestic	Imported			Domestic	Imported		
		Cords	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
Maine	32	865,058	124,609	6,061		94,990	43,479	75,804	
Wisconsin	41	292,165	7,893	527,118		4,220		110,364	
New York	80	251,874	453,971	28,678		25,410	71,990	37,813	
Pennsylvania	13	70	117,675	21,830	82,685	4,177	64,523	9,000	8,933
New Hampshire	8	185,031	101,382	2,787		241		6,132	
Michigan	12	82,410	40,803	47,770		860		41,010	
Minnesota	7	232,077						3,138	
Virginia	7	48,618	3,093	27,987	84,826				33,827
Washington	5	26,570	1,000	73,121				25,000	
Louisiana	3				74,684				
Vermont	6	58,917	4,242	256		174			
Massachusetts	4	34,902	3,529			4,791			
West Virginia	4	25,485		4,722	4,270	1,404			
California and Oregon	6	34,692		112,682					
All other [1]	13	22,979	11,845	40,183	125,859	21,672			59,440
United States	241	2,162,848	870,042	893,195	372,324	157,939	179,992	308,261	102,200

State	Number of establishments	Tamarack or larch	Gum	Jack pine	White fir	Basswood	All other	Slabs and other mill waste	Total
		Cords	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
Maine	32					1,648	27,261		1,238,910
Wisconsin	41	48,983		43,319			3,259	670	1,037,991
New York	80					2,900			872,636
Pennsylvania	13		22,927				36,240	37,137	405,197
New Hampshire	8							6,573	302,146
Michigan	12	19,311		7,081					239,245
Minnesota	7								235,215
Virginia	7		5,187			1,556	5,743	8,740	219,577
Washington	5				57		26,127		153,875
Louisiana	3								74,684
Vermont	6								63,589
Massachusetts	4								43,222
West Virginia	4							5,588	41,469
California and Oregon	6				45,012				192,386
All other [1]	13		23,944			6,032	87,736	29,010	428,700
United States	241	68,294	52,058	50,400	45,069	12,136	186,366	87,718	5,548,842

Bureau of the Census.

[1] Delaware, 1 establishment; District of Columbia, 1; Georgia, 1; Maryland Mississippi, 1; North Carolina, 2; Ohio, 2; South Carolina, 1; Tennessee, 1; Texas, 1

TABLE 654.—*Pulp wood consumption, by States, 1899, 1904–1911, 1914, 1916–1922*

Year	California	Maine	Massachusetts	Michigan	Minnesota	New Hampshire	New York	North Carolina	Ohio
	Cords	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
1899	(1)	342,347	39,070	34,300	(1)	196,900	556,162	.....	31,000
1904	20,000	673,557	46,998	82,386	28,181	290,515	864,214	.....	40,478
1905	(1)	501,807	34,362	109,764	31,802	233,700	1,301,986	.....	54,000
1906	.....	617,743	33,302	115,272	31,848	319,729	1,295,904	.....	34,728
1907	(1)	942,437	47,443	125,550	43,173	429,342	990,666	(1)	59,110
9108	(1)	717,813	37,079	114,917	41,795	284,755	792,921	76,807	46,183
1909	(1)	903,962	45,899	132,846	47,373	349,997	921,882	145,090	55,275
1910	(1)	917,029	40,146	136,851	40,604	423,931	956,916	152,261	38,693
1911	(1)	955,768	46,587	144,446	41,729	403,013	1,049,110	159,624	32,064
1914	.....	944,204	.....	.....	.....	381,958	894,098	.....	.....
1916	[2] 259,544	1,198,753	27,640	186,993	205,433	471,041	1,094,513	85,709	(1)
1917	[2] 262,294	1,309,239	55,897	187,117	205,026	416,553	1,056,556	175,433	(1)
1918	[2] 239,774	1,234,969	45,754	203,516	182,002	345,272	1,003,742	186,168	(1)
1919	[3] 171,765	1,279,852	51,981	207,234	203,862	375,597	1,055,145	158,763	26,967
1920	[3] 190,399	1,389,495	56,049	243,632	254,193	403,530	1,130,505	166,582	32,336
1921	[3] 192,869	1,005,158	34,874	186,532	164,547	258,206	781,168	(1)	(1)
1922	[3] 192,386	1,238,910	43,222	239,245	235,215	302,146	872,636	(1)	(1)

Year	Oregon	Pennsylvania	Vermont	Virginia	Washington	West Virginia	Wisconsin	All other	Total
	Cords	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
1899	166,131	181,850	59,220	14,630	.....	18,534	211,054	[4] 135,112	1,986,310
1904	37,001	243,420	75,139	94,094	.....	52,464	387,401	[5] 114,869	3,050,717
1905	.....	250,826	22,271	89,540	.....	96,357	382,471	[6] 83,337	3,192,223
1906	72,174	282,973	34,968	81,764	.....	61,736	542,354	136,686	3,661,176
1907	80,614	318,477	89,238	88,491	(1)	96,185	507,295	[7] 144,639	3,962,660
1908	83,646	272,980	119,126	61,266	(1)	93,154	476,619	[8] 127,892	3,346,953
1909	104,021	295,038	70,977	92,039	(1)	109,166	576,019	[8] 152,023	4,001,607
1910	110,701	322,161	69,546	89,637	(1)	108,121	523,924	[8] 163,785	4,094,306
1911	119,890	315,682	82,396	98,618	(1)	114,907	591,918	[8] 172,300	4,328,052
1914	.....	375,730	.....	.....	(1)	.....	714,094	1,163,679	[9] 4,470,763
1916	(10)	423,843	87,675	132,736	(10)	127,478	743,595	[8] 183,605	5,228,558
1917	(10)	415,776	109,616	141,579	(10)	119,918	805,490	[11] 219,581	5,480,075
1918	(10)	383,699	99,687	129,637	(10)	109,885	860,857	[11] 225,832	5,250,794
1919	(10)	423,822	111,679	126,153	139,365	83,590	854,185	[11] 207,872	5,477,832
1920	(10)	490,784	116,765	166,547	143,794	84,725	964,781	[11] 279,955	6,114,072
1921	(10)	326,486	47,471	.....	149,691	61,282	867,195	[11] 481,700	4,557,179
1922	(10)	405,197	63,589	.....	153,875	41,469	1,037,991	[11] 722,961	5,548,842

Forest Service. Cords of 128 cubic feet.

[1] Included in "all other"
[2] Includes Oregon and Washington.
[3] Includes Oregon.
[4] Includes Delaware, Illinois, Indiana, and Maryland.
[5] Includes Delaware, Illinois, Indiana, Maryland, and New Jersey.
[6] Includes Delaware and Maryland.
[7] Includes Delaware, Illinois, Indiana, Maryland, South Carolina, and Texas.
[8] Includes Delaware, Maryland, South Carolina, and Texas.
[9] Figures for 1914 collected by Census Bu-eau and only part a classification by States shown.
[10] Included in California.
[11] Includes Delaware, Georgia, Louisiana, Maryland, Mississippi, South Carolina, and Texas.

TABLE 655.—*Wood pulp: Production by States, 1899, 1904, 1907–1911, 1914, 1916–1922*

Year	Calif.	Me.	Mass.	Mich.	Minn.	N. H.	N. Y.	N. C.	Ohio
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
1899	----------	231,619	24,964	20,707	(1)	119,590	394,635	----------	13,805
1904	7,500	456,921	28,445	38,612	22,479	173,888	606,014	----------	29,274
1907	(2)	653,385	27,811	64,166	34,286	250,721	731,278	(1)	31,205
1908	(1)	490,365	20,626	54,288	32,572	181,338	566,658	36,024	23,253
1909	----------	603,852	25,804	64,369	37,295	212,599	686,323	53,926	26,977
1910	(1)	607,842	27,482	66,180	32,328	251,408	709,860	59,292	16,932
1911	(1)	623,242	30,522	70,168	33,562	245,974	773,607	62,967	14,496
1914	----------	----------	----------	----------	----------	----------	----------	----------	----------
1916	188,782	852,276	19,247	99,601	138,799	341,365	787,397	35,348	(1)
1917	213,813	898,798	30,802	96,623	140,353	266,645	798,616	64,548	(1)
1918	168,654	872,779	30,674	101,036	121,444	229,774	749,176	54,169	(1)
1919	123,990	916,764	32,611	106,194	129,560	232,134	811,958	61,161	10,449
1920	148,877	942,730	34,687	132,776	170,216	239,634	830,045	64,773	12,549
1921	124,494	710,329	22,064	103,532	117,934	152,797	606,869	(1)	(1)
1922	156,218	862,672	27,797	148,912	162,220	179,135	675,325	(1)	(1)

Year	Oreg.	Pa.	Vt.	Va.	Wash.	W. Va.	Wis.	All other	Total
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
1899	1,154	85,433	64,951	6,117	----------	13,471	137,098	65,981	1,179,525
1904	31,549	83,114	60,747	42,307	----------	28,695	241,537	70,686	1,921,768
1907	61,366	143,663	74,246	49,970	(1)	47,525	299,784	[2] 78,473	2,547,879
1908	64,852	124,377	107,067	35,443	(1)	46,986	268,461	[3] 66,637	2,118,947
1909	83,692	135,525	59,356	48,641	(1)	48,797	324,509	[3] 79,741	[4] 2,491,406
1910	82,230	154,700	59,566	50,535	(1)	48,319	282,456	[5] 84,846	2,533,976
1911	90,842	147,624	67,311	47,272	(1)	55,043	334,363	[3] 89,141	2,686,134
1914	----------	----------	----------	----------	----------	----------	----------	----------	[6] 2,893,150
1916	(6)	216,964	73,813	68,595	(6)	58,913	451,651	[7] 102,250	3,435,001
1917	(6)	215,060	94,975	75,972	(6)	54,813	456,129	[8] 102,792	3,509,939
1918	(6)	195,451	83,548	69,895	(6)	48,261	473,890	[5] 115,110	3,313,861
1919	(6)	215,686	85,945	61,929	83,575	39,195	506,549	[5] 100,252	3,517,952
1920	(6)	238,013	96,666	86,320	95,465	35,821	548,528	[5] 144,604	3,821,704
1921	(6)	167,310	41,945	----------	95,161	27,623	488,501	[5] 217,042	2,875,601
1922	(6)	217,115	54,668	----------	102,349	19,051	564,696	[5] 351,486	3,521,644

Forest Service. From Bureau of the Census and Forest Service data. In short tons of 2,000 lbs.

[1] Included in "all other."
[2] Includes Delaware, Illinois, Indiana, Maryland, South Carolina, and Texas.
[3] Includes Delaware, Maryland, South Carolina, and Texas.
[4] 4,117 *tons of unclassified pulp not included.*
[5] Not reported by States. Total includes screenings.
[6] Included in California.
[7] Includes Delaware, Georgia, Louisiana, Maryland, Mississippi, South Carolina, and Texas.
[8] Includes Delaware, District of Columbia, Georgia, Louisiana, Maryland, Mississippi, South Carolina, Tennessee, and Texas.

TABLE 656.—*Pulp wood, wood pulp, and paper: Imports from Canada, 1899, 1904, 1909, 1914, 1917–1922* [1]

Year	United States paper consumption		Pulp wood imported		Wood pulp			Paper			Total	
	Paper	Pulp wood equivalent			Actual imports	Pulp wood equivalent	Percentage of imports	Actual imports	Pulp wood equivalent	Percentage of imports	Pulp wood equivalent	Percentage of consumption
	Tons	*Cords*	*Cords*	*P. ct.*	*Tons*	*Cords*	*P. ct.*	*Tons*	*Cords*	*P. ct.*	*Cords*	*P. ct.*
1899	2,158,000	1,950,000	369,000	88	31,511	51,000	12	88			420,000	22
1904	3,050,000	3,259,000	574,000	75	113,585	183,000	24	11,879	6,000	1	763,000	23
1909	4,224,000	4,420,000	794,000	77	164,404	204,000	20	16,941	27,000	3	1,025,000	23
1914	5,496,000	5,886,000	830,000	51	316,735	422,000	26	282,279	378,000	23	1,630,000	28
1917	6,256,000	6,783,000	774,000	37	438,986	629,000	31	497,276	660,000	32	2,063,000	30
1918	6,387,000	6,366,000	745,000	29	571,675	973,000	39	606,132	805,000	32	2,523,000	40
1919	6,493,000	6,806,000	1,032,000	38	519,212	853,000	31	674,963	856,000	31	2,741,000	40
1920	7,861,000	8,300,000	1,099,000	35	655,144	1,129,000	36	720,439	921,000	29	3,149,000	38
1921	6,054,000	6,649,000	817,000	34	402,846	681,000	29	675,136	880,000	37	2,378,000	36
1922	8,003,000	9,148,000	1,050,000	31	645,416	1,126,000	33	926,977	1,204,000	36	3,374,000	37

Forest Service. Quantity in tons (2,000 pounds) and cords (128 cubic feet).

[1] Includes Newfoundland and Labrador.

TABLE 657.—*Wood pulp and paper: Imports from countries other than Canada, 1899, 1904, 1909, 1914, 1917–1922*

Year	From Norway, Sweden, Finland, and Germany						From all other countries						Total	
	Wood pulp		Paper		Total		Wood pulp		Paper		Total			
	Actual imports	Pulp wood equivalent	Actual imports	Pulp wood equivalent	Pulp wood equivalent	Percentage total imports	Actual imports	Pulp wood equivalent	Actual imports	Pulp wood equivalent	Pulp wood equivalent	Percentage total imports	Pulp wood equivalent	Percentage U. S. consumption
	Tons	*Cords*	*Tons*	*Cords*	*Cords*	*P. ct.*	*Tons*	*Cords*	*Tons*	*Cords*	*Tons*	*P. ct.*	*Cords*	*P. ct.*
1899	5,494	11,000	8,564	15,000	26,000	69	312	1,000	6,919	11,000	12,000	31	38,000	2
1904	43,398	70,000	929	1,000	71,000	45	5,189	8,000	59,021	79,000	87,000	55	158,000	5
1909	129,365	258,000	25,411	36,000	294,000	87	13,354	27,000	12,054	16,000	43,000	13	337,000	8
1914	348,940	705,000	31,189	54,000	759,000	95	9,890	20,000	12,741	20,000	40,000	5	799,000	14
1917	237,390	461,000	3,698	6,000	467,000	95	1,465	1,000	16,184	22,000	23,000	5	490,000	7
1918	6,534	13,000	396	1,000	14,000	45			12,449	18,000	18,000	55	32,000	1
1919	113,414	230,000	922	1,000	231,000	97	3,390	6,000	7,800	2,000	8,000	3	239,000	4
1920	242,253	462,000	57,671	72,000	534,000	94	8,900	15,000	15,580	20,000	35,000	6	569,000	7
1921	284,980	527,000	148,482	200,000	727,000	94	9,274	18,000	18,420	25,000	43,000	6	770,000	12
1922	601,765	1,202,000	169,358	247,000	1,449,000	96	11,054	21,000	28,800	41,000	62,000	4	1,511,000	17

Forest Service.
Quantity in tons (2,000 pounds) and cords (128 cubic feet.)

TABLE 658.—*Wood pulp: International trade, calendar years, 1909–1913, 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Austria			22,876	68,069	24,272	100,501		
Austria-Hungary	13,366	205,364						
Canada	9,481	606,203	34,710	1,054,446	34,601	1,636,493	34,458	1,750,718
Finland	526	236,881	2	422,386		549,231		614,375
Germany	112,660	384,709	68,612	[1] 84,452	158,765	162,972	70,008	246,650
Norway	[2] 64,911	1,437,078	55,450	804,351	176,169	1,334,497		1,547,596
Sweden	9,515	1,822,023	8,153	1,166,330	7,489	2,586,200		2,302,080
Switzerland	21,059	13,072	7 840	21,300	12,601	25,003	20,115	29,642
PRINCIPAL IMPORTING COUNTRIES								
Argentina	52,016		27,110		31,245		34,000	
Belgium	291,254	80,646	144,929	10,855	258,140	7,411	210,951	4,856
Denmark	110,866		43,012		99,689	302	125,775	
France	836,899	1,720	385,666	1,101	861,194	119	830,837	357
Italy	179,267	485	86,022	2,748	197,253	1,128	145,998	3,229
Japan	79,260		87,527	2,558	148,694		[3] 34,229	
Netherlands			43,051	860	99,826	670	81,822	2,183
Russia	56,072	52,735						
Spain	92,770		52,091		144,379		109,128	
United Kingdom	1,891,006		1,315,227	688	2,067,249	703	2,534,482	152
United States	1,007,239	24,309	1,394,201	56,965	2,517,921	49,000	2,768,183	46,135
Other countries	28,796	73,281	13,805	158	29,070	124,243	1,913	
Total	4,856,963	4,938,507	3,790,284	3,697,267	6,868,557	6,578,473	7,001,899	6,547,973

Division of Statistical and Historical Research. Official sources. All kinds of pulp from wood are included, but no pulp made from other fibrous substances.

[1] Eight months, May-December.
[2] Four-year average.
[3] Six months.

TABLE 659.—*Wood pulp, sulphite, domestic, unbleached: Average wholesale price per 100 pounds, New York, 1914–1924.*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1914	2.125	2.100	2.050	2.050	2.050	2.075	2.075	2.000	2.375	2.325	2.325	2.325	2.156
1915	2.125	2.050	2.150	2.100	2.100	2.100	2.075	2.075	2.075	2.075	2.150	2.350	2.119
1916	2.575	2.575	2.850	3.150	3.625	3.625	3.625	3.875	4.250	5.125	5.125	5.375	3.815
1917	5.375	5.525	5.400	5.475	5.475	5.475	4.975	4.975	5.375	3.675	3.225	2.800	4.812
1918	2.800	2.800	2.913	3.285	3.594	4.250	4.250	4.325	4.638	4.975	4.500	3.975	3.859
1919	3.888	3.500	3.500	3.406	3.375	3.375	3.376	3.563	3.625	3.625	3.625	3.625	3.523
1920	3.625	3.625	3.825	5.719	6.938	7.400	8.250	8.250	8.250	8.125	7.750	6.969	6.560
AV. 1914–1920	3.188	3.168	3.241	3.597	3.880	4.043	4.089	4.152	4.370	4.275	4.100	3.917	3.835
1921	6.000	4.656	4.075	3.344	3.875	3.625	3.438	2.625	2.625	2.625	2.625	2.625	3.512
1922	2.545	2.525	2.525	2.525	2.525	2.525	2.525	2.525	2.538	2.635	2.675	2.675	2.562
1923	2.675	2.675	2.731	2.888	3.155	3.225	3.225	3.200	3.113	3.105	2.913	2.706	2.968
1924	2.610	2.625	2.625	2.625	2.625	2.600	2.510	2.525	2.505	2.506	2.569	2.625	2.579

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 660.—*Paper: Raw materials consumed in manufacture, census years, 1879–1919*

Year	Wood pulp	Rags	Waste paper	Manila stock	Straw	All other
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
1879	[1] 22,570	200,005	87,840	84,786	245,838	1,218
1889	349,917	246,892	139,061	524,862	355,131	.....
1899	1,172,880	234,514	356,193	99,301	367,305	.....
1904	2,018,764	294,552	588,543	107,029	304,585	.....
1909	2,826,591	357,470	983,882	117,080	303,137	29,422
1914	3,490,123	361,667	1,509,981	121,170	307,839	97,276
1919	4,019,696	277,849	1,854,386	116,994	353,399	106,850

Bureau of the Census. Short tons (2,000 pounds.) Calendar years.

[1] Production: exports and imports, not reported, are assumed to be equal.

TABLE 661.—*Lumber and paper: Estimated production, exports, imports, and per capita consumption, by decades, 1809–1899; by years, 1904–1923*

Year	Population at middle of census period	Lumber					Paper consumption	
		Production	Estimated exports	Estimated imports	Consumption		Total	Per capita rounded to nearest pound
					Total [1]	Per capita rounded to nearest 5 feet [2]		
	Number	*M feet b. m.*	*M feet b. m.*	*M feet b. m.*	*M feet b. m.*	*Feet b. m.*	*Short tons*	*Pounds*
1809	7,341,769	106,000	.....	.....	[1] 106,000	15	3,000	1
1819	9,618,465	320,000	.....	.....	320,000	35	12,000	2
1829	12,866,020	.....	.....	.....	.....	.....	.....	.....
1839	17,120,473	1,604,000	.....	.....	1,604,000	95	38,000	4
1849	22,893,147	5,392,000	.....	.....	5,392,000	235	78,000	7
1859	31,026,803	8,029,000	.....	.....	8,029,000	260	127,000	8
1869	38,220,182	12,755,543	140,863	714,731	13,329,411	350	391,000	20
1879	49,580,060	18,091,356	285,194	548,172	18,354,334	370	457,000	18
1889	62,309,003	27,038,757	571,075	757,878	27,225,560	435	1,121,000	36
1899	75,353,110	35,077,595	1,004,464	523,569	34,596,700	460	2,158,000	57
1904	82,601,384	43,000,000	2,156,581	746,556	41,589,975	505	3,050,000	74
1905	84,219,378	43,500,000	2,012,049	938,001	42,425,952	505	.....	.....
1906	85,837,372	46,000,000	2,317,477	1,178,701	44,861,224	525	.....	.....
1907	87,455,366	46,000,000	1,501,486	1,056,965	45,555,479	520	.....	.....
1908	89,073,360	42,000,000	2,064,748	894,877	40,830,129	460	.....	.....
1909	90,691,354	44,509,761	2,293,242	1,083,018	43,299,537	475	4,224,000	93
1910	92,267,080	44,500,000	2,652,197	1,017,504	42,865,307	465	.....	.....
1911	93,682,189	43,000,000	3,009,434	925,488	40,916,054	435	.....	.....
1912	95,097,298	45,000,000	3,038,173	1,084,720	43,046,547	455	.....	.....
1913	96,512,407	44,000,000	3,293,037	1,013,016	41,719,979	430	.....	.....
1914	97,927,576	40,500,000	2,294,475	949,136	39,154,661	400	5,496,000	112
1915	99,342,625	38,000,000	1,526,618	1,096,287	37,569,669	380	.....	.....
1916	100,757,735	40,000,000	1,571,545	1,265,561	39,694,016	395	.....	.....
1917	102,172,845	36,000,000	1,346,519	1,234,447	35,887,928	350	6,256,000	122
1918	103,587,955	32,000,000	1,233,706	1,246,712	32,013,006	310	6,387,000	123
1919	105,003,065	34,552,076	1,677,843	1,190,845	34,065,078	325	6,493,000	124
1920	106,418,175	33,800,000	1,916,166	1,416,175	33,300,009	315	7,861,000	148
1921	107,833,284	26,960,864	1,511,396	902,216	26,351,684	245	6,054,000	112
1922	109,248,393	31,568,888	1,960,639	1,560,623	31,168,872	285	8,003,000	147
1923 [3]	110,663,502	37,165,540	2,472,352	1,994,043	36,687,231	330	9,338,463	169

Compiled from data from Bureau of the Census, Forest Service, and the Bureau of Foreign and Domestic Commerce.

[1] Derived from preceding three columns.

[2] In observing the great increase in per capita consumption of lumber the reader is liable to gain a false impression. The per capita consumption of wood has been high in the United States at all periods shown by this table, but in earlier decades the greater part of the wood used was round or in forms hewed out by the ax rather than sawed. There was also a considerable amount of lumber sawed by man power, not reported to the Census, and which consequently does not appear in these estimates.

[3] Preliminary.

TABLE. 662—*Turpentine and rosin: Production in the United States, 1910–1923*

Year beginning Apr. 1—	Turpentine			Rosin		
	Gum	Wood	Total	Gum	Wood	Total
	Gallons	*Gallons*	*Gallons*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*
1910 [1]	29,750,000	1,250,000	31,000,000	2,970,000	14,000	1,984,000
1911 [1]	31,900,000	1,000,000	32,900,000	2,125,000	16,000	2,141,000
1912 [1]	34,000,000	1,000,000	35,000,000	2,267,000	20,000	2,287,000
1913 [1]	32,000,000	800,000	32,800,000	2,132,000	24,000	2,156,000
1914 [2]	27,000,000	576,000	27,576,000	1,706,000	29,000	1,735,000
1915 [1]	23,500,000	700,000	24,200,000	1,565,000	40,000	1,605,000
1916 [1]	26,750,000	1,000,000	27,750,000	1,782,000	80,000	1,862,000
1917 [1]	23,700,000	1,200,000	24,900,000	1,531,000	100,000	1,631,000
1918 [3]	17,050,000	1,600,000	18,650,000	1,115,000	123,000	1,238,000
1919 [3]	18,300,000	1,500,000	19,800,000	1,237,000	158,000	1,395,000
1920 [3]	24,450,000	1,750,000	26,200,000	1,577,000	180,000	1,757,000
1921 [4]	24,329,000	442,000	24,771,000	1,662,000	53,000	1,715,000
1922 [4]	22,395,000	1,859,000	23,254,000	1,500,000	152,000	1,652,000
1923 [1]	27,175,000	2,607,000	29,782,000	1,790,000	201,000	1,991,000

Bureau of Chemistry.

[1] Trade estimates.
[2] Bureau of Chemistry estimates.
[3] Statistics compiled by Bureau of Chemistry.
[4] Statistics compiled by Bureau of the Census.

TABLE 663.—*Turpentine and rosin: Stocks, United States, March 31, 1919–1924*

TURPENTINE

Stocks	1919	1920	1921	1922	1923	1924
	Casks, 50 gal.	*Casks, 50 gal.*	*Casks, 50 gal.*	*Casks, 50 gal.*	*Casks, 50 gal.*	*Casks, 50 gal.*
Stocks at stills	24,050	28,394	30,429	20,732	12,194	22,441
Stocks at wood distillation plants	1,965	2,000	5,000	2,850	5,994	9,500
Stocks at primary southern ports	122,853	34,519	60,916	24,099	21,040	29,982
Stocks at eastern ports and distributing points	1,513	2,363	2,258	1,675	2,652	3,439
Stocks at central distributing points	5,771	14,558	10,364	8,195	10,881	14,232
Stocks at western ports and distributing points	2,751	2,634	848	900	2,225	8,246
Stocks at plants of consuming industries	28,500	26,340	30,528	26,717	16,670	18,692
Total	187,403	110,808	140,343	85,168	71,656	106,532

ROSIN

Stocks	1919	1920	1921	1922	1923	1924
	Barrels, 500 lbs.	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*	*Barrels, 500 lbs.*
Stocks at stills	130,035	138,535	327,055	499,797	474,829	345,214
Stocks at wood distillation plants	12,304	23,000	40,000	19,143	25,063	50,000
Stocks at primary southern ports	326,933	211,238	432,237	347,730	278,414	307,543
Stocks at eastern ports and distributing points	81,440	23,417	11,063	11,359	8,078	14,060
Stocks at central distributing points	22,608	28,514	35,567	49,043	46,938	28,881
Stocks at western ports and distributing points	1,743	777	275	6,447	1,340	1,492
Stocks at plants of consuming industries	203,000	290,045	217,302	263,488	297,843	264,558
Total	778,063	715,526	1,063,499	1,199,007	1,132,505	1,011,748

Bureau of Chemistry. Compiled from reports of Bureau of Chemistry and Bureau of the Census.

TABLE 664.—*Turpentine and rosin: Imports and exports, 1909, 1914, 1919–1923*

Item	Year ended June 30		Calendar year				
	1909	1914	1919	1920	1921	1922	1923
IMPORTS							
Turpentine:							
Quantity (gallons)	50, 766	72, 679	1, 662	43, 385	32, 210	98, 550	156, 397
Value	$17, 538	$28, 818	$422	$51, 976	$16, 611	$76, 644	$158, 329
Rosin:							
Quantity (pounds)	11, 469, 113	2, 742, 083	96, 044	141, 635	29, 030	40, 425	978, 688
Value	$277, 774	$58, 684	$3, 810	$7, 204	$922	$4, 695	$33, 301
EXPORTS							
Turpentine:							
Quantity (gallons)	17, 502, 028	18, 900, 704	10, 672, 102	9, 458, 423	9, 207, 959	9, 369, 403	11, 478, 459
Value	$7, 018, 058	$8, 095, 958	$10, 448, 234	$14, 586, 302	$6, 032, 012	$10, 152, 620	$12, 303, 809
Rosin:							
Quantity (barrels, 280 pounds)	2, 170, 177	2, 417, 950	1, 209, 627	1, 164, 328	1, 001, 542	799, 174	1, 205, 690
Value	$8, 004, 838	$11, 217, 316	$20, 433, 970	$19, 468, 705	$5, 201, 963	$7, 488, 348	$11, 057, 980

Bureau of Foreign and Domestic Commerce.

TABLE 665.—*Turpentine (spirits): International trade, calendar years 1909–1913, 1921–1923*

[Thousand gallons—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
France	48	2, 594	16	3, 006	21	2, 788	118	2, 765
Greece	2	368	.....	254	.....	288	.....	297
Russia	273	2, 322	.....	.....	.....	.....	.....	.....
Spain	.....	1, 156	.....	1, 439	6	1, 207	32	835
Sweden	134	62	132	275	119	300	147	185
United States	.....	17, 868	.....	9, 268	.....	9, 369	.....	11, 478
PRINCIPAL IMPORTING COUNTRIES								
Argentina	554	.....	439	.....	427	.....	617	.....
Australia [1]	564	.....	527	(2)	.....	.....	.....	.....
Austria	.....	.....	205	27	.....	.....	123	125
Austria-Hungary	2, 581	53	.....	.....	.....	.....	.....	.....
Belgium	1, 932	1, 144	2, 418	1, 610	959	174	763	36
Brazil	[3] 311	.....	138	.....	399	.....	.....	.....
Canada	1, 175	.....	1, 088	.....	1, 267	1	1, 082	5
Chile	198	.....	67	.....	97	.....	.....	.....
Czechoslovakia	.....	.....	418	.....	542	14	782	.....
Denmark	117	(2)	161	.....	176	(2)	184	.....
Germany	9, 368	460	3, 465	[4] 82	2, 036	127	1, 518	145
Italy	940	3	868	11	852	16	1, 044	12
Netherlands	3, 998	2, 750	1, 159	11	1, 225	34	1, 227	28
New Zealand	178	.....	69	.....	76	.....	158	.....
Switzerland	466	9	522	.....	571	.....	648	.....
United Kingdom	7, 782	.....	4, 281	158	6, 079	165	6, 974	168
Union of South Africa	151	.....	146	.....	138	.....	253	.....
Other countries	428	154	385	204	372	33	188	45
Total	31, 200	28, 943	16, 504	16, 345	15, 362	14, 606	15, 858	16, 124

Division of Statistical and Historical Research. Official sources. "Spirits of turpentine" includes only "spirits" or "oil" of turpentine and, for Russia, skipidar; it excludes crude turpentine, pitch, and, for Russia, turpentine.

[1] Year beginning July 1.
[2] Less than 500.
[3] Four-year average.
[4] Eight months, May–December.

TABLE 666.—*Rosin: International trade, calendar years 1909–1913, 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average, 1909–1913		1921		1922		1923, preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
China				5,458		2,179		1,131
France	2,432	118,286	456	164,913	949	128,166	598	112,982
Greece	35	10,423		6,072		9,359		7,656
Spain	1,827	20,073	990	22,416	290	24,213	439	20,958
United States		655,520		280,432		399,587		337,313
PRINCIPAL IMPORTING COUNTRIES								
Argentina	32,719	[1] 45	43,390		33,652		51,140	
Austria			5,014	723	5,572	903	6,296	1,706
Austria-Hungary	75,705	2,205						
Belgium	47,163	32,830	106,840	47,304	31,250	13,724	17,343	3,963
Brazil	36,905		16,628		31,682			
British India	*6,171*		*1,073*		*2,020*		*2,808*	
Canada	25,506		20,905		27,210		30,868	
Chile	7,410		1,550		4,167			
Cuba	4,123		3,823		3,692			
Czechoslovakia			14,344		14,872	60	21,984	
Denmark	3,236		2,074	2	4,149	1	4,597	
Dutch East Indies	*15,039*		*16,658*		16,345		[2] 22,141	[2] 39
Finland	6,027	144	429	163	5,756	872	4,972	392
Germany	233,100	50,110	91,509	[3] 1,216	92,180	1,105	72,319	2,648
Italy	34,171	33	55,280	419	41,637	170	49,863	263
Japan	10,073		18,019					
Netherlands	73,991	59,366	7,416	182	9,952	75	12,002	84
Norway	*6,732*		*1,188*	(4)	4,515	117	*5,523*	
Russia	68,429							
Sweden	3,896	12	5,089	22	10,775	96	15,310	
Switzerland	4,983	[5] 8	3,077	5	4,993	5	7,353	
United Kingdom	166,075		85,260		136,915		153,837	
Other countries	34,693	1,326	7,121	11	6,396	125	6,673	6
Total	900,441	950,381	508,133	529,338	488,969	580,757	486,066	489,141

Division of Statistical and Historical Research. Official sources. For rosin only the resinous substance known as "rosin" in the exports of the United States is taken.

[1] Four-year average.
[2] Java and Madura only.
[3] Eight months, May-December.
[4] Less than 500 pounds.
[5] Three-year average.

TABLE 667.—*Turpentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1890	0.449	0.435	0.425	0.400	0.382	0.378	0.405	0.415	0.405	0.410	0.400	0.392	0.408
1891	.405	.408	.403	.405	.390	.382	.372	.361	.370	.368	.355	.335	.380
1892	.340	.345	.420	.370	.340	.290	.295	.285	.278	.285	.310	.315	.323
1893	.305	.332	.345	.325	.310	.288	.290	.262	.275	.280	.295	.295	.300
1894	.292	.309	.312	.288	.296	.305	.295	.289	.285	.285	.285	.278	.293
1895	.271	.290	.335	.335	.305	.295	.290	.270	.275	.282	.281	.278	.292
1896	.305	.300	.292	.285	.289	.260	.252	.240	.240	.280	.280	.268	.274
1897	.266	.275	.298	.292	.305	.268	.265	.282	.298	.325	.310	.325	.292
1898	.332	.340	.356	.325	.339	.282	.262	.265	.295	.308	.370	.390	.322
1899	.452	.455	.465	.425	.445	.405	.445	.385	.475	.520	.510	.515	.458
1900	.525	.545	.550	.560	.505	.495	.465	.445	.365	.405	.440	.425	.477
1901	.380	.405	.410	.365	.345	.355	.370	.355	.365	.365	385	.375	.373
1902	.390	.442	.440	.485	.455	.480	.475	.460	.475	.505	.545	.535	.474
1903	.555	.655	.658	.672	.480	.490	.495	.525	.550	.585	.600	.593	.572
1904	.598	.645	.625	.590	.580	.574	.565	.568	.560	.560	.545	.500	.576
1905	.530	.560	.539	.610	.605	.778	.600	.608	.645	.692	.715	.650	.628
1906	.685	.682	.719	.708	.675	.610	.606	.600	.640	.652	.701	.700	.665
1907	.710	.740	.755	.730	.675	.640	.610	.590	.582	.550	.540	.490	.634
1908	.435	.555	.535	.565	.475	.435	.420	.410	.390	.390	.400	.430	.453

TABLE 667.—*Turpentine (spirits): Average wholesale price per gallon (in barrels), New York, 1890–1924*—Continued

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1909	0.415	0.450	0.425	0.405	0.402	0.425	0.462	0.518	0.595	0.620	0.602	0.570	0.491
1910	.592	.632	.630	.630	.625	.592	.672	.715	.745	.765	.810	.785	.683
1911	.808	.872	.912	1.070	.772	.568	.560	.525	.548	.535	.492	.484	.679
1912	.540	.495	.500	.505	.530	.480	.479	.462	.425	.428	.420	.380	.470
1913	.425	.452	.455	.458	.408	.405	.398	.382	.422	.415	.452	.462	.428
Av. 1909–1913	.556	.580	.584	.614	.547	.494	.514	.520	.547	.553	.555	.536	.550
1914	.458	.510	.480	.488	.460	.472	.498	.480	.422	.478	.458	.477	.473
1915	.452	.445	.450	.472	.488	.435	.430	.420	.398	.415	.538	.570	.459
1916	.572	.578	.530	.552	.410	.435	.415	.468	.465	.462	.480	.525	.491
1917	.550	.540	.513	.488	.520	.448	.420	.428	.423	.485	.535	.505	.488
1918	.490	.474	.439	.426	.507	.636	.700	.622	.661	.658	.798	.716	.594
1919	.755	.709	.720	.773	.831	1.095	1.176	1.724	1.683	1.600	1.689	1.656	1.201
1920	1.885	1.985	2.238	2.575	2.475	1.868	1.599	1.624	1.473	1.230	1.098	.790	1.737
Av. 1914–1920	.737	.749	.767	.825	.813	.770	.748	.824	.789	.761	.799	.748	.778
1921	.724	.609	.584	.591	.717	.604	.613	.633	.718	.755	.810	.814	.681
1922	.909	.903	.869	.866	.944	1.110	1.207	1.194	1.298	1.530	1.578	1.403	1.151
1923	1.522	1.493	1.548	1.524	1.167	1.046	.943	.951	.971	1.007	.954	.938	1.172
1924	1.007	1.022	1.024	.965	.901	.844	.837	.893	.887	.880	.851	.837	.912

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 668.—*Rosin, common to good, strained: Average wholesale price per barrel, New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	Dols.	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
1890	1.250	1.200	1.200	1.225	1.450	1.450	1.488	1.450	1.450	1.450	1.488	1.512	1.384
1891	1.438	1.450	1.500	1.612	1.700	1.600	1.412	1.400	1.400	1.400	1.375	1.400	1.474
1892	1.425	1.400	1.350	1.388	1.475	1.325	1.250	1.275	1.262	1.250	1.350	1.350	1.342
1893	1.325	1.425	1.475	1.375	1.300	1.275	1.225	1.013	1.000	1.175	1.213	1.338	1.262
1894	1.275	1.088	1.088	1.175	1.200	1.350	1.388	1.238	1.162	1.238	1.438	1.375	1.251
1895	1.413	1.400	1.450	1.600	1.525	1.650	1.600	1.575	1.550	1.500	1.700	1.775	1.562
1896	1.700	1.625	1.675	1.762	2.025	1.800	1.688	1.600	1.600	1.700	1.925	1.850	1.746
1897	1.750	1.700	1.700	1.650	1.650	1.750	1.750	1.550	1.500	1.450	1.450	1.450	1.612
1898	1.450	1.450	1.450	1.450	1.450	1.450	1.450	1.350	1.300	1.300	1.500	1.450	1.421
1899	1.400	1.350	1.312	1.312	1.462	1.400	1.300	1.300	1.300	1.262	1.325	1.425	1.346
1900	1.638	1.638	1.750	1.700	1.600	1.588	1.562	1.550	1.525	1.475	1.500	1.700	1.602
1901	1.750	1.650	1.625	1.500	1.600	1.550	1.438	1.400	1.400	1.425	1.450	1.575	1.530
1902	1.550	1.550	1.550	1.662	1.638	1.588	1.575	1.575	1.550	1.550	1.788	1.775	1.613
1903	1.925	2.100	2.275	2.300	2.125	2.075	2.062	1.975	2.100	2.300	2.775	2.575	2.216
1904	2.575	2.975	2.700	2.800	2.850	3.050	3.000	2.650	2.700	2.800	2.950	2.950	2.833
1905	2.825	2.875	2.900	3.000	3.250	4.100	3.600	3.600	3.700	3.850	4.125	3.250	3.423
1906	3.650	3.925	4.175	4.000	4.050	4.000	3.950	3.975	4.125	4.000	4.150	4.175	4.015
1907	4.250	4.450	4.425	4.550	4.800	4.800	4.425	4.500	4.350	4.225	4.200	3.550	4.377
1908	3.200	4.000	3.750	3.900	3.600	2.950	3.150	3.000	2.800	2.880	2.900	3.250	3.282
1909	3.275	3.325	3.175	3.275	3.300	3.250	3.000	3.250	3.500	4.250	4.225	4.175	3.500
1910	4.200	4.400	4.550	4.650	4.500	4.500	5.300	6.050	6.100	6.400	6.100	6.050	5.233
1911	6.200	6.750	7.450	8.500	7.750	6.750	6.250	5.400	6.250	6.400	6.600	6.300	6.717
1912	7.150	6.650	6.700	6.900	6.500	6.550	6.450	6.475	6.850	6.600	6.500	6.375	6.642
1913	5.950	5.750	6.500	5.500	4.750	4.800	4.000	4.250	4.200	4.000	4.000	4.100	4.817
Av. 1909–1913	5.355	5.375	5.675	5.765	5.360	5.170	5.000	5.085	5.380	5.530	5.485	5.400	5.382
1914	4.000	4.400	4.250	4.150	4.100	4.050	4.200	3.950	3.750	3.850	3.750	3.750	4.017
1915	3.600	3.500	3.400	3.400	3.650	3.200	3.450	3.250	3.250	3.700	4.800	6.000	3.767
1916	5.950	5.750	5.400	5.200	4.300	5.100	5.500	6.650	6.150	6.250	6.550	6.800	5.800
1917	6.600	6.550	6.275	6.000	6.300	6.300	6.000	5.850	6.000	6.800	6.850	7.175	6.392
1918	7.120	6.969	6.588	6.070	7.725	9.981	11.000	11.525	13.644	15.155	15.956	14.940	10.556
1919	14.250	13.463	12.325	12.185	12.050	14.275	16.450	17.850	17.330	17.125	17.475	17.070	15.154
1920	18.588	18.125	18.080	18.500	19.750	16.700	12.413	13.900	13.713	12.825	11.830	9.063	15.291
Av. 1914–1920	8.587	8.394	8.045	7.929	8.268	8.515	8.430	8.996	9.120	9.386	9.602	9.257	8.711
1921	8.813	7.500	5.850	4.950	5.260	5.050	5.050	4.970	5.425	5.600	5.680	5.325	5.789
1922	5.353	5.325	5.188	5.213	5.300	5.350	5.538	5.900	6.356	6.865	6.581	6.219	5.778
1923	6.115	5.969	6.150	6.225	6.070	5.825	5.820	5.750	5.850	5.840	5.775	5.669	5.922
1924	5.770	5.800	5.725	5.780	5.588	5.525	5.590	5.813	6.115	7.163	7.600	7.600	6.172

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

TABLE 669.—*Tanning materials, crude: Consumption by kinds, 1899, 1904–1909, 1919, and 1923*

Year	Total	Hemlock bark	Oak bark	Chestnut wood	Other crude vegetable materials[1]
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1899 [2]	1,616,065	1,170,131	445,934		
1904 [2]	1,422,597	1,000,328	422,269		
1905 [2]	1,104,045	799,755	304,290		
1906 [2]	1,371,342	931,152	429,161		11,029
1907	1,214,401	815,840	374,052		24,509
1908	1,127,400	810,231	307,817		9,352
1909	1,078,910	698,365	324,070	18,527	37,948
1919	609,130	284,323	[3] 261,519	32,526	30,762
1923	[4] 508,603	172,200	142,009	[5] 139,107	52,287

Forest Service. Compiled from Forest Service and Census bulletins.

[1] Includes myrobalan nuts, wattle bark, valonia cups and beards, divi-divi pods, sumac leaves, quebracho wood, mangrove bark, etc.

[2] From 1899 to 1906 original records are given in cords, which are here considered the equivalent of tons of 2,000 pounds.

[3] Includes 33,917 tons of oak and chestnut mixed.

[4] Includes 206,162 cords of chestnut wood and oak, hemlock, and fir bark.

[5] Cords.

TABLE 670.—*Tanning materials, extracts: Consumption by kinds, 1899, 1904–1909, 1919*

Year	Chestnut	Oak	Hemlock	Quebracho	Spruce	Sumac	All other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
1899		27,115,100	6,406,000					33,521,500
1904		107,195,500	10,883,000			15,911,000		[1] 133,989,500
1905	25,612,000	93,817,500	26,215,000				555,000	146,199,500
1906	128,535,018	30,192,151	34,405,978	133,508,306			2,747,952	329,389,405
1907	134,819,100	30,830,291	40,133,524	145,324,677			13,791,943	364,899,535
1908	146,818,963	21,705,775	40,808,723	143,174,614			39,593,012	392,101,087
1909	182,818,961	38,419,398	10,862,540	147,109,443		350,535	7,257,018	386,817,895
1919	432,120,247	57,869,387	27,034,915	159,320,510	48,061,287	6,669,642	63,284,989	794,360,977

Forest Service. Compiled from bulletins of the Bureau of the Census and the Forest Service.

[1] In addition, 80,610 bales of gambier and $2,490,487 worth of quebracho were used, as well as other material and chemicals.

TABLE 671.—*Wood distillation: Quantity distilled 1899, 1904–1911, 1914, 1919*

Year	Hardwood					
	Michigan	New York	Pennsylvania	Wisconsin	All other States	Total
	Cords	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
1899						487,805
1904						1,018,072
1905	39,992	19,937	242,519	(1)	57,322	659,770
1906	541,119	91,380	390,752	(1)	121,645	1,144,896
1907	602,216	127,150	358,489	(1)	131,916	1,219,771
1908	310,910	68,071	302,703	(1)	196,948	878,632
1909	457,362	139,041	368,126	(1)	185,318	1,149,847
1910	518,342	129,161	398,616	(1)	211,878	1,257,997
1911	396,916	132,400	364,539	(1)	165,100	1,058,955
1914						970,308
1919	648,910	104,493	281,320	60,544	91,210	1,186,477

[1] Included in "All other States."

TABLE 671.—*Wood distillation: Quantity distilled 1899, 1904–1911, 1914, 1919*—Continued

Year	Softwood								Total hardwood and softwood
	Alabama	Florida	Georgia	Louisiana	North Carolina	South Carolina	All other States	Total	
	Cords	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
1899								3,134	490,939
1904								31,431	1,049,503
1905			8,925	(1)	4,624	1,970	1,450	16,969	676,739
1906	3,236	10,100	14,986	(1)	16,332	2,972	2,608	50,234	1,195,130
1907	(1)	11,224	9,409	(1)	28,278	(1)	[2] 13,438	62,349	1,282,120
1908	(1)	15,480	18,513	(1)	5,221	(1)	[2] 59,998	99,212	977,844
1909	46,478	25,318	21,400	(1)	6,059	5,721	10,334	115,310	1,265,157
1910	64,963	52,144	25,412	7,818	6,713	30,954	4,438	192,442	1,450,439
1911	(1)	41,499	29,824	(1)	5,474	38,136	47,471	162,404	1,221,359
1914								72,209	1,042,517
1919	41,416	86,065	103,964	18,005	(1)		6,748	256,198	1,442,675

Forest Service. Compiled from Forest Service and Census bulletins.

[1] Included in "All other States."
[2] Includes mill waste and sawdust not shown by States.

TABLE 672.—*Wood subjected to preservative treatment, 1914–1923*

CREOSOTE

Year	Crossties	Piles	Poles	Wood blocks	Cross arms	Construction timbers	Miscellaneous lumber	Total material treated
	Cubic feet	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*
1914	67,774,329	7,804,657	1,188,511	3,127,506	395,403	8,389,158	1,348,566	90,028,130
1915	51,231,207	6,288,238	2,336,318	6,064,758	87,373	9,264,164	881,028	76,153,086
1916	62,576,403	8,524,680	6,303,954	7,205,953	178,210	9,521,609	691,870	95,002,679
1917	48,085,554	8,493,715	5,930,559	4,610,427	239,764	7,830,673	706,084	76,496,776
1918	34,638,147	7,620,974	4,540,620	4,825,766	210,903	7,606,153	707,294	60,149,857
1919	44,938,215	9,151,972	6,649,491	3,372,828	75,310	9,220,880	553,750	73,962,446
1920	40,114,551	8,013,192	10,309,746	6,741,410	318,707	9,054,413	1,139,307	75,691,326
1921	66,139,398	5,528,275	10,906,157	6,202,904	108,715	9,052,679	663,183	98,601,311
1922	60,625,086	7,494,649	16,482,963	3,947,551	374,829	10,632,378	1,029,509	100,586,965
1923	104,167,710	9,569,443	26,235,810	4,464,277	420,206	16,484,703	2,720,457	164,062,606

ZINC CHLORIDE

1914	50,020,755	(1)	[2]	(1)	(1)	1,317,925	4,355	51,343,036
1915	53,457,852	4,726	(1)	(1)	(1)	2,406,150	275,279	56,144,007
1916	43,859,028	859	164	(1)	(1)	1,526,881	346,047	45,732,979
1917	44,529,954	7,093	45,788	10,421	(1)	2,127,872	5,070	46,726,198
1918	51,166,146	57,845	(1)	13,939	(1)	2,337,169	30,790	53,605,889
1919	58,912,323	2,919	(1)	(1)	(1)	2,164,007	63,987	61,143,236
1920	87,398,160	(1)	(1)	(1)	(1)	1,823,437	94,151	89,315,748
1921	90,797,841	298	(1)	(1)	(1)	2,738,292	67,835	93,604,266
1922	52,254,303	2,029	(1)	(1)	(1)	1,296,980	19,564	53,572,876
1923	46,138,005	(1)	(1)	(1)	(1)	1,948,562	26,872	48,113,439

ZINC-CREOSOTE

1914	5,868,834	(1)	(1)	(1)	(1)	140,718	[2]	6,009,552
1915	6,548,136	2,320	110,220	(1)	(1)	40,396	4,822	6,705,814
1916	5,935,242	837	53,933	(1)	(1)	359,428	(1)	6,349,440
1917	6,482,046	(1)	(1)	(1)	(1)	1,102,635	847	7,585,528
1918	6,023,334	167,438	12,300	76,393	209,927	164,813	125,327	6,779,532
1919	8,850,222	14,059	(1)	(1)	(1)	562,403	58,399	9,485,083
1920	7,414,866	79,354	(1)	(1)	(1)	484,123	5,231	7,983,574
1921	9,183,702	61,386	(1)	(1)	(1)	48,237	2,499	9,295,824
1922	11,045,913	111	(1)	(1)	(1)	684,242	14,176	11,744,442
1923	10,507,173	(1)	(1)	(1)	(1)	403,531	35,525	10,946,229

[1] None reported.
[2] Figures if used would reveal identity of reporting firms.

TABLE 672.—*Wood subjected to preservative treatment, 1914-1923*—Continued

MISCELLANEOUS

Year	Crossties	Piles	Poles	Wood blocks	Cross arms	Construction timbers	Miscellaneous lumber	Total material treated
	Cubic feet	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*	*Cubic feet*
1914	7,877,043	257,245	293,896	3,741,864	22,511	(1)	9,363	12,201,922
1915	19,560	(1)	66,242	1,643,213	3,254	123,377	330	1,855,976
1916	37,431	56,458	389,031	2,738,731	2,634	166,183	47,416	3,437,884
1917	680,856	85,204	749,156	4,464,382	16,274	433,896	100,316	6,530,084
1918	(1)	463,115	62,850	1,381,196	2,541	107,456	60,452	2,077,612
1919	3,021	(1)	11,775	1,340,850	(1)	114,583	(1)	1,470,229
1920	35,019	(1)	(1)	(1)	(1)	283,838	(1)	318,857
1921	29,606	2,040	53,099	(1)	(1)	37,500	19,584	141,827
1922	24,120	(1)	525,677	(1)	(1)	99,480	66,787	716,064
1923	17,637	(1)	651,094	468,030	(1)	999	115,434	1,253,194

ALL PRESERVATIVES

1914	131,540,961	8,061,902	1,482,407	6,869,370	417,914	9,847,801	1,362,284	159,582,639
1915	111,256,755	6,295,284	2,512,780	7,707,971	90,627	11,834,087	1,161,459	140,858,963
1916	112,408,104	8,582,834	6,747,082	9,944,684	180,844	11,574,101	1,085,333	150,522,982
1917	100,378,410	8,586,012	6,725,503	9,085,230	256,038	11,495,076	812,317	137,338,586
1918	91,827,627	8,309,372	4,615,770	6,297,294	423,371	10,215,593	923,853	122,612,890
1919	112,703,781	9,168,950	6,661,286	4,713,678	75,310	12,061,873	676,136	146,060,994
1920	134,962,596	8,092,546	10,309,746	6,741,410	318,707	11,645,811	1,238,689	173,309,505
1921	166,150,545	5,591,999	10,959,256	6,202,904	108,715	11,876,708	753,101	201,643,228
1922	123,949,422	7,496,789	17,008,640	3,947,551	374,829	12,713,080	1,130,036	166,620,347
1923	160,830,525	9,569,443	26,886,904	4,932,307	420,206	18,837,795	2,898,288	224,375,468

Forest Service.

Converting factors: To obtain the number of crossties, divide figures shown by 3. To obtain the number of linear feet of piling, divide the figures shown by 0.6763. To obtain the number of poles, divide the figures shown by 17.6. To obtain the number of square yards of wood blocks, divide the figures shown by 2.625. To obtain the number of board feet of construction timbers, multiply the figures shown by 12. To obtain the number of crossarms, divide the figures shown by 0.0198. To obtain the number of board feet of miscellaneous lumber, multiply the figures shown by 12.

[1] None reported.

TABLE 673.—*Wood preservatives consumed by treating plants, 1914-1923*

Year	Number of plants	Creosote.						Paving oil	Zinc chloride	Other preservatives
		Distillate coal-tar creosote	Creosote coal-tar solution	Refined water-gas tar	Water-gas tar solution	Imported	Total			
		Gallons	*Gallons*	*Gallons*	*Gallons*	*Gallons*	*Gallons*	*Gallons*	*Pounds*	*Gallons*
1914	94	(1)	(1)	(1)	(1)	51,307,736	79,334,606	9,429,444	27,212,259	2,486,637
1915	102	(1)	(1)	(1)	(1)	37,501,007	80,859,442	3,205,563	33,269,604	1,693,544
1916	117	(1)	(1)	(1)	(1)	43,649,931	90,404,749	5,675,095	26,746,577	582,754
1917	115	(1)	(1)	(1)	(1)	18,259,141	75,541,737	7,579,819	26,444,689	137,361
1918	107	(1)	(1)	(1)	(1)	2,165,736	52,776,386	4,057,862	31,101,111	28,013
1919	108	24,286,851	31,292,661	1,148,034	2,334,727	6,493,974	65,556,247	2,412,592	43,483,134	102,011
1920	115	25,483,230	27,921,614	1,377,702	4,399,282	9,575,680	68,757,508	1,848,911	49,717,929	1,772,084
1921	122	19,460,500	23,283,046	3,135,610	2,391,816	28,242,307	76,513,279	1,060,753	51,375,360	1,810,294
1922	128	25,644,272	21,558,130	1,481,573	2,175,176	35,462,238	86,321,389	1,414,682	29,868,639	2,176,843
1923	135	29,061,508	31,658,833	2,807,128	1,462,539	62,367,297	127,417,305	1,570,932	28,830,817	4,706,968

Forest Service.

[1] Statistics not available.

TABLE 674.—*Rubber: International trade, calendar years, 1909–1913, 1921–1923*

[Thousand pounds—i. e., 000 omitted]

Country	Average 1909–1913		1921		1922		1923 preliminary	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES								
Angola		5,620		[1] 491		[1] 259		
Belgian Congo		7,755		1,746				
Bolivia		8,395		[1] 4,802				
Brazil		84,938	[1] 54	38,217		43,180		39,672
British India		[2] 1,504	8	11,883	1	10,875	13	14,371
British Malaya	[1] 53,472	[1] 85,435	306,202	431,525	394,192	564,647		
Ceylon	[2] 1,299	10,953	3,867	88,125	5,475	104,595		
Dutch East Indies	[3] 1	7,679		164,045		229,237		[4] 73,764
Ecuador		1,040						1,297
French Congo	(5)	3,797		[1] 3,160		[1] 1,536		
French Guinea	[1] 241	3,937	[1] 1	[1] 577		[1] 666		
French Indo-China	1	398		[1] 8,043		[1] 10,192		
Gold Coast		2,393		[1] 103		[1] 16		
Kamerun		6,409		[1] 1,553		[1] 1,236		
Malacca	[1] 164	[1] 3,279	[1] 8,121	[1] 56,643	[1] 12,520	[1] 74,890		
Nigeria		3,054		[1] 237				
Peru		5,030		335		3,299		
Senegal	[6] 4	1,087		[1] 42		[1] 21		
Venezuela		772	48	50	65	2	(5 7)	[7] 1,347
PRINCIPAL IMPORTING COUNTRIES								
Austria			4,927	[1] 227	5,430	407	5,396	989
Austria-Hungary	6,696	1,619						
Belgium	25,891	20,749	7,140	3,321	5,316	4,932	7,132	2,518
Canada	3,945		18,476		21,076		29,696	(5)
Czechoslovakia			[1] 647	[1] 41	[1] 655	[1] 52	3,412	
Denmark	250		563		194		804	
France	32,704	21,615	41,664	7,762	67,893	5,907	81,726	11,912
Germany	42,004	9,844	49,379	[8] 277	63,483	1,779	43,538	2,056
Hungary			[1] 860		791	5	985	3
Italy	5,381	225	9,745	997	14,435	32	19,244	226
Japan	1,917		51,888		37,142		[7] 15,179	
Netherlands	10,822	7,172	32,657	30,369	19,628	28,153	17,791	16,016
Russia	19,131		[1] 397		[1] 5,345			
Spain	1,067		7,968		5,103		4,870	
Sweden	1,695	1	1,800	99	2,774	[1] 125	3,119	
Switzerland	391	725	431	356	450	210	552	260
United Kingdom	43,141		94,275		26,262		28,449	
United States	100,180		415,283		674,410		692,483	
Other countries	5,799	72,353	1,276	21,648	2,830	1,429	3,683	577
Total	356,196	377,778	1,057,677	876,673	1,365,470	1,087,682	958,072	164,988

Division of Statistical and Historical Research. Official sources except where otherwise noted.

Figures for rubber include "India rubber," so called, caoutchouc, caucho, jebe (Peru), hule (Mexico), borracha, assaranduba, amabeira, manicoba, sorva, and seringa (Brazil), gomelastiek (Dutch East Indies), caura, ser nambi (Venezuela).

[1] International Institute of Agriculture.
[2] Three-year average.
[3] One year only.
[4] Java and Madura only.
[5] Less than 500 pounds.
[6] Two-year average.
[7] Six months.
[8] Eight months, May–December.

TABLE 675.—*Rubber, Para Island, fine: Average wholesale price per pound, New York, 1890–1924*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1890	$0.725	$0.680	$0.795	$0.845	$0.885	$0.930	$0.910	$0.915	$0.965	$0.850	$0.805	$0.750	$0.838
1891	.780	.890	.885	.930	.900	.885	.855	.810	.615	.645	.640	.655	.791
1892	.635	.645	.680	.735	.685	.690	.700	.675	.635	.680	.670	.685	.676
1893	.685	.790	.755	.760	.755	.740	.725	.655	.660	.705	.680	.690	.717
1894	.688	.660	.670	.670	.655	.655	.670	.650	.680	.685	.705	.705	.674
1895	.740	.735	.725	.730	.720	.750	.730	.715	.730	.765	.815	.755	.742
1896	.750	.710	.740	.750	.820	.880	.835	.830	.800	.825	.828	.832	.800
1897	.820	.820	.830	.825	.855	.840	.840	.855	.885	.870	.870	.835	.845
1898	.815	.862	.930	.930	.922	.930	.960	1.012	1.000	.932	.920	.910	.927
1899	.942	1.005	1.015	1.018	1.015	.992	.972	.972	.965	.982	.990	1.075	.995
1900	1.062	1.068	1.045	1.075	1.065	.880	.925	.915	.960	.985	.925	.875	.982
1901	.875	.850	.845	.840	.890	.870	.855	.835	.880	.850	.802	.805	.850
1902	.805	.760	.725	.715	.715	.708	.705	.678	.730	.728	.732	.728	.727
1903	.865	.835	.895	.875	.895	.860	.885	.905	.965	1.015	.955	.915	.905
1904	.915	.985	1.025	1.090	1.085	1.095	1.085	1.155	1.135	1.095	1.125	1.265	1.088
1905	1.125	1.215	1.255	1.280	1.285	1.325	1.275	1.245	1.265	1.255	1.180	1.205	1.242
1906	1.255	1.235	1.235	1.245	1.235	1.220	1.190	1.180	1.190	1.190	1.195	1.189	1.213
1907	1.180	1.185	1.185	1.150	1.140	1.090	1.045	1.065	1.030	.995	.915	.780	1.063
1908	.765	.712	.695	.752	.805	.875	.885	.855	.905	.965	1.050	1.185	.871
1909	1.155	1.155	1.215	1.185	1.232	1.335	1.430	1.845	1.710	1.985	1.810	1.715	1.481
1910	1.695	1.790	1.995	2.600	2.600	2.295	2.250	2.070	1.800	1.370	1.190	1.235	1.908
1911	1.150	1.180	1.580	1.360	1.130	.940	.925	1.040	1.080	1.050	.940	.950	1.110
1912	.975	1.060	1.085	1.145	1.100	1.045	1.010	1.045	1.135	1.065	.975	.980	1.052
1913	1.005	.975	.915	.835	.780	.835	.815	.730	.760	.715	.675	.645	.807
Av. 1909–1913	1.196	1.232	1.358	1.425	1.368	1.290	1.286	1.346	1.297	1.237	1.118	1.105	1.272
1914	.605	.655	.695	.695	.725	.610	.575	.580	.600	.525	.495	.630	.616
1915	.710	.550	.535	.535	.545	.545	.535	.522	.500	.508	.548	.655	.557
1916	.885	.685	.05	.695	.660	.590	.590	.585	.582	.665	.670	.720	.669
1917	.700	.680	.750	.740	.725	.725	.705	.613	.595	.568	.505	.468	.648
1918	.501	.479	.483	.516	.566	.590	.590	.590	.590	.572	.570	.548	.550
1919	.525	.491	.482	.478	.474	.474	.475	.475	.480	.483	.483	.479	.483
1920	.463	.432	.412	.411	.404	.385	.353	.303	.253	.217	.192	.180	.334
Av. 1914–1920	.627	.567	.580	.581	.586	.560	.546	.524	.514	.505	.495	.526	.551
1921	.173	.168	.180	.178	.179	.164	.164	.165	.174	.210	.215	.211	.182
1922	.193	.163	.161	.171	.176	.169	.172	.176	.171	.199	.219	.223	.182
1923	.272	.307	.290	.274	.249	.250	.239	.238	.246	.215	.204	.203	.249
1924	.199	.191	.171	.168	.173	.164	.170	.211	.227	.262	.286	.315	.211

Division of Statistical and Historical Research. Compiled from Bureau of Labor Statistics reports.

EXPORTS AND IMPORTS OF AGRICULTURAL PRODUCTS

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*

Article exported	Unit	Year ended June 30: Quantity 1921–22	Quantity 1922–23	Quantity 1923–24 preliminary	Value 1921–22	Value 1922–23	Value 1923–24 preliminary
ANIMALS AND ANIMAL PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Animals, live:							
Cattle	No.	[1] 90	[2]	[2]	[1] 4,345	[2]	[2]
Bulls for breeding	No.	[3] 1	2	1	[3] 189	274	125
Cows for breeding	No.	[3] 3	20	9	[3] 347	884	495
Other cattle	No.	[3] 60	40	23	[3] 4,977	1,796	676
Horses	No.	[1] 18	[4]	[4]	[1] 1,265	[4]	[4]
For breeding	No.	[3] 1	[5]	[5]	[3] 132	137	112
Other horses	No.	[3] 6	8	11	[3] 471	912	842
Mules, asses, and burros	No.	11	13	16	1,010	1,324	1,712
Sheep	No.	62	16	9	294	165	89
Swine	No.	98	76	95	1,242	990	1,217
Poultry	Lb.	[3] 227	491	695	[3] 154	268	323
Other live animals	Lb.	[6]	429	520	525	168	196
Total animals, live					14,951	6,918	5,787
Dairy products:							
Butter	Lb.	7,512	9,410	5,425	2,870	3,706	2,471
Cheese	Lb.	7,471	8,446	3,938	1,711	2,170	1,087
Milk and cream—							
Fresh and sterilized	Gal.	[6]	89	89	294	80	86
Condensed (sweetened)	Lb.	79,525	47,966	67,112	11,675	6,760	9,812
Evaporated (unsweetened)	Lb.	197,786	109,072	146,503	18,363	10,107	14,109
Powdered (dried)	Lb.	11,318	2,918	2,704	1,462	504	609
Total dairy products					36,375	23,327	28,174
Eggs and egg products:							
Eggs in shell	Doz.	33,762	34,284	32,832	10,015	9,311	8,659
Eggs and yolks (frozen, dried, or canned)	Lb.	[6]	555	488	132	89	75
Total eggs and egg products					10,147	9,400	8,734
Hides and skins, raw (except fur):							
Calf	Lb.	4,939	3,158	7,111	1,099	764	1,536
Cattle	Lb.	26,686	11,200	72,172	2,687	1,796	7,643
Sheep and goat	Lb.	[3] 740	974	1,806	[3] 148	227	388
Other (including fresh and pickled splits)	Lb.	4,634	5,656	9,819	639	709	1,095
Total hides and skins	Lb.	36,999	20,988	90,908	4,573	3,496	10,662
Meats and meat products:							
Meats—							
Beef and veal—							
Beef, canned	Lb.	3,749	2,312	1,591	971	630	387
Beef, fresh	Lb.	3,866	3,656	2,476	519	555	423
Pickled or cured	Lb.	26,774	24,185	21,851	2,398	2,308	2,170
Veal, fresh	Lb.	[3] 127	361	342	[3] 23	55	60
Total beef and veal	Lb.	34,516	30,514	26,260	3,911	3,548	3,040
Mutton and lamb	Lb.	2,502	1,769	1,633	425	331	307

[1] July 1–Dec. 31, 1921.
[2] Classified as "Bulls for breeding," "Cows for breeding," or "Other cattle."
[3] Jan. 1–June 30.
[4] Classified as "Horses for breeding" or "Other horses."
[5] Less than 500.
[6] Reported in value only.

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Unit	Year ended June 30					
		Quantity			Value		
		1921–22	1922–23	1923–24 preliminary	1921–22	1922–23	1923–24 preliminary
ANIMALS AND ANIMAL PRODUCTS—continued							
Meats and meat products—Contd.							
Meats—Continued.							
Pork—		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Bacon	Lb.	350,549	408,334	408,099	50,978	59,052	50,951
Canned	Lb.	2,263	2,699	2,725	669	942	706
Carcasses, fresh	Lb.	[7] 22,826	9,462	12,555	[7] 3,315	1,338	1,485
Hams and shoulders	Lb.	271,642	319,269	369,459	55,217	55,205	56,252
Loins and other fresh pork	Lb.	[8] 3,085	34,310	36,558	[8] 547	5,437	5,392
Pickled	Lb.	33,510	40,934	37,469	3,941	4,953	4,293
Sides—							
Cumberland	Lb.	(9)	(9)	[8] 15,401	(9)	(9)	[8] 2,009
Wiltshire	Lb.	(9)	(9)	[8] 12,105	(9)	(9)	[8] 1,544
Total pork	Lb.	683,875	815,008	894,371	114,667	126,927	122,632
Poultry and game—							
Canned	Lb.	[8] 297	126	69	[8] 114	46	33
Fresh	Lb.	(9)	5,905	4,042	1,789	1,744	1,185
Sausage—							
Canned	Lb.	1,964	2,694	3,213	624	712	901
Not canned	Lb.	7,208	7,719	8,707	2,250	2,059	2,114
Miscellaneous meats—							
Meat canned, n. e. s	Lb.	(9)	7,522	9,412	3,914	2,898	2,897
Meat, all other, n. e. s. (including edible offal)	Lb.	(9)	47,292	56,869	4,047	4,493	4,973
Meat extracts and bouillon cubes	Lb.	[8] 153	482	289	[8] 212	546	443
Total meats	Lb.		919,031	1,004,865	131,953	143,304	138,525
Oils and fats, animal—							
Lard	Lb.	812,379	952,642	1,014,898	95,007	116,594	129,091
Lard compounds	Lb.	30,328	11,140	6,907	3,515	1,397	935
Lard, neutral	Lb.	19,573	26,494	24,239	2,420	3,424	3,242
Lard oil	Lb.	493	737	715	51	89	81
Neat's-foot oil	Lb.	[8] 471	1,233	1,349	[8] 84	188	235
Oleomargarine	Lb.	1,989	2,028	1,124	354	328	180
Oleo oil	Lb.	117,174	104,956	92,965	12,367	12,068	11,358
Oleo stock	Lb.	[8] 8,564	12,521	11,345	[8] 806	1,359	1,277
Stearins and fatty acids	Lb.	[8] 20,595	(10)	(10)	[8] 2,082	(10)	(10)
Grease stearin	Lb.	[8] 1,791	2,962	4,097	[8] 141	278	382
Oleic acid or red oil	Lb.	[8] 1,783	2,379	2,693	[8] 141	202	220
Oleo and lard stearin	Lb.	[8] 5,419	10,135	7,081	[8] 523	1,051	761
Stearic acid	Lb.	[8] 2,973	[11] 3,686	2,191	[8] 281	[11] 404	281
Other fatty acids	Lb.	(12)	[8] 66	291	(12)	[8] 7	25
Tallow	Lb.	[8] 8,956	(13)	(13)	607	(13)	(13)
Edible	Lb.	[8] 1,007	1,914	1,175	[8] 80	161	92
Inedible	Lb.	[8] 17,695	23,751	36,197	1,181	1,939	2,855
Miscellaneous, n. e. s., including *other animal oils*	Lb.	[14] 2,699	52,993	80,164	4,777	4,375	6,910
Total oils and fats	Lb.	1,053,889	1,209,637	1,287,431	124,417	143,864	157,925
Total meats and meat products	Lb.	1,784,404	2,128,668	2,292,296	256,370	287,168	296,450

[1] July 1–Dec. 31, 1921
[8] Jan. 1–June 30.
[9] Reported in value only.
[7] Includes all "Loins and other fresh pork" prior to Jan. 1, 1922.
[8] Included with bacon.
[8] Included with hams and shoulders.
[10] Classified as "Grease stearin," "Oleic acid or red oil," "Oleo and lard stearin," or "Stearic and other fatty acids."
[11] Includes "Other fatty acids" prior to Jan. 1, 1923.
[12] Not separately classified.
[13] Classified as "Edible" and "Inedible."
[14] Figures cover "Other animal oils" ("other animal greases, oils, and fats" given in value only.)

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Unit	Quantity			Value		
		Year ended June 30					
		1921–22	1922–23	1923–24 preliminary	1921–22	1922–23	1923–24 preliminary
ANIMALS AND ANIMAL PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Wool and mohair (unmanufactured)	Lb.	924	451	465	201	121	134
Miscellaneous animal products:							
Beeswax	Lb.	102	79	136	28	25	43
Bones, hoofs and horns (unmanufactured)	Lb.	(8)	6,301	5,457	172	310	286
Feathers, crude	Lb.	(8)	4,370	3,093	280	310	232
Gelatin	Lb.	[3] 77	310	418	[3] 62	201	279
Glue	Lb.	2,101	2,905	2,295	349	431	369
Hair, unmanufactured	Lb.	(8)	(15)	(15)	[1] 259	(15)	(15)
Hair, cattle	Lb.	[3] 4,071	7,369	5,087	[3] 296	424	441
Other hair	Lb.	[3] 3,337	8,068	9,869	[3] 301	824	1,075
Honey	Lb.	2,407	2,891	1,922	262	290	228
Sausage casings	Lb.	27,769	20,043	27,427	5,814	4,934	5,454
Other miscellaneous, n.e.s.	Lb.	[3] 894	2,177	2,404	[3] 69	223	245
Total animals and animal products	Lb.				330,509	338,402	358,593
VEGETABLE PRODUCTS							
Chocolate and cocoa:							
Chocolate and cocoa prepared or manufactured	Lb.	(8)	(16)	(16)	[1] 308	(16)	(16)
Chocolate, including sweetened	Lb.	362	974	1,594	[3] 82	224	372
Cocoa, powdered	Lb.	[3] 8,421	8,047	4,583	[3] 337	389	337
Coffee:							
Green	Lb.	29,793	26,272	23,845	5,434	4,949	4,997
Roasted	Lb.	1,150	1,319	2,028	288	361	538
Extracts and substitutes	Lb.	[3] 283	713	695	[3] 193	380	422
Cotton:							
Upland and other (500 lbs.)	Bale	[1] 3,762	(17)	(17)	[1] 321,685	(17)	(17)
Long staple (1⅛ inches or over)—							
Sea Island (500 lbs.)	Bale	(8)	(8)	(8)	38	148	61
Other long staple (500 lbs.)	Bale	[3] 579	886	937	[3] 59,140	114,285	145,832
Short staple (under 1⅛ inches) (500 lbs.)	Bale	[3] 2,251	4,319	4,847	[3] 213,321	542,871	753,289
Linters (500 lbs.)	Bale	126	48	115	2,195	1,679	4,793
Total cotton	Bale	6,718	5,253	5,899	596,379	658,983	903,975
Fruits:							
Dried and evaporated—							
Apples	Lb.	12,431	12,817	30,410	1,772	1,447	3,336
Apricots	Lb.	16,736	11,193	38,777	3,231	2,617	4,427
Peaches	Lb.	6,260	5,586	12,975	741	711	996
Prunes	Lb.	109,398	79,229	136,448	9,755	7,583	8,572
Raisins	Lb.	49,639	93,962	88,152	8,029	10,284	7,893
Other dried fruit	Lb.	(8)	10,632	13,933	1,015	1,352	1,348
Total dried and evaporated	Lb.		213,419	320,695	24,543	23,994	26,572
Fresh—							
Apples	Bbl.	629	593	2,032	4,804	2,674	9,505
Apples	Box	[3] 1,395	3,491	6,198	[3] 3,813	6,525	13,655
Berries	Lb.	(8)	8,180	11,149	1,032	881	1,084
Citrus—							
Grapefruit	Box	[3] 140	252	305	[3] 456	830	827
Lemons	Box	234	159	228	1,211	909	952
Oranges	Box	1,641	1,799	2,592	7,535	7,561	8,566
Grapes	Lb.	[3] 172	14,022	20,257	[3] 29	1,051	1,230
Pears	Lb.	(8)	36,785	50,237	1,477	1,617	2,499
Peaches	Lb.	[3] 611	13,170	15,065	[3] 36	583	574
Pineapples	Box	[3] 27	37	41	[3] 131	157	139
Other fresh fruits[18]	Lb.	[3 19] 2,575	36,555	32,373	[20] 3,070	1,489	1,417
Total fresh fruits					23,594	24,277	40,448

[1] July 1–Dec. 31, 1921.
[3] Jan. 1–June 30.
[8] Less than 500.
[8] Reported in value only.
[15] Classified as "Cattle, hair," or "Other hair."
[16] Classified as "Chocolate, including sweetened" or "Cocoa powdered."
[17] Classified as "Long staple" or "Short staple."
[18] Includes other subtropical fruits.
[19] Other fresh fruits reported in value only.
[20] [illegible] from Jan. 1–June 30.

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Year ended June 30						
	Quantity				Value		
	Unit	1921–22	1922–23	1923–24 preliminary	1921–22	1922–23	1923–24 preliminary
VEGETABLE PRODUCTS—continued							
Fruits—Continued							
Prepared or preserved—		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Canned—							
Apples and apple sauce	Lb.	(12)	(12)	[3] 4,499	(12)	(12)	[3] 272
Apricots	Lb.	(12)	[3] 13,809	26,047	(12)	[3] 1,187	2,037
Cherries	Lb.	[3] 350	2,251	2,204	[3] 59	369	299
Peaches	Lb.	(6)	54,624	50,374	4,998	5,388	4,436
Pears	Lb.	(6)	49,358	38,431	4,254	6,105	4,144
Pineapples	Lb.	(6)	21,848	25,238	2,579	2,346	3,058
Plums	Lb.	[3] 952	1,942	1,918	[3] 78	174	148
Prunes	Lb.	(12)	(12)	[3] 834	(12)	(12)	[3] 103
Miscellaneous	Lb.	(6)	63,388	16,280	4,405	6,910	1,765
Total prepared or preserved	Lb.				16,373	22,479	16,262
Preserved jellies and jams	Lb.	(6)	2,217	2,246	514	456	437
Fruit preparations n. c. s., including fruit pulp (cannery waste)	Lb.	1,348	1,565	10,163	46	47	800
Total fruits					65,070	71,253	84,519
Grains and grain products:							
Grains—							
Barley	Bu.	22,400	18,193	11,209	16,614	13,591	8,897
Buckwheat	Bu.	383	140	82	405	152	83
Corn	Bu.	176,386	94,064	21,186	115,862	75,031	19,553
Oats	Bu.	15,987	18,574	1,149	7,985	9,282	613
Rice	Lb.	[21] 507,898	318,941	190,616	[21] 18,905	12,379	8,361
Rye	Bu.	29,684	51,412	17,705	32,898	47,513	14,343
Wheat	Bu.	208,321	154,951	78,793	279,656	192,015	87,712
Meal and flour—							
Buckwheat	Lb.	[3] 2,836	892	291	[3] 100	41	16
Corn	Bbl.	776	633	487	2,634	2,470	2,223
Oatmeal	Lb.	94,491	123,115	137,649	3,457	4,406	4,922
Rice flour, meal, and broken rice	Lb.	[3] 33,611	51,729	37,141	[3] 734	1,142	916
Rye	Bbl.	43	42	366	230	213	1,519
Wheat	Bbl.	15,797	14,883	17,253	97,386	83,991	88,202
Total grains and flour					576,866	442,226	237,360
Miscellaneous grain products—							
Bran and middlings	Ton.	14	3	2	309	97	75
Bread and biscuit	Lb.	7,055	9,480	12,452	953	1,303	1,730
Cereal breakfast foods, n. e. s.	Lb.	(6)	11,051	11,900	2,152	1,005	1,138
Corn feeds	Ton.	[3] 3	1	2	[3] 70	23	55
Corn products for table use (miscellaneous, n. e. s.)	Lb.	[3] 1,008	5,081	5,924	[3] 56	304	394
Hominy and grits	Lb.	[3] 208,036	79,979	32,160	[3] 3,553	1,335	643
Macaroni, spaghetti, etc.	Lb.	[3] 4,689	6,292	7,260	[3] 370	502	581
Malt	Bu.	5,654	4,088	2,975	5,824	3,970	3,023
Mill feeds, miscellaneous, n. e. s.	Ton.	22	33	8	623	698	317
Prepared feeds, not medicinal	Lb.	11,263	19,604	17,364	189	401	393
Screenings	Lb.	[3] 3,260	10,037	12,604	[3] 67	167	339
Sorghum, kafir, and milo maize	Bu.	[3] 53	58	60	[3] 36	59	46
Wheat products for table use	Lb.	[3] 1,933	4,229	5,137	[3] 101	321	399
Other grain products	Lb.	(6)	6,467	5,791	1,423	375	376
Total grains and grain products					592,592	452,786	246,869

[3] Jan. 1–June 30.
[6] Reported in value only.
[12] Not separately classified.
[21] Includes "Flour, meal, and broken rice" prior to Jan. 1, 1922.

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Unit	Year ended June 30					
		Quantity			Value		
		1921–22	1922–23	1923–24 preliminary	1921–22	1922–23	1923–24 preliminary
VEGETABLE PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Nuts:							
Peanuts	Lb.	12,858	8,716	3,994	815	681	381
Other nuts	Lb.	(5)	4,818	6,263	745	724	793
Oilseeds and oilseed products:							
Oil cake and oil-cake meal—							
Cake—							
Coconut	Lb.	14,725	3,860	58	178	66	1
Corn	Lb.	3,506	686	(13)	62	12	(13)
Cottonseed	Lb.	415,257	342,544	200,927	8,506	7,789	4,261
Linseed	Lb.	469,397	536,555	546,848	10,423	11,577	11,221
Peanut	Lb.	[3] 14,493	692	(12)	[3] 154	12	(12)
Other oil cake	Lb.	42,954	3,092	1,233	705	66	21
Meal—							
Cottonseed	Lb.	117,464	111,806	49,439	2,330	2,302	1,033
Linseed	Lb.	14,661	38,057	13,267	320	841	276
Other oil cake meal	Lb.	[3] 6,698	2,732	5,322	[3] 93	54	104
Total oil cake and oil-cake meal	Lb.	1,099,245	1,040,024	817,094	22,771	22,719	16,917
Oils—							
Fixed or expressed—							
Cocoa butter	Lb.	1,856	957	887	505	287	233
Coconut oil	Lb.	10,185	12,993	19,423	885	1,088	1,676
Corn oil	Lb.	5,280	5,224	4,196	588	652	540
Cottonseed oil	Lb.	[1] 52,263	(22)	(22)	[1] 4,584	(22)	(22)
Crude	Lb.	[3] 20,473	25,933	23,534	[3] 1,609	2,278	2,208
Refined	Lb.	[3] 18,879	38,359	15,884	[3] 2,207	4,239	1,866
Total cottonseed oil	Lb.	91,615	64,292	39,418	8,400	6,497	4,074
Lard compound, vegetable	Lb.	[3] 13,820	17,984	7,029	[3] 1,604	2,221	993
Linseed oil	Lb.	2,744	3,105	2,628	299	410	347
Oleomargarine, vegetable	Lb.	[3] 154	1,736	271	[3] 21	236	44
Peanut oil	Lb.	1,802	188	168	185	21	14
Soybean oil	Lb.	537	2,495	2,892	35	219	311
Soap stock, vegetable	Lb.	[3] 6,436	3,611	3,996	[3] 343	239	230
Stearin, vegetable	Lb.	1,949	564	176	195	56	25
Other vegetable oils and fats	Lb.	(5)	8,063	6,951	581	863	851
Total fixed or expressed	Lb.	[6] 136,378	121,212	88,035	13,641	12,789	9,338
Volatile or essential—							
Peppermint	Lb.	155	102	160	315	291	537
Other	Lb.	(5)	584	1,098	522	611	745
Total volatile or essential	Lb.	155	686	1,258	837	902	1,282
Total vegetable oils	Lb.	136,533	121,898	89,293	14,478	13,691	10,620
Oilseeds	Lb.	2,504	2,722	4,083	93	95	246
Seeds (except oilseeds):							
Alfalfa	Lb.	[3] 778	400	313	[3] 147	76	59
Clover (except red)	Lb.	3,259	2,492	484	632	524	93
Clover, red	Lb.	[3] 747	1,839	301	[3] 170	365	52
Field and forage plant seeds, n. e. s.	Lb.	[3] 2,384	4,151	5,162	[3] 125	221	212
Grass seeds, n. e. s.	Lb.	4,094	4,091	8,405	686	648	497
Timothy	Lb.	20,150	20,132	15,502	1,350	1,401	1,287
Vegetable and flower seeds	Lb.	[3] 8,515	4,409	3,180	[3] 673	822	686
Other seeds	Lb.	(5)	(12)	(12)	(1) 531	(12)	(12)
Total seeds (except oilseeds)	Lb.	[24] 39,927	37,514	28,347	4,314	4,057	2,886

[1] July 1–Dec. 31, 1921.
[3] Jan. 1–June 30.
[5] Reported in value only.
[12] Not separately classified.
[22] Classified as "Crude" and "Refined."
[24] Excludes "Other seeds."

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Unit	Year ended June 30					
		Quantity			Value		
		1921–22	1922–23	1923–24 preliminary	1921–22	1922–23	1923–24 preliminary
VEGETABLE PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Spices	Lb.	[6]	1,645	1,668	167	201	199
Sugar, molasses and sirup:							
Molasses	Gal.	5,775	4,773	2,065	697	528	394
Sirup (including maple)	Gal.	6,741	[25] 5,905	3,789	1,855	1,584	1,364
Sugar (including maple) (2,000 lbs.)	Ton	1,001	375	135	77,495	41,012	16,588
Total sugar, molasses and sirup					80,047	43,124	18,346
Tobacco (unmanufactured):							
Leaf tobacco	Lb.	451,889	[1] 229,472	[26]	156,773	[1] 77,846	[26]
Bright flue cured	Lb.	[12]	[3] 57,092	264,844	[12]	[3] 22,715	106,559
Burley	Lb.	[12]	[3] 3,464	6,946	[12]	[3] 874	1,580
Cigar leaf	Lb.	[12]	[3] 242	1,387	[12]	[3] 208	391
Dark-fired Kentucky and Tennessee	Lb.	[12]	[3] 73,451	169,315	[12]	[3] 13,870	28,327
Dark Virginia	Lb.	[12]	[3] 34,719	30,596	[12]	[3] 17,967	11,373
Green River (Pryor)	Lb.	[12]	[3] 10,010	14,286	[12]	[3] 2,843	2,999
Maryland and Ohio export	Lb.	[12]	[3] 5,335	17,608	[12]	[3] 563	3,505
Other leaf	Lb.	[12]	[3] 31,357	52,306	[12]	[3] 8,739	11,707
Total leaf tobacco	Lb.	451,889	445,142	557,288	156,773	145,625	166,441
Stems, trimmings, and scrap tobacco	Lb.	11,500	9,222	40,342	544	607	1,625
Total tobacco (unmanufactured)	Lb.	463,389	454,364	597,630	157,317	146,232	168,066
Vegetables:							
Dried and fresh—							
Dried or dehydrated vegetables, miscellaneous	Lb.	[3] 285	444	1,648	[3] 34	57	93
Dried beans	Bu.	1,100	672	695	3,745	2,483	2,500
Dried peas	Bu.	89	95	112	324	411	512
Onions	Bu.	658	703	674	1,457	994	998
Potatoes (white)	Bu.	2,327	2,980	3,075	3,411	3,190	4,327
Other dried and fresh	Lb.	[6]	80,277	90,677	2,884	3,130	3,324
Prepared or preserved—							
Asparagus	Lb.	[3] 2,334	8,500	9,934	[3] 378	1,493	1,899
Beans	Lb.	[3] 4,111	5,643	6,704	[3] 325	471	605
Corn	Lb.	[6]	2,882	5,354	202	235	373
Peas	Lb.	[3] 883	3,073	3,867	[3] 87	280	372
Pickles and sauces	Lb.	[6]	11,829	[1] 5,885	1,675	1,590	[1] 889
Pickles	Lb.	[27]	[27]	[3] 1,339	[27]	[27]	[3] 118
Ketchup and other tomato sauces	Lb.	[27]	[27]	[3] 3,560	[27]	[27]	[3] 501
Other sauces and relishes	Lb.	[27]	[27]	[3] 1,358	[27]	[27]	[3] 256
Soups	Lb.	[6]	12,786	13,024	1,180	1,382	1,506
Tomatoes	Lb.	[6]	8,917	9,152	459	565	568
Other canned	Lb.	[6]	3,203	2,819	1,080	311	269
Other vegetable preparations, n. e. s.	Lb.	[3] 486	900	993	[3] 56	97	112
Total vegetables					17,307	16,689	19,222
Miscellaneous vegetable products:							
Beverages—							
Malt beverages	Gal.	45	184	251	43	137	199
Spirits, distilled	Pf. gal.	186	370	272	676	1,116	581
Wines	Gal.	21	38	19	27	29	21
Miscellaneous beverages, n. e. s.	Gal.	[6]	161	262	391	176	290

[1] July 1–Dec. 31.
[3] Jan. 1–June 30.
[6] Reported in value only.
[12] Not separately classified.
[25] Includes maple sugar prior to January 1, 1923.
[26] Classified as "Bright flue cured," "Burley," "Cigar leaf," "Dark-fired Kentucky and Tennessee," "Dark Virginia," "Green River," "Maryland and Ohio export," or "Other leaf."
[27] Included in "Pickles and sauces."

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Unit	Quantity: 1921–22	Quantity: 1922–23	Quantity: 1923–24 preliminary	Value: 1921–22	Value: 1922–23	Value: 1923–24 preliminary
		Year ended June 30					
VEGETABLE PRODUCTS—continued							
Miscellaneous vegetable products—Continued.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Broomcorn	Ton	4	4	5	456	882	833
Drugs, herbs, leaves, roots, crude—							
Ginseng	Lb	190	175	177	1,605	2,417	2,607
Other crude vegetable drugs	Lb	(6)	4,235	6,115	761	970	1,394
Flavoring extracts [28]	Lb	(6)	1,733	1,550	799	643	569
Flowers, cut	Lb	(6)	116	161	101	88	99
Glucose (corn sirup)	Lb	258,448	156,315	141,141	6,110	4,788	4,860
Glue, vegetable	Lb	[3] 499	715	961	[3] 56	82	91
Grape sugar (corn sugar)	Lb	15,534	6,379	6,910	448	225	324
Hay	Ton	55	47	21	1,044	940	428
Hops	Lb	19,522	13,497	20,461	4,852	2,590	6,501
Nursery and greenhouse stock		(6)	(20)	(20)	[1] 119	(20)	(20)
Fruit stock, cuttings and seedlings	No	[3] 837	1,877	1,613	[3] 82	148	127
Other nursery or greenhouse	No	[3] 2,586	4,558	5,896	[3] 120	200	204
Starch, corn	Lb	348,940	254,060	255,135	7,295	6,741	8,148
Starch, except corn	Lb	37,933	6,736	7,707	904	239	278
Vinegar	Gal	198	193	218	62	62	104
Yeast	Lb	(6)	2,751	2,515	663	694	667
Other miscellaneous vegetable products, n. e. s.	Lb	[3] 634	2,678	5,203	[3] 6	61	274
Total vegetable products					1,585,357	1,460,766	1,508,304
Total animal and vegetable products					1,915,866	1,799,168	1,866,897
FOREST PRODUCTS							
Dyeing and tanning materials, crude	Ton	1	1	2	161	74	107
Dye extracts—							
Logwood	Lb	(6)	2,437	1,336	557	365	181
Other dye extracts	Lb	(6)	2,776	1,777	732	394	235
Tanning extracts—							
Chestnut	Lb	[3] 4,894	7,387	9,309	[3] 150	268	301
Other (vegetable and chemical)	Lb	(6)	24,943	23,400	1,104	1,174	1,148
Naval stores, gums and resins:							
Rosin	Bbl.[30]	786	1,040	1,208	6,621	10,157	10,660
Spirits of turpentine	Gal	10,786	9,012	11,194	8,072	11,481	10,607
Tar and pitch, wood	Bbl.[31]	[3] 19	34	90	[3] 87	205	427
Tar, turpentine, and pitch	Bbl.[31]	[1] 10	(32)	(32)	[1] 63	(32)	(32)
Turpentine substitutes	Gal	(12)	[3] 344	1,064	(12)	[3] 145	425
Wood turpentine	Gal	[3] 265	398	494	[3] 207	331	425
Other gums and resins	Lb	[3] 746	2,160	1,843	[3] 165	590	635
Total naval stores, gums, and resins					15,215	22,900	23,179
Wood:							
Boards, deals, planks, etc.—							
Hardwoods—							
Ash	M ft	(12)	[3] 9	19	(12)	[3] 682	1,383
Chestnut	M ft	[3] 4	10	8	[3] 273	803	528
Gum	M ft	37	54	49	1,905	2,963	2,430
Hickory	M ft	[3] 1	3	3	[3] 82	237	343
Mahogany	M ft	(12)	(12)	[3] 8	(12)	(13)	[3] 1,291
Oak	M ft	88	138	162	5,933	9,645	10,904
Poplar	M ft	14	20	28	1,388	1,849	2,241
Walnut	M ft	[3] 2	6	7	[3] 279	878	997
Other hardwoods	M ft	53	56	31	4,280	5,065	2,938
Total hardwoods					14,140	22,122	23,055

[1] July 1–Dec. 31.
[3] Jan. 1–June 30.
[6] Reported in value only.
[12] Not separately classified.
[28] Includes fruit juices prior to Jan. 1, 1924.
[20] Classified as "Fruit-stock, cuttings, and seedlings" or "Other nursery or greenhouse stock."
[30] Barrels of 500 pounds.
[31] Barrels of 280 pounds.
[32] Classified as "Wood turpentine" or "Tar and pitch, wood."

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Unit	Year ended June 30					
		Quantity			Value		
		1921–22	1922–23	1923–24 preliminary	1921–22	1922–23	1923–24 preliminary
FOREST PRODUCTS—continued							
Wood—Continued.							
Boards, deals, planks, etc.—							
Continued.							
Softwoods—		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Cypress	M ft.	7	10	8	405	674	552
Douglas fir	M ft.	678	[1] 228	(33)	14,640	[1] 5,236	(33)
Dressed	M ft.	(12)	[3] 11	28	(12)	[3] 486	1,317
Rough	M ft.	(12)	[3] 229	601	(12)	[3] 6,325	17,113
Redwood	M ft.	25	45	52	1,388	2,813	3,655
Southern yellow pine	M ft.	458	[1] 241	(33)	15,740	[1] 9,581	(33)
Dressed	M ft.	(12)	[3] 104	105	(12)	[3] 4,566	4,497
Rough	M ft.	(12)	[3] 242	513	(12)	[3] 10,615	21,627
Spruce	M ft.	26	25	38	733	1,224	2,298
Western hemlock	M ft.	(12)	[3] 30	136	(12)	[3] 739	3,939
Western yellow pine	M ft.	4	14	20	199	569	947
White pine	M ft.	21	27	21	1,443	1,898	1,496
Other softwoods	M ft.	125	47	30	3,986	1,800	1,866
Total softwoods					38,534	46,526	59,307
Cooperage and box material—							
Box shooks	B. ft.	(6)	[1] 30,497	(34)	1,954	[1] 1,017	(34)
Southern yellow pine	B. ft.	(12)	[3] 16,177	16,241	(12)	[3] 690	833
Western hemlock	B. ft.	(12)	(12)	[3] 3,249	(12)	(12)	[3] 132
Other box shooks	B. ft.	(12)	[3] 31,356	74,722	(12)	[3] 1,036	3,140
Cooperage—							
Heading	Set	(6)	2,774	3,045	203	380	484
Staves	No.	[1] 12,165	(35)	(35)	[1] 955	(35)	(35)
Slack	No.	[3] 15,892	36,057	40,088	[3] 289	771	725
Tight	No.	[3] 7,105	21,409	20,780	[3] 789	3,043	3,090
Shooks	Set	[1] 231	(35)	(35)	[1] 774	(35)	(35)
Slack	Set	[3] 168	199	575	[3] 95	90	311
Tight	Set	[3] 343	1,386	1,045	[3] 1,057	4,007	3,166
Total cooperage and box material					6,116	11,034	11,881
Laths	M	[3] 6	42	39	[3] 48	267	240
Logs and round timber—							
Hardwoods	M ft.	7	11	20	458	594	1,371
Softwoods—							
Cedar	M ft.	[3] 28	57	112	[3] 949	2,284	3,740
Douglas fir	M ft.	14	42	16	235	728	315
Yellow pine (Southern)	M ft.	8	4	7	308	140	228
Other softwoods	M ft.	42	6	4	1,709	129	95
Total logs and round timber	M ft.	99	120	159	3,659	3,875	5,749
Piling	Lin. ft.	(6)	(6)	1,989	[3] 128	319	589
Pulp wood	Cu. ft.	[3] 1,791	1,303	2,684	[3] 138	92	189
Railroad ties	No.	[1] 1,014	(36)	(36)	[1] 1,304	(36)	(36)
Hardwood	No.	[3] 250	643	558	[3] 366	880	851
Softwood	No.	[3] 665	1,817	2,201	[3] 507	1,605	2,235
Total railroad ties	No.	1,929	2,460	2,759	2,267	2,485	3,086

[1] July 1–Dec. 31.
[3] Jan. 1–June 30.
[6] Reported in value only.
[12] Not separately classified.
[33] Classified as "Dressed" and "Rough."
[34] Classified as "Southern yellow pine," "Western hemlock," or "Other box shooks."
[35] Classified as "Slack" or "Tight."
[36] Classified as "Hardwood" or "Softwood."

TABLE 676.—*Agricultural exports (domestic) of the United States, 1922–1924*—Con.

Article exported	Year ended June 30						
	Quantity				Value		
	Unit	1921–22	1922–23	1923–24, preliminary	1921–22	1922–23	1923–24, preliminary
FOREST PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Wood—Continued.							
Shingles	M	26	26	30	131	154	171
Telegraph, trolley, and electric light poles	No.	[3] 11	30	53	[3] 90	214	344
Timber, hewn or sawed—							
Hardwoods—							
Oak	M ft.	[3] 1	3	4	[3] 45	166	216
Other hardwoods	M ft.	5	1	5	289	110	287
Softwoods—							
Cedar	M ft.	[3] 4	19	40	[3] 184	1,013	2,124
Douglas fir	M ft.	[3] 97	179	[1] 274	[3] 2,090	4,514	[1] 8,376
Treated	M ft.	(12)	(12)	[3] 12	(12)	(12)	[3] 376
Untreated	M ft.	(12)	(12)	[3] 282	(12)	(12)	[3] 8,323
Southern yellow pine	M ft.	118	172	[1] 73	3,406	6,794	[1] 3,058
Treated	M ft.	(12)	(12)	[3] 1	(12)	(12)	[3] 61
Untreated	M ft.	(12)	(12)	[3] 93	(12)	(12)	[3] 3,614
Other softwoods	M ft.	43	9	31	1,023	286	1,066
Total timber hewn or sawed					7,037	12,883	27,501
Miscellaneous forest products:							
Firewood and other unmfd. wood	Cu. ft.	(6)	2,566	2,467	279	211	187
Hardwood flooring	M ft. b.m.	(12)	[3] 2	7	(12)	[3] 158	544
Moss	Lb.	(6)	906	653	71	83	60
Veneers and plywood	Sq. ft.	18,766	50,360	52,540	529	1,452	1,681
Wood alcohol	Gal.	737	1,528	[37] 1,089	566	1,333	[37] 1,080
Wood pulp—							
Soda wood pulp	Tons	[3] 2	3	2	[3] 162	301	192
Sulphite wood pulp	Tons	[3] 10	14	17	[3] 434	801	986
Other wood pulp	Tons	13	2	5	680	82	357
Miscellaneous lumber	B ft.	(6)	9,512	5,823	1,247	406	439
Total forest products					94,115	129,982	162,789
Total vegetable products including forest products					1,679,472	1,590,748	1,671,093
Total vegetable products excluding forest products					1,585,357	1,460,766	1,508,304
Total agricultural exports including forest products					2,009,981	1,929,150	2,029,686
Total agricultural exports excluding forest products					1,915,866	1,799,168	1,866,897

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] July 1–Dec. 31.
[3] Jan. 1–June 30.
[6] Reported in value only.
[12] Not separately classified.
[37] Includes "Other alcohol, pure and denatured" and "Menthanol, pure and denaturing grade."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*

ALASKA

Articles	Unit	Quantity: Year ended June 30			Value: Year ended June 30		
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
ANIMALS AND ANIMAL PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Animals, live:							
Cattle	No.	(1)	(1)	(1)	25	7	11
Hogs	No.	1	1	1	22	22	12
Horses	No.	(1)	(1)	(1)	12	14	11
Mules	No.	(2)	(1)	(1)	(2)	(1)	(1)
Other live animals	Lb.	(3)	(3)	215	23	27	80
Total live animals					82	70	114
Dairy products:							
Butter	Lb.	1,335	1,487	1,523	542	686	689
Cheese	Lb.	266	279	294	76	81	89
Milk, condensed or preserved	Lb.	4,429	4,902	5,040	436	456	481
Total dairy products	Lb.	6,030	6,668	6,857	1,054	1,223	1,259
Eggs	Doz.	1,254	1,506	1,516	476	518	547
Meat and meat products:							
Beef and veal, fresh	Lb.	3,035	3,424	3,889	428	495	578
Beef, canned	Lb.	148	199	171	27	36	32
Beef, pickled or cured	Lb.	130	366	131	15	60	13
Total beef and veal	Lb.	3,313	3,989	4,191	470	591	623
Mutton and Lamb	Lb.	470	463	493	72	87	98
Pork—							
Bacon	Lb.	693	803	811	253	270	232
Hams and shoulders, cured	Lb.	788	776	969	279	233	254
Pickled	Lb.	807	523	1,062	155	81	169
Total pork	Lb.	2,288	2,102	2,842	687	584	655
Poultry and game	Lb.	(3)	(3)	346	95	89	111
Sausage, canned or not canned	Lb.		235	304		47	59
Miscellaneous meats and meat products—							
Canned meats, n. e. s.	Lb.	(3)	(3)	222	(3)	113	52
Other meat products	Lb.	(3)	(3)	331	192	88	49
Oils and fats, animal—							
Lard	Lb.	358	436	482	56	71	76
Lard compounds	Lb.		400	310		62	48
Miscellaneous oils and fats	Lb.		33	83		4	8
Total oils and fats	Lb.	4 358	869	875	4 56	137	132
Total meats and meat products					5 1,572	1,736	1,779
Miscellaneous animal products, n. e. s.	Lb.		6 49	150		6 5	13
Total animals and animal products					3,184	3,552	3,712
VEGETABLE PRODUCTS							
Cocoa and chocolate	Lb.		(3)	64		24	18
Coffee	Lb.	723	824	933	226	272	302
Fruits:							
Dried or fresh—							
Apples	Box.	30	21	42	85	85	90
Oranges	Box.	12	12	17	78	81	88
Raisins	Lb.	(3)	210	278	(3)	30	29
Other dried or fresh	Lb.	(3)	(3)	3,299	263	174	293
Total dried or fresh					426	370	500
Prepared or preserved—							
Canned fruits	Lb.	(3)	6 1,219	2,443	(3)	6 148	283
Preserved fruits, jellies, and jams	Lb.	(3)	(3)	304	262	193	64
Total fruits					7 688	711	847

1 Less than 500.
2 Not separately classified.
3 Reported in value only.
4 For lard only.
5 Excludes "Canned meats, n. e. s."
6 Jan. 1–June 30.
7 Excludes "Canned fruits."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

ALASKA—Continued

Articles	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued							
Grains and grain products:		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Grains—							
Barley	Bu.	(1)	5	5	(1)	6	5
Corn	Bu.	(1)	5	3	(1)	6	4
Oats	Bu.	128	152	121	83	105	76
Rice	Lb.	1,065	1,404	1,326	67	90	85
Wheat	Bu.	(1)	3	3	(1)	4	3
Total grains					150	211	173
Meal and flour—							
Corn meal and flour	Bbl.	(1)	3	2	(1)	14	12
Oatmeal and rolled oats	Lb.	521	625	543	27	33	28
Wheat flour	Bbl.	51	48	49	414	362	332
Total grains and flour					[2] 591	620	545
Miscellaneous grain products—							
Bran, middlings, and mill feeds	Ton.	(1)	2	2	(1)	60	75
Bread, biscuits and crackers	Lb.	969	919	1,035	130	122	145
Cereal table foods, n. e. s.	Lb.	(3)	(3)	662	50	66	81
Other grains and flours	Lb.	(3)	(3)	221	101	61	14
Total grains and grain products					[2] 872	929	860
Nuts	Lb.	(3)	(3)	147	34	37	35
Oilseeds and oilseed products:							
Oil cake and meal	Lb.	(1)	194	68	(1)	4	1
Oils, expressed—							
Cottonseed	Lb.	(1)	14	23	(1)	2	3
Linseed	Lb.	(1)	122	129	(1)	18	17
Other vegetable oils and fats	Lb.	(1)	(3)	218	(1)	34	45
Total oils, expressed		(3)			55	54	65
Total oilseeds and oilseed products					55	58	66
Seeds, field and vegetable	Lb.	(1)	[4] 155	30	(1)	[4] 9	7
Sugar, molasses and sirups:							
Molasses and sirups	Gal.	50	61	46	60	63	53
Sugar (2,000 lbs.)	Ton.	3	3	2	399	492	546
Total sugar, molasses, and sirups					459	555	599
Tea	Lb.	158	176	152	75	85	84
Tobacco, leaf (unmanufactured)	Lb.	(1)	[4] 5	4	(1)	[4] 3	2
Vegetables:							
Dried and fresh—							
Beans and peas, dried	Bu.	8	11	9	32	44	36
Onions	Bu.	14	17	18	44	31	36
Potatoes	Bu	104	134	126	136	131	159
Canned vegetables	Lb.	(1)	(1)	3,229	(1)	313	345
Other vegetables and preparations of	Lb.	(1)	(1)	3,127	413	180	221
Total vegetables					625	699	797
Miscellaneous vegetable products:							
Beverages and fruit juices	Gal.		[4] 40	71		[4] 42	90
Hay	Ton.	3	4	4	82	110	94
Starch	Lb.		76	59		7	6
Vegetable food products, n. e. s.	Lb.		[4] 22	49		[4] 4	14
Miscellaneous vegetable products, n. e. s.	Lb.		[4] 66	35		[4] 4	4
Total vegetable products					3,116	3,549	3,825

[1] Not separately classified.
[2] Reported in value only.
[3] Jan. 1–June 30.
[4] Excludes "Barley," "Corn," "Wheat," and "Cornmeal and flour."
[5] Excludes "Bran, middling, and mill feeds."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

ALASKA—Continued

Articles	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
FOREST PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Naval stores: Rosin, tar, turpentine, and pitch	Lb.	(3)	(3)	1,183	30	30	51
Wood:							
Boards, planks, and deals—							
Douglas fir	M. ft.	(2)	11	15	(2)	372	413
Pine	M. ft.	(2)	(1, 6)	(1)	(2)	[6] 9	8
Redwood	M. ft.	(2)	(1)	(1)	(2)	11	1
Other boards	M. ft.	(2)	(1)	(1)	(2)	12	4
Total boards, planks, etc.	M. ft.	18	12	15	461	404	426
Box shooks	Set.	(2)	(3)	2,624	232	483	556
Cooperage shooks	Set.	(2)	[6] 42	419	(2)	[6] 117	312
Logs and timber	M. ft.	(2)	[6] 6	5	(2)	[6] 110	103
Shingles	M. ft.	(2)	1	2	(2)	5	6
Other lumber	Bd. ft.	(2)	(3)	220	100	47	25
Total wood					[10] 793	1,166	1,428
Total forest products					823	1,196	1,479
Total value of shipments, including forest products					7,123	8,297	9,016
Total value of shipments, excluding forest products					6,300	7,101	7,537

HAWAII

ANIMALS AND ANIMAL PRODUCTS							
Animals, live:							
Cattle	No.	(1)	(1)	(1)	52	47	26
Hogs	No.	(2)	5	6	(2)	81	96
Horses	No.	(1)	(1)	(1)	9	16	6
Mules	No.	(1)	(1)	(1)	40	107	78
Other live animals	Lb.	(3)	(3)	319	106	132	102
Total live animals					207	383	308
Dairy products:							
Butter	Lb.	1,332	1,024	1,007	574	531	486
Cheese	Lb.	428	435	459	114	121	130
Milk, condensed or preserved	Lb.	4,497	4,758	5,501	564	624	723
Total dairy products	Lb.	6,257	6,217	6,967	1,252	1,276	1,339
Eggs	Doz.	1,538	1,473	1,605	497	467	488
Meat and meat products:							
Beef and veal, fresh	Lb.	78	52	46	16	8	6
Beef, canned	Lb.	698	1,026	615	132	170	140
Beef, pickled or cured	Lb.	69	55	32	13	12	7
Total beef and veal	Lb.	845	1,133	693	161	190	153
Mutton and lamb	Lb.		17	24		4	6
Pork—							
Bacon	Lb.	367	380	404	144	129	116
Hams and shoulders, cured	Lb.	1,197	1,027	1,166	398	359	323
Pickled	Lb.	207	234	886	45	44	147
Total pork	Lb.	1,771	1,641	2,456	587	532	586

[1] Less than 500.
[2] Not separately classified.
[3] Reported in value only.
[6] Jan. 1–June 30.
[10] Excludes "Cooperage shooks," "Logs and timber," and "Shingles."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

HAWAII—Continued

Articles	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
ANIMALS AND ANIMAL PRODUCTS—continued							
Meat and meat products—Continued.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Poultry and game	Lb.	[3]	[3]	387	107	89	128
Sausage, canned or not canned	Lb.	276	488	533	61	108	128
Miscellaneous meat and meat products—							
Canned meats, n. e. s.	Lb.	[3]	[3]	495	151	99	127
Other meat products	Lb.	[3]	[3]	512	149	209	115
Oils and fats, animal—							
Lard	Lb.	270	302	279	37	43	38
Lard compounds	Lb.	1,661	1,787	1,512	244	268	225
Miscellaneous oils and fats	Lb.		[6] 76	314		[6] 15	58
Total oils and fats	Lb.	1,931	2,165	2,105	281	326	321
Total meat and meat products					1,497	1,557	1,564
Miscellaneous animal products, n. e. s.	Lb.		[6] 19	1,041		[6] 4	42
Total animals and animal products					3,453	3,687	3,741
VEGETABLE PRODUCTS							
Cocoa and chocolate	Lb.	[3]	[3]	405	112	134	105
Coffee	Lb.	63	92	374	15	23	66
Fruits:							
Dried or fresh—							
Apples	Box	84	48	99	167	157	145
Oranges	Box	52	69	83	255	241	289
Raisins	Lb.	[2]	50	271	[3]	7	28
Other dried or fresh	Lb.	[3]	[3]	3,200	271	290	250
Total dried or fresh					693	695	712
Prepared or preserved—							
Canned fruits	Lb.	[3]	[3]	1,483	210	238	170
Preserved fruits, jellies, and jams	Lb.	[2]	[6] 266	411	[3]	[6] 36	65
Total fruits					[11] 903	969	947
Grains and grain products:							
Grains—							
Barley	Bu.	184	308	652	141	250	559
Corn	Bu.	137	129	174	129	140	195
Oats	Bu.	61	70	129	36	45	77
Rice	Lb.	39,194	54,293	60,797	1,780	2,530	3,072
Wheat	Bu.	67	77	100	90	106	117
Total grains					2,176	3,071	4,020
Meal and flour—							
Corn meal and flour	Bbl.	[2]	1	1	[2]	5	5
Oatmeal and rolled oats	Lb.	[2]	419	448	[3]	20	20
Wheat flour	Bbl.	116	129	130	797	877	774
Total grains and flour					[12] 2,973	3,973	4,819
Miscellaneous grain products—							
Bran, middlings and mill feeds	Ton.	14	21	26	448	799	1,052
Bread, biscuit and crackers	Lb.	545	498	523	129	115	108
Cereal table foods, n. e. s.	Lb.	[3]	[3]	1,494	196	168	146
Other grains and flour	Lb.	[3]	[3]	957	536	334	46
Total grains and grain products					4,282	5,389	6,171

[1] Not separately classified.
[2] Reported in value only.
[6] Jan. 1–June 30.
[11] Excludes "Preserved fruits, jellies, and jams."
[12] Excludes "Corn meal and flour" and "Oatmeal and rolled oats."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

HAWAII—Continued

Articles	Unit	Year ended June 30 — Quantity 1922	Quantity 1923	Quantity 1924, preliminary	Value 1922	Value 1923	Value 1924, preliminary
		Thousands	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
VEGETABLE PRODUCTS—continued							
Nuts	Lb.	(3)	(3)	431	85	93	95
Oilseeds and oilseed products:							
Oil cake and meal	Lb.	(2)	[6] 2,248	4,327	(2)	[6] 43	84
Oils, expressed—							
Cottonseed	Lb.	(2)	388	557	(2)	73	93
Linseed	Lb.	355	488	518	46	72	79
Other vegetable oils and fats	Lb.	(3)	(3)	321	77	54	58
Total oils, expressed					123	199	230
Total oilseeds and oilseed products					[13] 123	242	314
Seeds, field and vegetable	Lb.	(2)	[6] 83	183	(2)	[6] 21	31
Sugar, molasses, and sirups:							
Molasses, and sirups	Gal.	38	43	73	33	36	48
Sugar (2,000 lb.)	Ton	5	5	3	605	789	571
Total sugar, molasses, and sirups					638	825	619
Tea	Lb.	30	49	45	16	20	22
Tobacco, leaf (unmanufactured)	Lb.	(2)	[6] 3	1	(2)	[6] 3	1
Vegetables:							
Dried and fresh—							
Beans and peas, dried	Bu.	23	16	20	74	65	72
Onions	Bu.	48	66	68	74	63	76
Potatoes	Bu.	283	296	270	292	210	324
Canned vegetables	Lb.	(3)	(3)	4,774	336	509	458
Other vegetables and preparations of	Lb.	(3)	(3)	2,220	88	152	200
Total vegetables					864	999	1,130
Miscellaneous vegetable products—							
Beverages and fruit juices	Gal.		[6] 51	114		[6] 45	107
Hay	Ton	5	6	6	136	138	140
Starch	Lb.	157	240	135	10	12	11
Vegetable food products, n. e. s.	Lb.		[6] 169	178		[6] 22	39
Other vegetable products, n. e. s.	Lb.		[6] 212	177		[6] 10	19
Total vegetable products					7,184	8,945	9,817
FOREST PRODUCTS							
Naval stores—Rosin, tar, turpentine, and pitch	Lb.	(3)	(3)	901	30	51	57
Wood:							
Boards, planks, and deals—							
Douglas fir	M ft.	47	64	67	1,140	1,984	2,338
Pine	M ft.	(1)	(1)	2	19	21	68
Redwood	M ft.	3	4	4	126	218	167
Other boards	M ft.	1	1	1	38	54	26
Total boards, planks, etc.	M ft.	51	69	74	1,323	2,277	2,599
Box shooks	Set.	(3)	(3)	5,163	474	722	1,000
Cooperage shooks	Set.	(2)	[6] 2	10	(2)	[6] 2	13
Logs and timber	M ft.	(3)	[6] 1	3	(2)	[6] 19	95
Shingles	M	35	38	37	84	148	126
Other lumber	Bd. ft.	(2)	(3)	994	186	125	91
Total wood					[14] 2,067	3,293	3,924
Total forest products					2,097	3,344	3,981
Total value of shipments, including forest products					12,734	15,976	17,539
Total value of shipments, excluding forest products					10,637	12,632	13,558

[1] Less than 500.
[2] Not separately classified.
[3] Reported in value only.
[6] Jan. 1–June 30.
[13] Excludes "Oil cake and meal."
[14] Excludes "Cooperage shooks" and "Logs and timber."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

PORTO RICO

Articles	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
ANIMALS AND ANIMAL PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Animals, live:							
Cattle	No.	(2)	(1 6)	1	(3)	6 30	71
Horses	No.	(2)	(1 6)	(1)	(2)	6 16	21
Mules	No.	(2)	(1 6)	(1)	(2)	6 4	11
Other live animals	Lb.	(2)	(3)	15	(3)	49	8
Total live animals					163	99	111
Dairy products:							
Butter	Lb.	996	1,114	1,311	304	372	427
Cheese	Lb.	2,583	2,302	2,888	615	571	715
Milk, condensed or preserved	Lb.	3,107	3,012	3,717	449	435	477
Total dairy products	Lb.	6,686	6,428	7,916	1,368	1,378	1,619
Eggs	Doz.	(2)	61	86	(3)	20	30
Meat and meat products:							
Beef and veal, fresh	Lb.		177	719		33	85
Beef, canned	Lb.	118	133	142	24	22	21
Beef, pickled or cured	Lb.	2,910	3,925	2,972	240	298	245
Total beef and veal	Lb.	6 3,028	4,235	3,833	16 264	353	351
Mutton and lamb	Lb.		6 24	41		6 7	12
Pork—							
Bacon	Lb.	78	71	112	16	15	21
Hams and shoulders, cured	Lb.	4,965	6,215	7,694	895	909	980
Pickled	Lb.	12,663	13,541	13,583	1,310	1,614	1,555
Total pork	Lb.	17,706	19,827	21,389	2,221	2,538	2,556
Poultry and game	Lb.		(3)	32		15	12
Sausage, canned or not canned	Lb.	1,114	1,517	2,108	221	290	416
Miscellaneous meats and meat products—							
Canned meats, n. e. s.	Lb.	(3)	(3)	360	50	48	63
Other meat products	Lb.	(3)	(3)	2,997	260	301	265
Oils and fats, animal—							
Lard	Lb.	9,491	11,579	14,364	1,376	1,618	1,982
Lard compounds	Lb.	4,986	3,757	1,476	600	507	185
Miscellaneous animal oils and fats	Lb.		6 226	406		b 26	55
Total oils and fats	Lb.	16 14,477	15,562	16,246	16 1,976	2,151	2,222
Total meat and meat products					4,992	5,703	5,897
Miscellaneous animal products, n. e. s.	Lb.		6 20	83		6 6	26
Total animals and animal products					6,523	7,206	7,683
VEGETABLE PRODUCTS							
Cocoa and chocolate	Lb.	(3)	(3)	575	136	164	193
Coffee	Lb.		10	4		2	1
Fruits:							
Dried or fresh—							
Apples	Box	(2)	13	19	(2)	35	56
Raisins	Lb.	111	253	334	17	33	33
Other dried or fresh	Lb.	(3)	(3)	983	122	98	122
Total dried or fresh					139	166	211

[1] Less than 500.
[2] Not separately classified.
[3] Reported in value only.
[6] Jan. 1–June 30.
[16] Excludes "Beef and veal, fresh."
[16] Excludes "*Miscellaneous animal oils and fats.*"

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

PORTO RICO—Continued

Articles	Unit	Year ended June 30					
		Quantity			Value		
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued							
Fruits—Continued.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Prepared or preserved—							
Canned fruits	Lb.	-------	[6] 603	1,915	-------	[6] 81	220
Preserved fruits, jellies, and jams	Lb.	([5])	([5])	116	161	103	24
Total fruits		-------	-------	-------	300	350	455
Grains and grain products:							
Grains—							
Barley	Bu.	([2])	3	2	([2])	7	3
Corn	Bu.	([2])	77	15	([2])	78	16
Oats	Bu.	204	260	310	101	149	180
Rice	Lb.	159,147	174,587	190,476	5,837	6,475	8,318
Total grains		-------	-------	-------	5,938	6,709	8,517
Meal and flour—							
Corn meal and flour	Bbl.	78	77	92	283	280	396
Oatmeal	Lb.	([2])	518	677	([2])	47	63
Wheat flour	Bbl.	391	424	431	2,583	2,506	2,350
Total grains and flour		-------	-------	-------	8,804	9,542	11,326
Miscellaneous grain products—							
Bran, middlings and mill feeds	Ton.	([2])	7	12	([2])	255	621
Bread, biscuit and crackers	Lb.	3,112	3,705	5,397	474	489	683
Cereal table foods, n. e. s.	Lb.	([2])	([2])	1,122	144	116	83
Other grains and flour	Lb.	([2])	([2])	2,119	602	239	69
Total grains and grain products		-------	-------	-------	10,024	10,641	12,782
Nuts	Lb.	([2])	([2])	162	16	18	28
Oilseeds and oilseed products:							
Oil cake and meal	Lb.	3,072	2,890	1,574	61	77	40
Oils, expressed—							
Cottonseed	Lb.	110	238	81	13	33	11
Linseed	Lb.	701	815	886	77	109	115
Other vegetable oils and fats	Lb.	([2])	([2])	1,556	45	54	206
Total oils, expressed		-------	-------	-------	135	196	332
Total oilseeds and oilseed products		-------	-------	-------	196	273	372
Seeds, field and vegetable	Lb.	([2])	[6] 51	48	([2])	[6] 8	8
Sugar, molasses and sirups:							
Molasses and sirups	Gal.	([2])	16	12	([2])	13	9
Sugar (2,000 lbs.)	Ton.	4	3	4	402	497	611
Total sugar, molasses, and sirups		-------	-------	-------	[17] 402	510	620
Tea	Lb.	6	9	5	4	4	2
Tobacco, leaf (unmanufactured)	Lb.	704	3,054	2,794	231	770	706
Vegetables:							
Dried and fresh—							
Beans and peas, dried	Bu.	391	360	463	1,556	1,285	1,669
Onions	Bu.	68	82	94	169	136	166
Potatoes	Bu.	407	470	457	461	456	551
Canned vegetables	Lb.	([5])	([5])	1,559	105	175	153
Other vegetables and preparations of	Lb.	([5])	([5])	972	37	41	88
Total vegetables		-------	-------	-------	2,328	2,093	2,627

[2] Not separately classified
[5] Reported in value only.
[6] January 1–June 30.
[17] Excludes "Molasses and sirups."

TABLE 677.—*Shipments of agricultural products from the United States to Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

PORTO RICO—Continued

Articles	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Miscellaneous vegetable products:							
Beverages and fruit juices	Gal.	-------	[6] 130	323	-------	[6] 139	319
Hay	Ton	1	1	1	17	18	17
Starch	Lb.	-------	645	1,267	-------	22	41
Vegetable food products, n. e. s.	Lb.	-------	[6] 354	422	-------	[6] 29	51
Miscellaneous vegetable products, n. e. s.	Lb.	-------	[6] 72	253	-------	[6] 14	24
Total vegetable products	-------	-------	-------	-------	13,654	15,055	18,246
FOREST PRODUCTS							
Naval stores—Rosin, tar, turpentine, and pitch	Lb.	(3)	(3)	673	(2)	18	19
Wood:							
Boards, planks and deals—							
Douglas fir	M ft.	(3)	3	2	(2)	58	43
Pine	M ft.	42	44	60	1,429	1,232	2,212
Other boards	M ft.	1	(1)	1	60	24	28
Total boards, planks, etc.	M ft.	43	47	63	1,489	1,314	2,283
Box shooks	Set.	(3)	(3)	2,062	226	358	401
Cooperage shooks	Set.	(3)	[6] 39	105	(2)	[6] 32	118
Logs and timber	M ft.	(3)	([1,6])	(1)	(2)	[6] 10	14
Other lumber	Bd. ft.	(3)	(3)	975	34	87	55
Total wood	-------	-------	-------	-------	[18] 1,749	1,801	2,871
Total forest products	-------	-------	-------	-------	1,749	1,819	2,890
Total value of shipments, including forest products	-------	-------	-------	-------	21,926	24,080	28,819
Total value of shipments, excluding forest products	-------	-------	-------	-------	20,177	22,261	25,929

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] Less than 500.
[2] Not separately classified.
[3] Reported in value only.
[6] Jan. 1–June 30.
[18] Excludes "Cooperage shooks," "Logs and timber," and "Douglas fir."

TABLE 678.—*Agricultural imports of the United States, 1922–1924*

Article imported	Unit	Year ended June 30 — Quantity 1922	Quantity 1923	Quantity 1924, preliminary	Value 1922	Value 1923	Value 1924, preliminary
ANIMALS AND ANIMAL PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Animals, live:							
Cattle	No.	152	252	155	3,055	6,622	5,341
Horses	No.	3	3	2	532	846	942
Sheep	No.	96	83	35	515	543	216
Birds	No.	(1)	[2] 353	460	(1)	[2] 317	595
Poultry	Lb.	(1)	[2] 932	1,264	(1)	[2] 225	278
Other live animals		(3)	(3)	(3)	1,748	1,068	1,427
Total animals, live					5,850	9,621	8,799
Dairy products:							
Butter and butter substitutes	Lb.	9,551	15,772	29,466	3,257	5,821	10,740
Casein or lactarene	Lb.	10,529	26,095	17,441	707	4,136	1,948
Cheese and substitutes	Lb.	34,271	54,555	66,597	10,816	17,313	21,066
Milk and cream—							
Condensed, evaporated, etc.	Lb.	2,037	7,276	[4] 7,679	317	934	[4] 1,101
Cream—							
Fresh	Gal.	(1)	(1)	[5] 1,646	(1)	(1)	[5] 2,475
Powder, malted milk, etc.	Lb.	(1)	(1)	[5] 159	(1)	(1)	[5] 12
Milk—							
Condensed and evaporated—							
Sweetened	Lb.	(1)	(1)	[5] 2,752	(1)	(1)	[5] 429
Unsweetened	Lb.	(1)	(1)	[5] 98	(1)	(1)	[5] 12
Powder	Lb.	(1)	(1)	[5] 810	(1)	(1)	[5] 131
Sweet, sour, or buttermilk	Gal.	(1)	(1)	[5] 1,808	(1)	(1)	[5] 316
Milk, sweet or sour, and buttermilk	Gal.	4,536	5,148	[4] 4,814	3,132	4,148	[4] 3,420
Total dairy products					18,229	32,352	41,650
Eggs and egg products:							
Egg albumen, dried	Lb.	(1)	(1)	[5] 311	(1)	(1)	[5] 232
Egg albumen, dried and frozen, etc.	Lb.	7,388	3,213	[4] 6,331	1,980	1,369	[4] 2,368
Egg albumen, frozen, prepared or preserved	Lb.	(1)	(1)	[5] 636	(1)	(1)	[5] 75
Eggs and egg yolks preserved	Lb.	16,540	14,821	[4] 14,830	2,415	2,828	[4] 3,535
Eggs in shell	Doz.	1,224	535	426	328	159	125
Whole eggs, dried	Lb.	(1)	(1)	[5] 544	(1)	(1)	[5] 184
Whole eggs, frozen	Lb.	(1)	(1)	[5] 1,106	(1)	(1)	[5] 167
Yolks, dried	Lb.	(1)	(1)	[5] 522	(1)	(1)	[5] 130
Yolks, frozen	Lb.	(1)	(1)	[5] 1,210	(1)	(1)	[5] 214
Total eggs and egg products					4,723	4,356	7,030
Hides and skins, raw (except fur):							
Buffalo hides—							
Dry and dry salted	Lb.	3,084	2,585	1,478	528	352	307
Wet salted	Lb.	(1)	[2] 1,216	789	(1)	[2] 215	151
Total buffalo hides	Lb.	[6] 3,084	3,801	2,267	[6] 528	567	458
Calf—							
Dry and dry salted (less than 6 lbs.)	Lb.	[7] 16,175	[8] 14,988	10,754	[7] 3,213	[8] 4,001	3,476
Wet salted (less than 12 lbs.)	Lb.	[7] 25,383	[8] 30,736	18,413	[7] 5,354	[8] 7,048	4,144
Total calf	Lb.	[7] 41,558	[8] 45,724	29,167	[7] 8,567	[8] 11,049	7,620
Cattle—							
Dry and dry salted	Lb.	18,438	58,770	18,208	2,912	9,936	2,992
Wet salted	Lb.	186,498	346,613	158,267	23,687	54,576	20,615
Total cattle	Lb.	204,936	405,383	176,475	26,599	64,512	23,607

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[4] July 1–Dec. 31, 1923.
[5] Beginning Jan. 1, 1924.
[6] Excludes "Buffalo hides, wet salted."
[7] Includes "Kip skins."
[8] Includes "Kip skins" until Sept. 21, 1922.

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
ANIMALS AND ANIMAL PRODUCTS—con.							
Hides and skins, raw—Continued.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Goat and kid—							
Dry and dry salted	Lb.	68,228	70,794	51,811	29,443	33,247	24,677
Green or pickled	Lb.	15,307	18,607	14,070	3,337	4,365	3,410
Total goat and kid	Lb.	83,535	89,401	65,881	32,780	37,612	28,087
Horse, colt, and ass—							
Dry and dry salted	Lb.	1,295	11,939	3,885	139	1,451	540
Wet salted	Lb.	3,430	10,462	6,415	217	944	564
Total horse, colt and ass	Lb.	4,725	22,401	10,300	356	2,395	1,104
Kangaroo and wallaby	Lb.	724	1,152	1,256	492	1,085	1,171
Kip—							
Dry and dry salted (6–12 lbs.)	Lb.	(2)	[2] 11,628	3,579	(2)	[2] 2,120	598
Wet salted (less than 12 lbs.)	Lb.	(2)	[2] 9,168	7,853	(2)	[2] 1,908	1,405
Total kip	Lb.	(2)	[2] 20,796	11,437	(2)	[2] 4,028	2,003
Sheep and lamb—							
Dry	Lb.	12,593	[10] 3,828	(11)	3,131	[10] 853	(11)
Green or pickled	Lb.	36,245	[10] 16,557	(11)	5,222	[10] 2,416	(11)
Slats, dry and pickled	Lb.	(1)	[2] 38,259	46,866	(1)	[2] 8,137	11,773
Split, fleshers and skivers, dry and pickled	Lb.	(1)	[2] 3,024	1,878	(1)	[2] 702	455
Total sheep and lamb	Lb.	48,838	61,668	48,744	8,353	12,108	12,228
Miscellaneous hides and skins, n. e. s.	Lb.	5,504	7,859	6,966	1,224	1,939	1,443
Total hides and skins	Lb.	392,904	658,185	352,493	78,899	135,295	77,721
Meats and meat products:							
Meats—							
Beef and veal, fresh	Lb.	28,001	32,481	[4] 13,043	2,989	3,189	[4] 1,594
Beef, fresh	Lb.	(1)	(1)	[5] 8,678	(1)	(1)	[5] 794
Veal, fresh	Lb.	(1)	(1)	[5] 3,423	(1)	(1)	[5] 462
Total	Lb.	28,001	32,481	25,144	2,989	3,189	2,850
Mutton and lamb, fresh	Lb.	12,855	8,709	[4] 1,737	2,045	1,421	[4] 382
Lamb, fresh	Lb.	(1)	(1)	[5] 825	(1)	(1)	[5] 110
Mutton, fresh	Lb.	(1)	(1)	[5] 935	(1)	(1)	[5] 84
Total mutton and lamb	Lb.	12,855	8,709	3,497	2,045	1,421	576
Pork, fresh	Lb.	930	998	1,218	177	188	278
Poultry and game—							
Dead or prepared	Lb.	(1)	2,907	[4] 937	(1)	1,186	[4] 318
[3] Dead	Lb.	(1)	(1)	[5] 477	(1)	(1)	[5] 108
Prepared	Lb.	(1)	(1)	[5] 297	(1)	(1)	[5] 193
Miscellaneous meats—							
Meats, prepared or preserved	Lb.	5,129	8,991	[4] 5,583	601	1,118	[4] 691
Canned meats	Lb.	(1)	(1)	[5] 3,520	(1)	(1)	[5] 356
Meat extracts	Lb.	(1)	(1)	[5] 118	(1)	(1)	[5] 106
Other prepared meats	Lb.	(1)	(1)	[5] 1,988	(1)	(1)	[5] 268
Miscellaneous meats, n. e. s.	Lb.	4,619	2,340	1,483	1,845	559	316
Total meats					7,657	7,661	6,060

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] July 1–Dec. 31, 1923.
[4] Beginning Jan. 1, 1924.
[5] Classified as "Calfskins."
[10] July 1–Sept. 21, 1922.
[11] Classified as "Slats, dry and pickled," "Splits, fleshers and skivers, dry and pickled," or "Wooled, dry and green."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Year ended June 30						
	Quantity				Value		
	Unit	1922	1923	1924, preliminary	1922	1923	1924, preliminary
ANIMALS AND ANIMAL PRODUCTS—con.							
Meats and meat products—Contd.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Oils and fats, animal—							
Beef and hog fats	Lb.	1,789	11,016	2,783	113	838	224
Grease and oils, n. e. s.	Lb.	25,290	[10] [12] 1,465	[4]	1,334	[10] 619	398
Wool grease	Lb.	[1]	[1]	[5] 8,581	[1]	[1]	[5] 240
Miscellaneous oils, n. e. s.	Gal.	4,961	[10] 400	[1]	2,703	[10] 154	[1]
Total oils and fats					4,150	1,611	862
Total meats and meat products					11,807	9,272	6,922
Silk (unmanufactured):							
Cocoons	Lb.	161	380	156	120	383	132
Raw silk	Lb.	48,179	52,684	46,205	300,446	405,796	350,028
Waste	Lb.	9,097	10,124	10,234	6,717	7,388	8,632
Total silk (unmanufactured)	Lb.	57,437	63,188	56,595	307,283	413,567	358,792
Wool and mohair (unmanufactured):							
Carpet wool	Lb.	148,787	171,879	[4] 33,376	19,979	34,946	[4] 7,154
On the skin or in the grease	Lb.	[1]	[1]	[5] 69,445	[1]	[1]	[5] 15,734
Washed or scoured	Lb.	[1]	[1]	[5] 15,554	[1]	[1]	[5] 3,604
Total carpet wool	Lb.	148,787	171,879	118,375	19,979	34,946	26,492
Clothing wool	Lb.	32,821	43,703	[4] 4,531	6,939	14,555	[4] 1,615
In the grease and washed	Lb.	[1]	[1]	[5] 6,675	[1]	[1]	[5] 2,453
Scoured	Lb.	[1]	[1]	[5] 1,614	[1]	[1]	[5] 909
Total clothing wool	Lb.	32,821	43,703	12,820	6,939	14,555	4,977
Combing wool	Lb.	69,233	298,496	[4] 23,218	17,585	108,117	[4] 7,983
In the grease and washed	Lb.	[1]	[1]	[5] 76,900	[1]	[1]	[5] 34,528
Scoured	Lb.	[1]	[1]	[5] 2,885	[1]	[1]	[5] 1,440
Total combing wool	Lb.	69,233	298,496	103,003	17,585	108,117	43,951
Hair of the angora goat (mohair), alpaca, and other like animals	Lb.	4,246	[10] 2,851	[13]	1,146	[10] 1,069	[13]
Mohair (angora)	Lb.	[1]	[2] 7,221	[4] 1,126	[1]	[2] 2,857	[4] 758
In the grease and washed	Lb.	[1]	[1]	[5] 2,405	[1]	[1]	[5] 1,027
Scoured	Lb.	[1]	[1]	[5] 53	[1]	[1]	[5] 20
Cashmere, alpaca, etc.	Lb.	[1]	[2] 1,322	1,341	[1]	[2] 551	504
Total mohair, cashmere, alpaca, etc.	Lb.	4,246	11,394	4,925	1,146	4,477	2,309
Wooled sheepskins, dry and green	Lb.	[1]	[2] 24,708	12,725	[1]	[2] 5,096	3,131
Total wool and mohair (unmanufactured)	Lb.	255,087	550,180	251,848	45,649	167,191	80,860
Miscellaneous animal products:							
Beeswax	Lb.	3,101	3,921	3,271	581	814	703
Blood, dried	Lb.	[1]	[1]	[5] 3	[1]	[1]	[5] 182
Bones, hoofs, and horns (unmanufactured)	Lb.	43,360	101,269	101,152	591	1,484	1,382
Bristles, crude, not sorted, etc.	Lb.	6	61	6	11	21	17
Bristles, sorted, bunched or prepared	Lb.	3,158	5,623	5,737	4,305	7,773	9,748
Feathers, except ostrich	Lb.	3,614	4,821	4,236	1,155	2,075	2,275

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[5] Reported in value only.
[4] July 1–Dec. 31, 1923.
[5] Beginning Jan. 1, 1924.
[10] July 1–Sept. 21, 1922.
[12] Excludes "Grease and oils, n. e. s.," dutiable.
[13] Classified as "Mohair (angora)," "In the grease and washed," or "Scoured" or "Cashmere, alpaca, etc."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
ANIMALS AND ANIMAL PRODUCTS—con.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Miscellaneous animal products—Con.							
Feathers, ostrich	Lb.	125	179	159	964	1,140	787
Gelatin	Lb.	2,527	4,379	5,274	998	1,576	1,842
Glue and glue size	Lb.	4,175	6,930	8,062	574	702	668
Glue stock and hide cuttings	Lb.	25,322	29,758	28,412	1,150	1,167	1,099
Hair, horse	Lb.	3,945	7,493	4,990	1,538	3,300	2,551
Hair, other animals	Lb.	4,298	9,609	8,807	419	1,196	1,242
Honey	Lb.	2,557	693	348	119	60	36
Sausage casings	Lb.	12,435	18,503	20,386	7,184	11,891	13,955
Miscellaneous, n. e. s	Lb.	(2)	(2)	1,446	83	1,670	2,542
Total animals and animal products					492,112	806,523	620,803
VEGETABLE PRODUCTS							
Chocolate and cocoa:							
Chocolate and cocoa, prepared	Lb.	1,844	2,421	[4] 1,456	455	549	[4] 357
Chocolate, prepared	Lb.	(1)	(1)	[5] 383	(1)	(1)	[5] 105
Cocoa, prepared	Lb.	(1)	(1)	[5] 1,417	(1)	(1)	[5] 196
Cocoa or cacao beans	Lb.	317,124	381,508	382,971	27,349	34,547	28,346
Coffee	Lb.	1,238,012	1,305,188	1,429,742	148,503	181,639	206,546
Coffee extracts and substitutes	Lb.	31	(1)	(1)	1	(1)	(1)
Cotton (unmanufactured):							
Long staple (478 lbs.)	Bale	46	159	129	7,189	22,032	21,142
Short staple (478 lbs.)	Bale	329	335	176	36,769	38,608	22,619
Total cotton (unmanufactured)	Bale	375	494	305	43,958	60,640	43,761
Fruits:							
Dried—							
Currants	Lb.	49,467	18,924	17,155	3,710	1,632	1,352
Dates	Lb.	46,742	52,037	44,143	2,417	2,685	1,817
Figs	Lb.	43,139	36,585	31,668	3,413	1,993	2,094
Raisins and other dried grapes	Lb.	18,363	12,335	5,744	1,936	1,177	501
Total dried fruits [14]	Lb.	157,711	119,881	98,710	11,476	7,487	5,764
Fresh—							
Apples	Bu.	(1)	[3] 153	131	(1)	[3] 299	244
Bananas	Bunch	46,120	44,504	44,923	19,951	18,909	20,461
Berries	Lb.	(1)	[3] 1,248	3,639	(1)	[3] 111	373
Cherries, natural state	Lb.	(1)	(1)	[5] 2,970	(1)	(1)	[5] 249
Citrus—							
Grapefruit	Lb.	(2)	(2)	11,755	589	643	348
Lemons	Lb.	101,592	122,818	75,297	2,113	2,690	1,729
Limes	Lb.	(1)	(1)	[5] 2,144	(1)	(1)	[5] 70
Oranges	Lb.	(1)	(1)	[5] 245	(1)	(1)	[5] 8
Oranges and limes	Lb.	(2)	(2)	[4] 3,331	274	224	[4] 104
Grapes	Cu. ft.	780	1,355	831	1,246	1,920	1,534
Pineapples		(2)	(2)	(2)	2,187	2,539	2,642
Total fresh fruits [14]					26,360	27,335	27,762
Prepared or preserved—							
Cherries	Lb.	(1)	(1)	[5] 1,380	(1)	(1)	[5] 150
Citron or citron peel	Lb.	(1)	(1)	[5] 2,611	(1)	(1)	[5] 396
Fruits, canned or preserved		(2)	(2)	(10)	1,553	[10] 505	(10)
Ginger root, preserved	Lb.	(1)	(1)	[5] 387	(1)	(1)	[5] 58
In their own juices, or in sugar or spirits	Lb.	(1)	[3] 772	1,372	(1)	[3] 102	170
Jellies, jams, marmalades and fruit butter	Lb.	(1)	(1)	[5] 1,392	(1)	(1)	[5] 221

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[4] July 1–Dec. 31, 1923.
[5] Beginning Jan. 1, 1924.
[10] July 1–Sept. 21, 1922.
[14] Excludes "Miscellaneous fruits, n. e. s."
[15] Classified as "Citron or citron peel," "Ginger root, preserved", "Jellies, jams, marmalades, and fruit butter," "Other prepared and preserved."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Year ended June 30						
	Quantity				Value		
	Unit	1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued							
Fruits—Continued.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Prepared or preserved—Contd.							
Olives	Gal	[3]	[3]	6,848	3,125	4,870	4,384
Pineapples	Lb	[1]	[1]	[5] 2,975	[1]	[1]	[5] 214
Other prepared and preserved	Lb	[1]	[2] 8,171	6,013	[1]	[2] 1,026	746
Miscellaneous fruits, n. e. s	Lb	[3]	[3]	32,502	4,848	3,325	2,194
Total fruits					47,362	44,650	42,059
Grains and grain products:							
Grains—							
Buckwheat	Lb	[1]	[1]	[5] 7,394	[1]	[1]	[5] 130
Corn	Bu	125	138	228	137	158	227
Oats	Bu	1,733	293	4,244	799	178	2,017
Rice—							
Cleaned (except patna)	Lb	66,707	56,947	32,193	2,307	1,772	1,252
Uncleaned	Lb	6,122	11,678	5,118	372	362	264
Wheat	Bu	14,466	18,013	27,284	16,934	20,034	25,994
Total grains					20,549	22,504	29,884
Meal and flour—							
Rice flour, meal, etc	Lb	790	911	900	56	57	55
Wheat flour	Bbl	619	429	169	3,500	2,308	838
Miscellaneous grain products—							
Biscuits, wafers, cakes, etc	Lb	310	846	1,119	72	203	281
Bran, shorts, and other by-product feeds	Ton	[1]	[2] 91	167	[1]	[2] 1,824	3,541
Bread, yeast, leavened	Lb	[1]	[1]	[5] 1,015	[1]	[1]	[5] 121
Macaroni, vermicelli, etc	Lb	1,992	3,254	3,870	177	250	254
Other grain products, n. e. s	Lb	[1]	[1]	[10] 1,913	1,863	1,041	588
Total grains and grain products					26,277	28,187	35,562
Nuts:							
Almonds—							
Shelled	Lb	26,619	22,972	23,411	8,039	5,641	4,855
Unshelled	Lb	4,723	4,576	2,654	543	425	222
Brazil and cream nuts	Lb	38,870	39,806	45,241	1,810	2,045	2,451
Chestnuts, including marrons	Lb	22,502	20,151	27,209	1,048	941	1,024
Coconuts, in the shell	No	82,001	77,033	65,301	2,162	1,743	1,723
Coconut meat, desiccated or prepared	Lb	44,382	32,496	45,137	3,511	2,371	3,619
Filberts—							
Shelled	Lb	5,434	6,209	7,353	818	948	1,102
Unshelled	Lb	14,133	14,366	14,111	1,154	1,057	909
Peanuts—							
Shelled	Lb	7,427	42,439	48,310	349	2,011	2,130
Unshelled	Lb	3,376	3,862	3,561	146	171	149
Pignolia	Lb	[1]	[1]	[5] 192	[1]	[1]	[5] 42
Pistache nuts	Lb	[1]	[1]	[5] 1,207	[1]	[1]	[5] 461
Walnuts—							
Shelled	Lb	17,027	17,606	18,765	7,190	4,438	4,462
Unshelled	Lb	43,206	19,913	18,245	5,378	2,406	1,894
Miscellaneous, n. e. s	Lb	[3]	[3]	3,287	921	1,715	622
Total nuts					33,069	25,912	25,665

[1] *Not separately classified.*
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[5] Beginning Jan. 1, 1924.
[10] "All other dutiable" not included.

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Oilseeds and oilseed products:							
Oil cake and oil-cake meal	Lb.	75,628	[10] 24,251	[17]	1,660	[10] 636	[17]
Bean	Lb.	[1]	[2] 22,772	31,900	[1]	[2] 422	576
Coconut	Lb.	[1]	[2] 46,055	58,162	[1]	[2] 565	542
Miscellaneous (except bean and coconut)	Lb.	[1]	[2] 21,500	39,020	[1]	[2] 393	705
Total oil cake and oil-cake meal					1,660	2,016	1,823
Oils:							
Essential and distilled—							
Bergamot	Lb.	[1]	[2] 113	85	[1]	[2] 295	248
Citronella and lemon grass	Lb.	[1]	[2] 976	801	[1]	[2] 559	567
Geranium	Lb.	[1]	[1]	[5] 42	[1]	[1]	[5] 246
Lavender	Lb.	[1]	[2] 244	153	[1]	[2] 383	394
Lemon	Lb.	767	447	543	562	278	343
Orange	Lb.	[1]	[2] 183	211	[1]	[2] 361	497
Otto of roses	Oz.	[1]	[1]	[5] 26	[1]	[1]	[5] 127
Sandal wood	Lb.	[1]	[1]	[5] 42	[1]	[1]	[5] 200
Thyme	Lb.	[1]	[1]	[5] 57	[1]	[1]	[5] 36
Other	Lb.	[3]	[3]	496	4,004	3,499	2,454
Total essential and distilled oils					4,566	5,375	5,112
Expressed and fats—							
Chinese wood or nut oil	Lb.	55,572	89,392	80,898	5,142	10,189	13,848
Cocoa butter	Lb.	7,123	3,010	1,169	1,728	757	207
Coconut oil	Lb.	230,236	212,573	181,230	16,378	14,968	13,934
Cottonseed oil	Lb.	[18]	[1]	[1]	[18]	[1]	[1]
Linseed oil	Lb.	168,705	56,764	17,840	11,978	5,053	1,871
Olive oil, edible	Lb.	59,555	74,626	[4] 36,210	12,216	12,852	[4] 5,565
In packages weighing less than 40 pounds	Lb.	[1]	[1]	[5] 23,208	[1]	[1]	[5] 3,667
Other	Lb.	[1]	[1]	[5] 21,463	[1]	[1]	[5] 3,567
Olive oil, inedible	Lb.	23,781	42,635	[4] 11,346	1,680	3,445	[4] 944
Denatured	Lb.	[1]	[1]	[5] 6,239	[1]	[1]	[5] 679
Sulphured or foots	Lb.	[1]	[1]	[5] 14,943	[1]	[1]	[5] 1,376
Palm kernel oil	Lb.	[1]	[1]	[5] 1,101	[1]	[1]	[5] 100
Palm oil	Lb.	39,159	118,816	86,784	2,421	8,686	5,733
Peanut oil	Lb.	2,878	7,553	15,058	322	706	1,287
Rape oil	Gal.	1,352	1,770	2,068	929	1,226	1,366
Soybean oil	Lb.	8,283	38,635	17,631	469	2,412	1,156
Vegetable tallow	Lb.	[1]	[2] 8,467	3,887	[1]	[2] 584	278
Vegetable wax	Lb.	7,243	9,385	8,037	1,013	1,501	1,159
Miscellaneous oils, n. e. s.	Lb.	[3]	[3]	11,043	752	2,100	1,046
Total expressed and fats					55,028	64,479	57,783
Total vegetable oils					59,594	69,854	62,895
Oilseeds:							
Castor beans	Lb.	93,241	88,199	80,871	2,046	2,876	3,192
Copra, not prepared	Lb.	249,722	306,100	299,774	9,404	11,594	12,803
Cottonseed	Lb.	[1]	[2] 56,982	89,416	[1]	[2] 439	1,512
Flaxseed	Bu.	13,632	25,006	19,577	26,019	50,435	36,426
Poppy seed	Lb.	[1]	[2] 6,317	4,750	[1]	[2] 633	412
Miscellaneous oilseeds, n. e. s.	Lb.	303	31,406	31,780	20	1,349	1,309
Total oilseeds					37,489	67,326	55,654

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[4] July 1–Dec. 31, 1923.
[5] Beginning Jan. 1, 1924.
[10] July 1–Sept. 21, 1922.
[17] Classified as "Bean," "Cocoanut," or "Miscellaneous (bean and cocoanut)."
[18] Less than 500.

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Quantity: Year ended June 30, 1922	Quantity: Year ended June 30, 1923	Quantity: Year ended June 30, 1924, preliminary	Value: Year ended June 30, 1922	Value: Year ended June 30, 1923	Value: Year ended June 30, 1924, preliminary
VEGETABLE PRODUCTS—continued		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Seeds (except oilseeds):							
Alfalfa	Lb.	(1)	[2] 5,165	12,899	(1)	[2] 589	1,623
Clover—							
Alsike	Lb.	(1)	[2] 2,242	10,973	(1)	[2] 257	1,248
Crimson	Lb.	(1)	[2] 1,451	7,729	(1)	[2] 188	567
Red	Lb.	9,290	609	24,287	1,532	91	3,620
Miscellaneous, n. e. s.	Lb.	16,663	9,601	10,102	2,149	1,149	1,424
Garden and other seeds—							
Cabbage	Lb.	(1)	[2] 685	238	(1)	[2] 99	104
Canary	Lb.	(1)	[2] 9,559	9,864	(1)	[2] 305	374
Turnip	Lb.	(1)	[2] 596	1,487	(1)	[2] 97	170
Miscellaneous garden and flower seeds, n. e. s.	Lb.	(3)	(3)	4,339	2,233	1,282	1,008
Grass seed	Lb.	22,352	13,463	4,623	2,838	996	396
Sugar beet	Lb.	4,193	15,890	11,620	546	1,579	1,121
Vetch and other field seeds, n. e. s.	Lb.	(1)	[2] 7,139	8,652	(1)	[2] 839	1,025
Miscellaneous seeds	Lb.	(3)	(3)	34,187	2,046	1,341	1,494
Total seeds (except oilseeds)					11,344	8,812	14,174
Spices:							
Anise seed	Lb.	(1)	(1)	[5] 282	(1)	(1)	[5] 33
Capsicum, red pepper, cayenne pepper and paprika—							
Ground	Lb.	3,185	3,642	3,152	464	494	554
Unground	Lb.	2,994	6,772	4,854	427	693	633
Caraway seed	Lb.	(1)	(1)	[5] 947	(1)	(1)	[5] 209
Cardamon seed	Lb.	(1)	(1)	[5] 80	(1)	(1)	[5] 80
Cassia and cassia vera—							
Ground	Lb.	(1)	(1)	([5] [18])	(1)	(1)	([5] [18])
Unground	Lb.	9,501	10,294	9,107	490	617	558
Celery seed	Lb.	(1)	(1)	[5] 421	(1)	(1)	[5] 108
Cinnamon and chips of	Lb.	(1)	(1)	[5] 660	(1)	(1)	[5] 109
Cloves, unground	Lb.	5,797	6,776	6,050	1,282	1,144	1,435
Coriander seed	Lb.	(1)	(1)	[5] 552	(1)	(1)	[5] 32
Cummin seed	Lb.	(1)	(1)	[5] 555	(1)	(1)	[5] 111
Ginger root, unground, not preserved	Lb.	6,689	6,313	4,964	623	675	679
Mace, unground	Lb.	(1)	(1)	[5] 392	(1)	(1)	[5] 167
Mustard—							
Ground or prepared	Lb.	1,594	1,764	1,456	922	1,018	755
Mustard seed, whole	Lb.	12,490	13,216	16,136	487	600	800
Nutmegs, unground	Lb.	4,144	5,259	3,327	469	699	592
Pepper, unground	Lb.	36,948	[10] 8,339	([19])	2,588	[10] 587	([19])
Black	Lb.	(1)	[2] 20,386	22,353	(1)	[2] 1,346	1,534
White	Lb.	(1)	[2] 4,823	4,982	(1)	[2] 483	566
Allspice (pimento), unground	Lb.	(1)	(1)	[5] 1,430	(1)	(1)	[5] 48
Pimiento, whole	Lb.	(1)	(1)	[5] 1,753	(1)	(1)	[5] 211
Vanilla beans	Lb.	1,248	1,281	828	2,279	2,884	3,610
Miscellaneous spices, n. e. s.	Lb.	8,714	18,640	11,344	564	2,200	1,761
Total spices					10,595	13,440	14,585
Sugar, molasses, and sirups:							
Beet sugar (2,000 lbs.)	Ton.	([18])	(1)	(1)	([18])	(1)	(1)
Cane sugar (2,000 lbs.)	Ton.	4,232	4,367	3,765	200,774	365,101	373,361
Maple sugar and maple sirup	Lb.	3,672	3,217	1,784	342	601	320
Molasses	Gal.	87,908	161,135	174,037	1,667	2,985	6,667
Total sugar, molasses, and sirups					202,783	368,687	380,348
Tea	Lb.	86,142	96,669	105,376	18,040	26,308	29,993
Tobacco (unmanufactured):							
Cigar leaf—							
Stemmed	Lb.	(1)	[2] 9,529	11,013	(1)	[2] 9,943	13,642
Unstemmed	Lb.	(1)	[2] 10,598	12,750	(1)	[2] 8,388	12,071

[1] *Not separately classified.*
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[5] Beginning Jan. 1, 1924.
[10] *July 1–Sept. 21, 1922.*
[18] Less than 500.
[19] Classified as "Black" or "White."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Year ended June 30					
		Quantity			Value		
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued							
Tobacco (unmanufactured)—Contd.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Cigarette leaf	Lb.	(1)	32,822	21,058	(1)	22,413	17,949
Leaf suitable for cigar wrappers	Lb.	5,211	8,794	6,414	10,940	19,432	15,230
Product of the Philippine Islands	Lb.	504	1,924	988	57	228	146
Scrap and other unmanufactured tobacco	Lb.	(1)	[2] 1,990	2,118	(1)	[2] 596	877
Other leaf	Lb.	59,511	[10] 10,129	[20]	46,053	[10] 8,193	[20]
Total tobacco (unmanufactured)					57,050	69,193	59,915
Vegetables:							
Dried and fresh—							
Beans, dried	Lb.	31,171	157,356	53,152	1,216	5,512	1,958
Chick peas, or garbanzas	Lb.	(1)	(1)	[5] 4,226	(1)	(1)	[5] 190
Farinaceous substances—arrowroot, cassava, sago, and tapioca	Lb.	77,999	93,964	90,961	2,089	3,465	4,255
Garlic	Lb.	6,856	7,890	6,416	327	346	264
Mushrooms and truffles	Lb.	6,185	5,991	[5] 2,516	1,881	1,817	[5] 722
Mushrooms	Lb.	(1)	(1)	[5] 2,146	(1)	(1)	[5] 672
Truffles	Lb.	(1)	(1)	[5] 14	(1)	(1)	[5] 35
Onions	Lb.	141,791	101,604	80,166	3,306	1,900	1,760
Peas, dried	Lb.	59,832	25,963	15,720	2,155	1,020	671
Potatoes—							
Natural state	Lb.	126,572	34,329	33,843	1,793	836	938
Dried or prepared and flour	Lb.	2,040	[10] 258	(1)	85	[10] 14	(1)
Tomatoes	Lb.	(1)	(1)	[5] 50,838	(1)	(1)	[5] 1,626
Turnips	Lb.	(1)	[2] 100,256	140,000	(1)	[2] 297	673
Miscellaneous fresh, n. e. s.	Lb.	(3)	(3)	(3)	3,399	3,551	2,369
Prepared or preserved—							
Canned—							
Peas	Lb.	[21]	[2] 845	1,489	[21]	[2] 111	150
Tomatoes	Lb.	[21]	[2] 20,166	30,046	[21]	[2] 1,280	1,646
Other	Lb.	[21]	[2] 2,267	3,920	[21]	[2] 229	389
Bean cake, miso, or similar products	Lb.	(1)	(1)	[5] 692	(1)	(1)	[5] 50
Lentils	Lb.	(1)	(1)	[5] 5,028	(1)	(1)	[5] 328
Miscellaneous edible vegetables, n. e. s.	Lb.	(3)	(3)	(3)	373	1,519	1,432
Pickles and sauces	Lb.	(3)	(3)	[4] 4,939	2,375	1,171	[4] 434
Pickles	Lb.	(1)	(1)	[5] 354	(1)	(1)	[5] 48
Sauces	Lb.	(1)	(1)	[5] 4,679	(1)	(1)	[5] 388
Tomato paste	Lb.	(1)	(1)	[5] 4,164	(1)	(1)	[5] 421
Tomatoes otherwise prepared	Lb.	(1)	(1)	[5] 1,341	(1)	(1)	[5] 69
Other	Lb.	(3)	(3)	19,424	3,316	2,262	1,361
Total vegetables					22,315	25,330	22,849
Miscellaneous vegetable products:							
Argols or wine lees	Lb.	18,749	21,950	17,650	1,218	1,739	1,244
Beet pulp, dried	Ton	(1)	[2] 17	31	(1)	[2] 605	905
Beverages—							
Distilled liquors	Pf. gal.	350	54	48	1,530	203	232
Champagne and other sparkling wines	Gal.	33	14	2	278	83	12
Still wines	Gal.	646	162	91	913	259	121
Ginger ale, nonalcoholic	Gal.	(1)	(1)	[5] 46	(1)	(1)	[5] 65
Lemon, lime, and sour orange juice not more than 2 per cent alcohol	Lb.	(1)	[2] 1,165	4,296	(1)	[2] 129	512
Other beverages and fruit juices, n. e. s.		(3)	(3)	(3)	325	481	373

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[4] July 1–Dec. 31, 1923.
[5] Beginning Jan. 1, 1924.
[10] July 1–Sept. 21, 1922.
[20] Classified as "Cigar leaf (stemmed or unstemmed)" or "Cigarette leaf."
[21] Included in "Vegetables:—Prepared or preserved—Other."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Year ended June 30					
		Quantity			Value		
		1922	1923	1924, preliminary	1922	1923	1924, preliminary
VEGETABLE PRODUCTS—continued							
Miscellaneous vegetable products—Continued.							
Drugs, herbs, leaves, roots, etc.—							
Cinchona bark or other from which quinine may be extracted	Lb.	*Thousands* 767	*Thousands* 3,443	*Thousands* 2,422	*1,000 dollars* 277	*1,000 dollars* 1,110	*1,000 dollars* 692
Licorice extract	Lb.	(1)	[2] 1,329	1,163	(1)	[2] 300	223
Licorice root	Lb.	62,388	35,339	87,684	2,681	1,195	2,906
Nux vomica	Lb.	(1)	[2] 2,078	1,262	(1)	[2] 98	37
Opium, crude	Lb.	144	109	79	385	352	398
Pyrethrum or insecticide flowers	Lb.	(1)	[2] 3,148	2,954	(1)	[2] 1,479	1,316
Senna	Lb.	(1)	[2] 2,623	2,968	(1)	[2] 208	281
Other	Lb.	(1)	[3] 22,480	19,369	(1)	[2] 2,556	2,709
Total drugs, herbs, leaves, etc.					3,343	7,298	8,562
Fibers, vegetable—							
Flax (unmanufactured)—							
Hackled	Ton	2	2	1	1,946	2,281	1,363
All other	Ton	3	6	4	959	2,619	891
Hemp (unmanufactured)	Ton	3	6	1	893	1,411	462
Istle, or tampico	Ton	10	11	13	754	890	1,483
Jute and jute butts, unmanufactured	Ton	62	[10] 8	(22)	5,415	[10] 985	(22)
Jute	Ton	(1)	[2] 66	71	(1)	[2] 10,132	7,904
Jute butts	Ton	(1)	[2] 10	12	(1)	[2] 532	684
Kapok	Ton	10	9	6	3,254	4,125	3,324
Maguey or cantala	Ton	(1)	[2] 1	1	(1)	[2] 92	64
Manila or abaca	Ton	44	98	88	5,891	13,202	13,524
Sisal and henequen	Ton	72	98	97	7,725	9,806	11,801
Miscellaneous, n. e. s.	Ton	9	19	13	992	2,478	1,624
Hay	Ton	5	32	360	85	345	3,898
Hops	Lb.	893	1,295	761	341	257	296
Indigo and derivitives	Lb.	406	37	15	304	40	11
Moss, seaweeds, etc., crude	Lb.	7,747	12,537	8,604	458	571	355
Nursery and greenhouse stock—							
Bulbs, roots and corms	M	199	[10] 160	(23)	4,612	[10] 4,339	(23)
Hyacinth	M	(1)	[2] 6	33	(1)	[2] 218	1,190
Lily, tulip, and narcissus	M	(1)	[2] 56	210	(1)	[2] 1,854	4,943
Crocus and other	M	(1)	[2] 8	21	(1)	[2] 117	216
Trees, plants, cuttings, and seedlings	M	(3)	(3)	(24)	339	[10] 4	(24)
Fruit stock	M	(1)	[2] 17	20	(1)	[2] 200	164
Rose stocks and plants	M	(1)	[2] 11	12	(1)	[2] 189	149
Miscellaneous, n. e. s.	M	(3)	(3)	(3)	66	136	130
Total nursery and greenhouse stock					5,017	7,048	6,792
Miscellaneous feeds and fodders, n. e. s.		(1)	(3)	(3)	(1)	[2] 925	1,584
Miscellaneous vegetable products, n. e. s.		(3)	(3)	(3)	156	2,372	1,675
Starch	Lb.	7,876	12,715	12,126	357	406	431
Vegetable ivory	Lb.	28,745	33,571	29,973	770	918	916
Total vegetable products					790,768	1,098,722	1,095,931

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[10] July 1–Sept. 21, 1922.
[22] Classified as "Jute" or "Jute butts."
[23] Classified as "Hyacinth," "Lily, tulip, and narcissus" or "Crocus and other."
[24] Classified as "Fruit stock," "Rose stocks and plants," or "Miscellaneous, n. e. s."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Unit	Quantity: 1922	Quantity: 1923	Quantity: 1924, preliminary	Value: 1922	Value: 1923	Value: 1924, preliminary
		Year ended June 30					
FOREST PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Dyeing and tanning materials:							
Extracts for dyeing, coloring, etc.	Lb.	2,485	3,556	3,949	169	270	332
Extracts for tanning—							
Quebracho	Lb.	134,274	120,224	119,086	5,206	4,796	3,552
Other	Lb.	7,606	7,266	6,826	260	213	202
Logwood	Ton	31	27	31	645	426	590
Mangrove bark	Ton	2	7	2	41	200	37
Myrobalans fruit	Ton	(1)	[2] 22	14	(1)	[2] 429	352
Quebracho wood	Ton	24	43	29	266	556	440
Sumac	Ton	6	8	4	268	434	359
Valonia	Lb.	(1)	[2] 7,638	17,029	(1)	[3] 160	309
Other crude	Lb.	(3)	(3)	62,591	1,011	1,372	1,024
Total dyeing and tanning materials					7,866	8,856	7,197
Gums, resins, and balsams:							
Balsams, crude	Lb.	363	521	314	151	206	205
Camphor—							
Natural, crude	Lb.	1,592	3,498	1,955	921	2,226	1,179
Refined and synthetic	Lb.	1,652	3,541	3,275	1,144	2,534	2,240
Chicle	Lb.	8,283	9,125	7,175	4,095	4,563	3,649
Gums and resins, n. e. s.—							
Arabic	Lb.	8,934	11,001	6,959	734	1,341	797
Gambier	Lb.	9,818	7,727	4,743	391	460	378
Tragacanth	Lb.	(1)	[2] 1,075	948	(1)	[3] 538	354
Other	Lb.	13,408	9,712	7,611	1,415	1,168	760
Tar, pitch, and turpentine		(1)	(3)	(3)	(1)	[4] 130	136
Varnish, gums, and resins—							
Copal, damar, kauri	Lb.	27,194	[10] 11,590	([25])	2,967	[10] 1,380	([25])
Damar	Lb.	(1)	[2] 9,383	8,746	(1)	[2] 1,299	1,100
Kauri	Lb.	(1)	[2] 7,256	7,713	(1)	[2] 1,595	1,519
Shellac	Lb.	30,768	32,773	28,512	15,657	21,034	15,171
Other	Lb.	(1)	[3] 31,308	27,995	(1)	[2] 3,264	3,293
Total gums, resins, and balsams					27,475	41,738	30,781
Rubber and similar gums:							
Balata	Lb.	1,867	1,757	1,335	1,063	980	732
Guayule	Lb.	(1)	(1)	[5] 1,252	(1)	(1)	[5] 224
Gutta-percha	Lb.	2,481	1,903	2,723	363	336	422
Jelutong or pontianak	Lb.	5,782	8,713	11,077	453	702	1,016
Rubber, crude, and milk of	Lb.	568,381	797,655	617,102	86,751	169,108	155,234
Total rubber and similar gums					88,630	171,126	157,628
Wood:							
Boards, planks, deals, etc.	M ft.	1,124	436	([26])	34,530	12,700	([26])
Hardwood	M ft.	(1)	[2] 52	87	(1)	[2] 2,824	4,856
Softwood	M ft.	(1)	[2] 1,470	1,699	(1)	[2] 43,539	51,701
Cabinet woods in logs—							
Cedar	M ft.	8	10	10	526	619	604
Mahogany	M ft.	40	43	47	3,297	3,312	4,350
Product of the Philippine Islands	M ft.	(1)	(1)	[5] 1	(1)	(1)	[5] 36
Other	M ft.	(3)	(3)	(3)	351	743	664
Laths	M	1,182	1,563	1,535	6,595	9,529	9,438
Logs, and round timber (except cabinet woods)	M ft.	161	217	192	2,708	3,897	3,587
Philippine mahogany (sawed)	M ft.	(1)	(1)	[5] 110	(1)	(1)	[5] 515
Pickets and palings	M	(1)	[3] 38	52	(1)	[3] 371	530
Poles, telegraph, telephone, etc.	No.	(1)	[3] 291	608	(1)	[3] 1,096	2,774
Pulp wood—							
Peeled	Cord.	576	773	945	6,262	7,555	9,339
Rossed	Cord.	72	131	107	1,032	1,714	1,429
Rough	Cord.	178	304	326	2,015	2,784	3,168

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[4] July 1–Dec. 31, 1923.
[5] Beginning Jan. 1, 1924.
[10] July 1–Sept. 21, 1922.
[25] Classified as "Damar" or "Kauri."
[26] Classified as "Hardwood" or "Softwood."

TABLE 678.—*Agricultural imports of the United States, 1922–24*—Continued

Article imported	Year ended June 30						
	Quantity				Value		
	Unit	1922	1923	1924, preliminary	1922	1923	1924, preliminary
FOREST PRODUCTS—continued							
Wood—Continued.		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Railroad ties	No.	(1)	[2] 622	975	(1)	[2] 390	637
Sawed cabinet woods	M ft.	9	4	3	671	296	232
Shingles	M.	2,190	2,695	2,417	7,906	10,952	8,763
Timbers, other than sawed	M ft.	(3)	(3)	3	132	147	133
Other unmanufactured or partly manufactured		(3)	(3)	(3)	3,563	2,664	1,636
Total wood					69,588	105,132	104,392
Miscellaneous forest products:							
Brier, ivy or laurel root	Lb.	(1)	(1)	[4] 2,060	(1)	(1)	[4] 145
Chair canes or reeds	Lb.	(3)	(3)	4,433	454	718	657
Cork, bark, or wood (unmanufactured)	Lb.	37,435	68,818	58,217	1,024	1,826	1,546
Osier or willow for basket making	Lb.	(1)	[2] 1,813	2,293	(1)	[2] 129	136
Rattan (unmanufactured)	Lb.	(3)	(3)	13,926	758	2,076	1,136
Wood pulp—							
Chemical wood pulp—							
Sulphate, bleached	Ton.	6	26	7	422	1,638	496
Sulphate, unbleached	Ton.	230	269	244	13,665	16,234	15,292
Sulphite, bleached	Ton.	147	254	239	12,733	22,003	20,080
Sulphite, unbleached	Ton.	312	500	464	17,374	26,297	26,807
Mechanically ground	Ton.	207	244	233	5,485	7,952	8,046
Total forest products					245,474	405,725	374,339
Total vegetable products, including forest products					1,036,242	1,504,447	1,470,270
Total vegetable products, excluding forest products					790,768	1,098,722	1,095,931
Total agricultural imports, including forest products					1,528,354	2,310,970	2,091,073
Total agricultural imports, excluding forest products					1,282,880	1,905,245	1,716,734

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] Not separately classified.
[2] Beginning Sept. 22, 1922.
[3] Reported in value only.
[4] Beginning Jan. 1, 1924.

TABLE 679.—*Shipments of agricultural products to the United States from Alaska, Hawaii, and Porto Rico, 1922–1924*

ALASKA

Articles	Unit	Quantity: Year ended June 30, 1922	Quantity: Year ended June 30, 1923	Quantity: 1924 preliminary	Value: Year ended June 30, 1922	Value: Year ended June 30, 1923	Value: 1924 preliminary
		Thousands	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Animals	No.	(1)	(1)	1	3	6	125
Wood pulp	Ton	(2)	[3] 3	3	(2)	[3] 61	52
Wood, timber and lumber	M ft.	(1)	(1)	3	10	123	188
Total value of shipment					13	190	365

HAWAII

ANIMALS AND ANIMAL PRODUCTS							
Animals	No.	(1)	(4)	9	8	5	22
Beeswax	Lb.	10	35	25	2	7	5
Bones, hoofs, horns, etc.	Lb.	(1)	55	105	1	2	3
Hides and skins	Lb.	1,525	1,512	2,009	145	176	173
Honey	Lb.	1,353	1,668	1,647	64	79	94
Meat products—tallow	Lb.	361	428	467	18	30	30
Wool, raw	Lb.	88	333	121	16	118	43
Total animals and animal products					254	417	370
VEGETABLE PRODUCTS							
Breadstuffs:							
Rice	Lb.	1,091	799	165	55	41	11
Other	Lb.	(1)	146	121	9	11	9
Coffee	Lb.	3,713	2,281	2,049	570	406	431
Fibers (unmanufactured), sisal	Ton.	(4)	(4)	(4)	3	2	2
Fruits:							
Canned—							
Pineapple	Lb.	(1)	257,865	297,966	19,737	22,322	28,247
Dried, green or ripe—							
Bananas	Bunch	186	218	218	182	222	211
Pineapples	Box	(1)	9	13	31	25	33
Prepared or preserved	Lb.	(1)	29	49	12	7	8
Pineapple juice	Lb.	(1)	4	39	81	(4)	4
Nuts	Lb.	(1)	178	97	5	8	4
Sugar and molasses:							
Molasses	Gal.	3,686	5,862	10,914	204	232	365
Sugar—							
Refined	Lb.	20,818	13,810	6,600	1,202	1,240	585
Unrefined	Lb.	1,170,807	1,181,269	1,164,788	43,907	68,346	73,936
Total sugar (2,000 lbs.)	Ton.	596	598	586	45,109	69,586	74,521
Tobacco, unmanufactured leaf	Lb.	4	28	19	3	1	21
Vegetables	Lb.	(1)	600	524	36	33	30
Total vegetable products					66,637	92,896	103,897
FOREST PRODUCTS							
Lumber—boards, planks, and deals	M ft.	(4)	(1)	(4)	1	(4)	(4)
Total value of shipments, including forest products					66,292	93,313	104,267
Total shipments, excluding forest products					66,291	93,313	104,267

PORTO RICO

ANIMAL PRODUCTS							
Beeswax	Lb.	14	29	29	2	5	5
Hides and skins	Lb.	1,062	(5)	(5)	78	(5)	(5)
Cattle	Lb.	(2)	[3] 510	589	(2)	[3] 55	40
Other	Lb.	(2)	673	72	(2)	108	30
Honey	Lb.	1,092	2,023	2,763	50	118	177
Tallow	Lb.	(4)	2	(2)	(4)	(4)	(2)
Total animal products					130	286	252

[1] Reported in value only.
[2] Not separately classified.
[3] Jan. 1–June 30.
[4] Less than 500.
[5] Classified as "Cattle" and "Other."

TABLE 679.—*Shipments of agricultural products to the United States from Alaska, Hawaii, and Porto Rico, 1922–1924*—Continued

PORTO RICO—Continued

Articles	Unit	Quantity			Value		
		Year ended June 30					
		1922	1923	1924 preliminary	1922	1923	1924 preliminary
VEGETABLE PRODUCTS		*Thousands*	*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Coffee	Lb.	66	[6]	[6]	13	[5]	[6]
Raw	Lb.	[2]	71	317	[2]	14	71
Prepared (roasted, powdered)	Lb.	[2]	[3 4]	1	[2]	[3 4]	[4]
Cotton (unmanufactured)	Lb.	283	655	486	129	261	182
Fruits:							
Fresh—							
Grapefruit	Box	361	461	667	1,101	1,382	1,990
Oranges	Box	388	733	192	924	1,749	471
Pineapples	Crate	(1)	(1)	270	600	726	812
Other	Lb.	(1)	(1)	1,707	115	131	38
Prepared or preserved (canned or otherwise)—							
Grapefruit	Lb.	[2]	[3] 4,060	3,862	[2]	[3] 481	306
Guavas	Lb.	[2]	[3] 3	5	[2]	[3 4]	1
Pineapples	Lb.	(1)	(1)	1,470	71	84	163
Other	Lb.	(1)	(1)	19	42	12	2
Total fruits					2,853	4,565	3,792
Nuts: [8]							
Coconuts	M	(1)	(1)	18	478	567	605
Copra	Lb.		[3] 45	218		[3] 2	7
Other	Lb.			71			9
Seeds:							
Annato	Lb.	(1)	[4] 3,227	359	11	[3] 27	77
Other	Lb.		(1)	80		17	16
Sugar and molasses:							
Molasses and sirups	Gal.	11,363	13,209	11,067	499	358	427
Sugar (2,000 lbs.)	Ton	470	355	372	40,785	46,176	47,793
Tobacco (unmanufactured):							
Leaf	Lb.	17,439	[7] 11,465	[8]	8,149	[7] 6,144	[8]
Stemmed	Lb.	[2]	[3] 3,360	18,842	[2]	[3] 2,295	11,903
Unstemmed	Lb.	[2]	[3] 80	992	[2]	[3] 48	655
Stems, scraps, and trimmings	Lb.	4,931	4,669	3,500	845	972	612
Total tobacco (unmanufactured)	Lb.	22,370	19,574	20,334	8,994	9,459	13,170
Vegetables	Lb.	[2]	[3] 582	962	[2]	[3] 30	30
Miscellaneous vegetable products:							
Alcohol, denatured	Gal.	[2]	[3] 104	321	[2]	[3] 32	124
Bay oil	Lb.		[3] 5	12		[3] 7	18
Roots and plants—							
Ginger root	Lb.		[3] 44	48		[3] 4	4
Other	Lb.		[3] 2	9		[3 4]	1
Straw (unmanufactured)	Lb.	[2]	[3 4]	1	[2]	[3 4]	[4]
Total vegetable products					53,762	61,513	66,326
FOREST PRODUCTS							
Wood (unmanufactured)	Ft. b. m.	[2]	[3] 37	62	[2]	[3] 2	3
Total value of shipments, including forest products					53,892	61,801	66,581
Total value of shipments, excluding forest products					53,892	61,799	66,578

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] Reported in value only.
[2] Not separately classified.
[3] Jan. 1–June 30.
[4] Less than 500.
[5] Classified as "Raw" and "Prepared."
[6] July 1–Dec. 31, 1922.
[7] Classified as "Stemmed" and "Unstemmed."
[8]

TABLE 680.—*Value of principal groups of farm and forest products exported from and imported into the United States, 1922–1924*

Article	Year ended June 30					
	Exports (domestic merchandise)			Imports		
	1922	1923	1924 preliminary	1922	1923	1924 preliminary
ANIMALS AND ANIMAL PRODUCTS	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Animals, live	14,951	6,918	5,787	5,850	9,621	8,799
Dairy products	36,375	23,327	28,174	18,229	32,352	41,650
Eggs and egg products	10,147	9,400	8,734	4,723	4,356	7,030
Hides and skins, raw (except fur)	4,573	3,496	10,602	78,899	135,295	77,721
Meats and meat products	256,370	287,168	296,450	11,807	9,272	6,922
Silk (unmanufactured)				307,283	413,567	358,792
Wool and mohair (unmanufactured)	201	121	134	45,649	167,191	80,860
Animal products, miscellaneous	7,892	7,972	8,652	19,672	34,869	39,029
Total animals and animal products	330,509	338,402	358,593	492,112	806,523	620,803
VEGETABLE PRODUCTS						
Chocolate and cocoa	727	613	709	27,804	35,096	29,004
Coffee	5,915	5,690	5,957	148,504	181,639	206,546
Cotton (unmanufactured)	596,379	658,983	903,975	43,958	60,640	43,761
Fruits	65,070	71,253	84,519	47,362	44,650	42,059
Grains and grain products	592,592	452,786	246,869	26,277	28,187	35,562
Nuts	1,560	1,405	1,174	33,069	25,912	25,665
Oilseeds and oilseed products	37,342	36,505	27,783	98,743	139,196	120,372
Seeds, except oilseeds	4,314	4,057	2,886	11,344	8,812	14,174
Spices	167	201	199	10,595	13,440	14,585
Sugar, molasses, and sirups	80,047	43,124	18,346	202,783	368,687	380,348
Tea				18,040	26,308	29,993
Tobacco (unmanufactured)	157,317	146,232	168,066	57,050	69,193	59,915
Vegetables	17,307	16,689	19,222	22,315	25,330	22,849
Vegetable products, miscellaneous	26,620	23,228	28,599	42,924	71,632	71,098
Total vegetable products	1,585,357	1,460,766	1,508,304	790,768	1,098,722	1,095,931
Total farm products	1,915,866	1,799,168	1,866,897	1,282,880	1,905,245	1,716,734
FOREST PRODUCTS						
Dyeing and tanning materials	2,644	2,275	1,972	7,866	8,856	7,197
Gums, resins, and balsams	15,215	22,909	23,179	27,475	41,738	30,781
Rubber and similar gums				88,630	171,126	157,628
Wood	72,288	99,971	132,112	69,588	105,132	104,392
Forest products, miscellaneous	3,968	4,827	5,526	51,915	78,873	74,341
Total forest products	94,115	129,982	162,789	245,474	405,725	374,339
Total farm and forest products	2,009,981	1,929,150	2,029,686	1,528,354	2,310,970	2,091,073
	Shipments from the United States to Porto Rico			Shipments from Porto Rico to the United States		
ANIMALS AND ANIMAL PRODUCTS						
Animals, live	163	99	111			
Dairy products	1,368	1,378	1,619			
Eggs and egg products	(1)	20	30			
Hides and skins, raw (except fur)				78	163	70
Meats and meat products	4,992	5,703	5,897	(2)	(2)	(1)
Animal products, miscellaneous		[3] 6	26	52	123	182
Total animals and animal products	6,523	7,206	7,683	130	286	252
VEGETABLE PRODUCTS						
Chocolate and cocoa	136	164	193			
Coffee		2	1	13	14	71
Cotton (unmanufactured)				129	261	182
Fruits	[4] 300	350	455	2,853	4,565	3,792
Grains and grain products	*10,024*	*10,641*	*12,782*			
Nuts	16	18	28	478	569	621

[1] Not separately classified.
[2] Less than 500.
[3] Jan. 1–June 30.
[4] Excludes "Canned fruits."

TABLE 680.—*Value of principal groups of farm and forest products exported from and imported into the United States, 1922–1924*—Continued

Article	Year ended June 30					
	Exports (domestic merchandise)			Imports		
	1922	1923	1924 preliminary	1922	1923	1924 preliminary
	Shipments from the United States to Porto Rico			Shipments from Porto Rico to the United States		
VEGETABLE PRODUCTS—continued	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Oilseeds and oilseed products	196	263	372	11	38	93
Seeds, except oilseeds	(1)	[3] 8	8			
Sugar, molasses, and sirups	[5] 402	510	620	41,284	46,534	48,220
Tea	4	4	2			
Tobacco	231	770	706	8,904	9,459	13,170
Vegetables	2,328	2,093	2,627	(1)	[3] 30	30
Vegetable products, miscellaneous	17	222	452	(1)	43	147
Total vegetable products	13,654	15,055	18,246	53,762	61,513	66,326
Total farm products	20,177	22,261	25,929	53,892	61,799	66,578
FOREST PRODUCTS						
Rosin, tar, turpentine, and pitch	(1)	18	19			
Wood	[6] 1,749	1,801	2,871	(1)	[3] 2	3
Total forest products	1,749	1,819	2,890	(1)	[3] 2	3
Total farm and forest products	21,926	24,080	28,819	53,892	61,801	66,581
	Shipments from the United States to Hawaii			Shipments from Hawaii to the United States		
ANIMALS AND ANIMAL PRODUCTS						
Animals, live	207	383	308	8	5	22
Dairy products	1,252	1,276	1,339			
Eggs and egg products	497	467	488			
Hides and skins, raw (except fur)				145	176	173
Meats and meat products	1,497	1,557	1,564	18	30	30
Wool, raw				16	118	43
Animal products, miscellaneous		[3] 4	42	67	88	102
Total animals and animal products	3,453	3,687	3,741	254	417	370
VEGETABLE PRODUCTS						
Chocolate and cocoa	112	134	105			
Coffee	15	23	66	570	406	431
Fruits	[7] 903	969	947	20,043	22,576	28,503
Grains and grain products	4,282	5,389	6,171	64	52	20
Nuts	85	93	95	5	8	4
Oilseeds and oilseed products	[8] 123	242	314			
Seeds, except oilseeds	(1)	[3] 21	31			
Sugar, molasses, etc	638	825	619	45,313	69,818	74,886
Tea	16	20	22			
Tobacco	(1)	[3] 3	1	3	1	21
Vegetables	864	999	1,130	36	33	30
Vegetable products, miscellaneous	146	227	316	3	2	2
Total vegetable products	7,184	8,945	9,817	66,037	92,896	103,897
Total farm products	10,637	12,632	13,558	66,291	93,313	104,267

[1] Not separately classified.
[3] Jan. 1–June 30.
[5] Excludes "Molasses and sirups."
[6] Excludes "Cooperage shooks," "Logs and timber," and "Douglas fir."
[7] Excludes "Preserved fruits, jellies, and jams."
[8] Excludes "Oilcake and meal."

TABLE 680.—*Value of principal groups of farm and forest products exported from and imported into the United States, 1922–1924*—Continued

Article	Year ended June 30					
	Exports (domestic merchandise)			Imports		
	1922	1923	1924 preliminary	1922	1923	1924 preliminary
	Shipments from the United States to Hawaii			Shipments from Hawaii to the United States		
FOREST PRODUCTS	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Rosin, tar, turpentine, and pitch	30	51	57			
Wood	[9] 2,067	3,293	3,924	1	(2)	(2)
Total forest products	2,097	3,344	3,981	1	(2)	(2)
Total farm and forest products	12,734	15,976	17,539	66,292	93,313	104,267
	Shipments from the United States to Alaska			Shipments from Alaska to the United States		
ANIMALS AND ANIMAL PRODUCTS						
Animals, live	82	70	114	3	6	125
Dairy products	1,054	1,223	1,259			
Eggs and egg products	476	518	547			
Meats and meat products	[10] 1,572	1,736	1,779			
Animal products, miscellaneous		[3] 5	13			
Total animals and animal products	3,184	3,552	3,712	3	6	125
VEGETABLE PRODUCTS						
Chocolate and cocoa		24	18			
Coffee	226	272	302			
Fruits	[4] 688	711	847			
Grains and grain products	[11] 872	929	860			
Nuts	34	37	35			
Oilseeds and oilseed products	55	58	66			
Seeds, except oilseeds	(1)	[3] 9	7			
Sugar	459	555	599			
Tea	75	85	84			
Tobacco	(1)	[3] 3	2			
Vegetables	625	699	797			
Vegetable products, miscellaneous	82	167	208			
Total vegetable products	3,116	3,549	3,825			
Total farm products	6,300	7,101	7,537	3	6	125
FOREST PRODUCTS						
Rosin, tar, turpentine, and pitch	30	30	51			
Wood	[12] 793	1,166	1,428	10	123	188
Forest products, miscellaneous				(1)	[3] 61	52
Total forest products	823	1,196	1,479	10	184	240
Total farm and forest products	7,123	8,297	9,016	13	190	365

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] Not separately classified.
[2] Less than 500.
[3] Jan. 1–June 30.
[4] Excludes "Canned fruits."
[9] Excludes "Cooperage shooks", and "Logs and timber."
[10] Excludes "Canned meats, n. e. s."
[11] Excludes "Bran, middlings, and mill feeds."
[12] Excludes "Cooperage shooks," "Logs and timber," and "Shingles."

TABLE 681.—*Exports of selected domestic agricultural products, 1901–1924*

Year ended June 30	Cattle	Cheese	Packing-house products							
			Beef, cured—salted or pickled	Beef, fresh	Beef oils—oleo oil	Beef tallow	Beef and its products—total, so far as ascertainable [1]	Pork, cured—bacon	Pork, cured—hams and shoulders	Pork, cured—salted or pickled
	Thousands	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1901	459	39,814	55,313	351,748	161,651	77,167	705,105	456,123	216,572	138,644
1902	393	27,203	48,633	301,824	138,546	34,066	596,255	383,151	227,653	115,896
1903	402	18,987	52,801	254,796	126,010	27,369	546,055	207,336	214,183	95,287
1904	593	23,335	57,585	299,580	165,184	76,924	663,147	249,666	194,949	112,225
1905	568	10,134	55,935	236,487	145,228	63,537	575,875	202,247	203,459	118,887
1906	584	16,562	81,088	268,054	209,658	97,567	732,885	361,211	194,211	141,821
1907	423	17,285	62,645	281,652	195,337	127,858	689,752	250,419	209,481	166,427
1908	349	8,439	46,958	201,154	212,541	91,398	579,303	241,190	221,770	149,506
1909	208	6,823	44,494	122,953	179,985	53,333	418,844	244,579	212,170	52,355
1910	139	2,847	36,554	75,730	126,092	29,380	286,296	152,163	146,885	40,032
1911	150	10,367	40,284	42,511	138,697	29,813	265,924	156,675	157,709	45,729
1912	106	6,338	38,088	15,264	126,467	39,451	233,925	208,574	204,044	56,321
1913	25	2,599	25,857	7,362	92,850	30,586	170,208	200,994	159,545	53,749
1914	18	2,428	23,266	6,394	97,017	15,813	151,212	193,964	165,882	45,543
1915	5	55,363	31,875	170,441	80,482	20,240	394,981	346,718	203,701	45,656
1916	21	44,394	38,115	231,214	102,646	16,289	457,556	579,809	282,209	63,461
1917	13	66,050	58,054	197,177	67,110	15,209	423,674	667,152	266,657	46,993
1918	18	44,303	54,468	370,033	56,603	5,015	600,132	815,294	419,572	33,222
1919	42	18,792	45,066	332,205	59,292	16,172	591,302	1,238,247	667,240	31,504
1920	83	19,378	32,384	153,561	74,529	32,937	368,002	803,667	275,456	41,643
1921	146	10,826	23,313	21,084	106,415	16,844	203,815	489,298	172,012	33,286
1922	155	7,471	26,774	3,993	117,174	27,658	222,462	350,549	271,642	33,510
1923	61	8,446	24,185	4,017	104,956	25,665	194,912	408,334	319,269	40,934
1924 [2]	33	3,938	21,851	2,817	92,965	37,372	185,418	423,500	381,564	37,469

Year ended June 30	Packing-house products			Apples, fresh	Corn and corn meal (in terms of grain)	Cotton	Glucose and grape sugar	Corn oil cake and oil-cake meal	Cottonseed oil cake and oil-cake meal
	Pork—lard	Pork and its products—total, as far as ascertainable [3]	Lard compounds						
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 barrels*	*1,000 bushels*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1901	611,358	1,462,370	23,360	884	181,405	3,359,062	204,216	12,703	1,258,687
1902	556,840	1,337,316	36,202	460	28,029	3,528,975	130,420	14,740	1,050,466
1903	490,756	1,042,120	46,130	1,656	76,639	3,569,142	126,240	8,093	1,100,393
1904	561,303	1,146,255	53,604	2,018	58,222	3,089,856	152,769	14,015	820,349
1905	610,239	1,220,032	61,215	1,500	90,293	4,339,322	175,251	24,171	1,251,908
1906	741,517	1,464,960	67,621	1,209	119,894	3,634,045	189,056	48,421	1,110,835
1907	627,560	1,268,065	80,149	1,539	86,368	4,518,217	151,629	56,809	1,340,967
1908	603,414	1,237,211	75,183	1,050	55,064	3,816,999	129,687	66,128	929,287
1909	528,723	1,053,142	75,183	896	37,665	4,447,985	112,225	53,234	1,233,750
1910	362,928	707,110	74,557	922	38,128	3,206,708	149,820	49,109	640,089
1911	476,108	879,455	73,754	1,721	65,615	4,033,941	181,963	83,385	804,597
1912	532,256	1,071,952	62,523	1,456	41,797	5,535,125	171,156	72,490	1,293,690
1913	519,025	984,697	67,457	2,150	50,780	4,562,296	200,149	76,263	1,128,092
1914	481,458	921,913	58,304	1,507	10,726	4,760,941	199,531	59,031	799,974
1915	475,532	1,106,180	69,981	2,352	50,668	4,403,578	158,463	45,026	1,479,065
1916	427,011	1,462,697	52,843	1,466	39,897	3,084,070	186,406	18,996	1,057,222
1917	444,770	1,501,948	56,359	1,740	66,753	3,088,081	214,973	15,758	1,150,160
1918	392,506	1,692,124	31,278	635	49,073	2,320,512	97,858	458	44,681
1919	724,771	2,704,694	128,157	1,576	23,019	2,762,947	136,230	562	311,624
1920	587,225	1,762,611	44,196	1,051	16,729	3,543,743	245,264	511	449,573
1921	746,157	1,522,162	42,156	2,665	70,906	2,811,389	141,954	1,795	454,701
1922	812,379	1,516,320	30,328	1,094	179,490	3,358,879	273,982	3,596	532,721
1923	952,642	1,794,880	11,140	1,756	96,596	2,626,732	162,693	686	454,350
1924 [2]	1,014,898	1,934,223	6,907	4,098	23,135	2,949,356	148,051	.....	250,366

[1] Includes canned, cured, and fresh beef, oleo oil, oleo stock, oleomargarine, tallow, and stearin from animal fats.
[2] Preliminary.
[3] Includes canned, fresh, salted, or pickled pork, lard, neutral lard, lard oil, bacon, and hams.

TABLE 681.—*Exports of selected domestic agricultural products, 1901–1924*—Con.

Year ended June 30	Prunes	Tobacco	Hops	Oils, vegetable—cottonseed oil	Rice and rice bran, meal, and polish	Sugar, raw and refined	Wheat	Wheat flour	Wheat and wheat flour (in terms of grain)
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 gallons*	*1,000 pounds*	*1,000 pounds*	*1,000 bushels*	*1,000 barrels*	*1,000 bushels*
1901	10,022	315,788	14,964	49,357	25,528	8,875	132,061	18,651	215,990
1902	23,359	301,007	10,715	33,043	29,591	7,572	154,856	17,759	234,773
1903	66,385	368,184	7,795	35,643	19,750	10,520	114,181	19,716	202,906
1904	73,146	311,972	10,986	29,014	29,122	15,419	44,230	16,999	120,728
1905	54,994	334,302	14,859	51,536	113,283	18,348	4,394	8,826	44,113
1906	24,870	312,227	13,027	43,794	38,142	22,176	34,973	13,919	97,609
1907	44,400	340,743	16,810	41,880	30,174	21,238	76,569	15,585	146,700
1908	28,148	330,813	22,920	41,020	28,444	25,511	100,371	13,927	163,044
1909	22,602	287,901	10,447	51,087	20,511	79,946	66,923	10,521	114,268
1910	89,015	357,196	10,589	29,861	26,779	125,507	46,680	9,041	87,364
1911	51,031	355,327	13,105	30,069	30,063	54,947	23,729	10,129	69,312
1912	74,328	379,845	12,191	53,263	39,447	79,594	30,160	11,006	79,689
1913	117,951	418,797	17,591	42,031	38,908	43,995	91,603	11,395	142,980
1914	69,814	449,750	24,263	25,738	22,414	50,896	92,394	11,821	145,590
1915	43,479	348,346	16,210	42,449	77,480	549,007	259,643	16,183	332,465
1916	57,423	443,293	22,410	35,535	121,967	1,630,151	173,274	15,521	213,117
1917	59,645	411,599	4,825	21,188	181,372	1,248,908	149,831	11,943	203,574
1918	32,927	289,171	3,495	18,437	196,363	576,483	34,119	21,880	132,579
1919	59,072	629,288	7,467	23,828	193,128	1,115,865	178,583	24,182	287,402
1920	114,066	648,038	30,780	21,253	483,385	1,444,031	122,431	21,652	219,865
1921	57,461	506,526	22,206	37,769	440,855	582,698	293,268	16,180	366,077
1922	109,398	463,389	19,522	12,215	741,509	2,002,039	208,321	15,797	279,407
1923	79,229	454,364	13,497	8,572	370,670	749,855	154,951	14,883	221,923
1924 [1]	136,448	597,630	20,461	5,256	227,757	270,942	78,793	17,253	156,430

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1901-1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920, 1922, 1923, and 1924, Bureau of Foreign and Domestic Commerce.

Cottonseed oil, 1910, pounds reduced to gallons at the rate of 7.5 pounds per gallon. It is assumed that 1 barrel of corn meal is the product of 4 bushels of corn, and 1 barrel of wheat flour the product of 4½ bushels of wheat.

[1] Preliminary.

TABLE 682.—*Imports of selected agricultural products, 1901-1924*

Year ended June 30	Cheese	Silk [1]	Wool	Almonds	Argols or wine lees	Cocoa and chocolate, total	Coffee	Corn	Oats, including oatmeal	Wheat
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
1901	15,329	10,406	103,584	5,140	28,599	47,620	854,871	5	32	600
1902	17,068	14,235	166,577	9,869	29,276	52,879	1,091,004	18	39	119
1903	20,671	15,271	177,138	8,142	29,967	65,047	915,086	41	150	1,077
1904	22,707	16,723	173,743	9,839	24,572	75,071	995,043	17	184	7
1905	23,096	22,357	249,136	11,745	26,282	77,383	1,047,793	15	56	3,103
1906	27,287	17,352	201,689	15,009	28,141	84,127	851,669	10	40	58
1907	33,849	18,744	203,848	14,234	30,541	97,060	985,321	11	91	375
1908	32,531	16,662	125,981	17,145	26,739	86,605	890,640	20	383	342
1909	35,548	25,188	266,409	11,029	32,116	132,661	1,049,869	258	6,692	41
1910	40,818	23,457	263,928	18,556	28,183	111,071	871,470	118	[2] 1,035	164
1911	45,569	26,666	137,648	15,523	29,175	140,971	875,367	52	[2] 107	509
1912	46,542	26,585	193,401	17,231	23,661	148,786	885,201	53	[2] 2,622	2,699
1913	49,388	32,102	195,293	15,671	29,479	143,510	863,131	903	[2] 724	798
1914	63,784	34,546	247,649	19,038	29,793	179,364	1,001,528	12,367	[2] 22,274	1,979
1915	50,139	31,053	308,083	17,111	28,625	194,734	1,118,691	9,898	[2] 631	426
1916	30,088	41,925	534,828	16,597	34,721	245,579	1,201,104	5,208	[2] 665	5,703
1917	14,482	40,351	372,372	23,424	23,926	340,483	1,319,871	2,267	[2] 762	24,139
1918	9,839	43,681	379,130	23,840	30,267	399,312	1,143,891	3,196	[2] 2,591	28,177
1919	2,442	50,069	422,415	30,328	32,228	313,195	1,046,029	3,311	551	11,121
1920	17,914	58,410	427,578	33,682	23,638	421,880	1,414,228	10,229	6,044	4,780
1921	16,585	34,778	318,236	20,497	26,486	328,447	1,348,926	5,743	3,796	51,004
1922	34,271	57,437	255,087	31,343	18,749	318,969	1,238,012	125	1,733	14,466
1923	54,555	63,188	[3] 550,180	27,549	21,950	383,929	1,305,188	138	293	18,013
1924 [4]	66,597	56,595	[3] 251,848	26,065	17,650	386,227	1,429,742	228	4,244	27,284

[1] Includes "Silk, raw or as reeled from the cocoon," "Silk waste, and "Silk cocoons."
[2] Does not include oatmeal.
[3] Includes wooled sheep and lamb skins, dry and green.
[4] Preliminary.

TABLE 682.—*Imports of selected agricultural products, 1901–1924*—Continued

Year ended June 30	Wheat flour	Wheat, including wheat flour	Flaxseed	Unmanufactured tobacco	Flax	Hemp	Hops	Jute and jute butts	Licorice root
	1,000 barrels	*1,000 bushels*	*1,000 bushels*	*1,000 pounds*	*1,000 long tons*	*1,000 long tons*	*1,000 pounds*	*1,000 long tons*	*1,000 pounds*
1901	1	603	1,632	26,851	7	4	2,607	103	100,106
1902	(5)	121	477	29,429	8	6	2,805	129	109,077
1903	1	1,080	129	34,017	8	5	6,013	80	88,581
1904	47	218	213	31,163	10	6	2,758	97	89,463
1905	41	3,286	296	33,288	8	4	4,339	98	108,444
1906	45	262	52	41,126	9	5	10,114	104	102,152
1907	48	590	90	40,899	9	9	6,212	104	66,116
1908	40	520	57	35,005	10	6	8,493	108	109,356
1909	92	457	594	43,123	10	5	7,387	157	97,743
1910	145	816	5,002	46,853	13	6	3,201	68	82,207
1911	142	1,147	10,499	48,203	8	5	8,558	65	125,135
1912	159	3,414	6,842	54,740	11	5	2,991	101	74,582
1913	108	1,282	5,294	67,977	12	8	8,494	125	105,116
1914	90	2,384	8,653	61,175	10	9	5,382	106	115,636
1915	64	715	10,666	45,809	5	5	11,651	83	65,959
1916	330	7,188	14,679	48,078	7	7	676	108	41,003
1917	175	24,925	12,394	49,105	8	10	237	113	59,400
1918	675	31,215	13,367	86,991	6	7	121	78	26,983
1919	37	11,289	8,427	83,951	9	2	----	53	42,684
1920	159	5,496	23,392	94,005	5	4	2,696	77	48,043
1921	1,421	57,398	16,170	58,923	5	10	4,808	90	59,693
1922	619	17,251	13,632	65,225	5	3	893	62	62,388
1923	429	19,945	25,906	75,786	8	6	1,295	85	35,339
1924 [4]	169	28,045	19,577	54,341	5	1	761	84	87,684

Year ended June 30	Manila	Molasses	Olive oil, for table use [6]	Opium, crude	Potatoes	Rice and rice flour, rice meal, and broken rice	Sisal grass	Sugar, raw and refined	Tea
	1,000 long tons	*1,000 gallons*	*1,000 gallons*	*1,000 pounds*	*1,000 bushels*	*1,000 pounds*	*1,000 long tons*	*1,000 pounds*	*1,000 pounds*
1901	44	11,453	983	583	372	117,200	70	3,975,006	89,806
1902	56	14,391	1,339	534	7,656	157,659	90	3,031,916	75,579
1903	62	17,240	1,494	517	359	169,656	87	4,216,108	108,575
1904	66	18,829	1,714	573	3,167	154,222	109	3,700,624	112,906
1905	62	19,478	1,923	585	181	106,484	100	3,680,933	102,707
1906	59	16,021	2,447	469	1,948	166,548	98	3,979,331	93,622
1907	55	24,631	3,450	565	177	209,603	99	4,391,840	86,368
1908	52	18,883	3,799	286	404	212,783	104	3,371,997	94,150
1909	62	22,093	4,129	517	8,384	222,900	91	4,189,421	114,917
1910	93	31,292	3,702	449	353	225,401	100	4,094,546	85,626
1911	74	23,838	4,406	630	219	208,775	118	3,937,978	102,564
1912	69	28,828	4,837	400	13,735	190,063	114	4,104,618	101,407
1913	74	33,927	5,221	508	327	222,104	154	4,740,041	94,813
1914	50	51,410	6,218	455	3,646	300,195	216	5,066,822	91,131
1915	51	70,840	6,711	484	271	277,191	186	5,420,982	96,988
1916	79	85,717	7,224	147	210	264,324	229	5,633,162	109,866
1917	77	110,238	7,533	87	3,079	216,049	143	5,332,746	103,364
1918	86	130,731	2,538	158	1,180	456,059	150	4,903,327	151,315
1919	68	130,075	4,283	346	3,534	363,726	153	5,836,048	108,172
1920	77	154,670	6,813	629	6,941	179,930	176	7,596,032	97,826
1921	52	113,414	4,443	77	3,423	96,805	159	7,012,679	72,196
1922	44	87,908	7,941	144	2,110	73,620	72	8,464,329	86,142
1923	98	161,135	9,950	109	572	69,536	98	8,733,488	96,669
1924 [4]	88	174,037	10,784	79	564	38,210	97	7,530,000	105,375

[4] Preliminary. [5] Less than 500 barrels. [6] Includes all olive oil from 1901–1905.

TABLE 682.—*Imports of selected agricultural products 1901–1924*—Continued

Year ended June 30	Beeswax	Onions	Plums and prunes	Raisins	Currants	Dates	Figs
	1,000 pounds	*1,000 bushels*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1901	214	774	746	3,861	16,049	20,014	9,934
1902	409	796	522	6,684	36,239	21,681	11,087
1903	489	926	634	6,716	33,878	43,815	16,482
1904	425	1,171	494	6,868	38,348	21,058	13,178
1905	374	856	672	4,042	31,743	19,257	13,364
1906	588	873	497	12,415	37,078	22,436	17,562
1907	917	1,126	323	3,967	38,393	31,271	24,346
1908	672	1,275	335	9,132	38,653	24,058	18,837
1909	765	575	296	5,794	32,482	21,869	15,236
1910	972	1,024	.....	5,043	33,326	22,694	17,362
1911	903	1,515	.....	2,479	33,440	29,505	23,460
1912	1,077	1,436	.....	3,256	33,151	25,208	18,765
1913	829	789	.....	2,580	30,844	34,305	16,838
1914	1,412	1,115	.....	4,555	32,033	34,074	19,285
1915	1,565	829	.....	2,809	30,351	24,949	20,790
1916	2,146	816	.....	1,024	25,373	31,075	7,153
1917	2,686	1,758	.....	1,850	10,477	25,485	16,480
1918	1,827	1,313	.....	844	5,168	5,573	10,473
1919	2,127	152	.....	120	842	20,192	9,239
1920	3,924	1,884	.....	13,897	38,225	36,893	28,552
1921	2,215	689	.....	43,269	50,178	35,267	25,424
1922	3,101	2,488	.....	18,363	49,467	46,742	43,139
1923	4,095	1,781	.....	12,335	18,924	52,037	36,585
1924 [1]	3,271	1,406	.....	5,745	17,155	44,143	31,668

Year ended June 30	Hides and skins, other than furs			Macaroni, vermicelli, and all similar preparations	Lemons	Oranges	Walnuts
	Cattle	Goat	Other than cattle and goat				
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1901	129,175	73,746	77,990	.....	148,515	60,333	.....
1902	148,628	88,039	89,458	.....	164,075	52,742	.....
1903	131,644	85,114	102,340	28,788	152,004	56,872	12,363
1904	85,370	86,339	103,025	40,224	171,923	35,893	23,671
1905	113,177	97,804	126,894	53,441	139,084	28,881	21,684
1906	156,155	111,097	158,045	77,926	138,717	31,134	24,917
1907	134,671	101,202	135,111	87,721	157,860	21,267	32,598
1908	98,353	63,641	120,771	97,234	178,490	18,307	28,887
1909	192,252	104,048	148,254	85,114	135,184	8,436	26,158
1910	318,004	115,845	174,771	113,773	160,215	4,676	33,641
1911	150,128	86,914	137,850	114,779	134,969	7,672	33,619
1912	251,013	95,341	191,415	108,231	145,639	7,629	37,214
1913	268,042	96,250	207,904	106,501	151,416	12,253	26,662
1914	279,963	84,759	196,348	126,129	.....	.....	37,196
1915	344,341	66,547	137,439	56,542	.....	.....	33,446
1916	434,178	100,657	208,835	21,790	.....	.....	36,859
1917	386,600	105,640	207,967	3,473	.....	.....	38,725
1918	267,560	66,933	98,084	670	.....	.....	23,289
1919	253,877	89,005	105,260	592	(7)	(7)	10,937
1920	439,461	126,996	232,113	800	(7)	(7)	44,783
1921	198,573	41,728	111,891	1,297	(7)	(7)	23,166
1922	204,936	83,535	104,433	1,992	101,592	(7)	60,233
1923	405,383	89,401	163,401	3,254	122,818	(7)	37,520
1924 [1]	176,475	65,881	110,137	3,870	75,297	[8] 245	37,010

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Where figures are lacking, either there were no imports or they were not separately classified for publication.

[1] Preliminary. [7] Value only given. [8] Beginning Jan. 1.

TABLE 683.—*Exports and imports of selected forest products, 1901–1924*

Year ended June 30	Domestic exports					Imports					
	Lumber		Rosin	Spirits of turpentine	Timber, hewn and sawed	Camphor, crude	Rubber gums, total	Lumber		Shellac	Wood pulp
	Boards, deals, and planks	Staves						Boards, deals, planks, and other sawed	Shingles		
	1,000 M feet	*Thousands*	*1,000 barrels*	*1,000 gallons*	*1,000 M feet*	*1,000 pounds*	*1,000 pounds*	*1,000 M feet*	*1,000 M*	*1,000 pounds*	*1,000 long tons*
1901	1,102	47,363	2,821	20,241	590	2,176	64,927	491	556	9,609	47
1902	943	46,999	2,536	19,178	477	1,831	67,790	666	708	9,065	67
1903	1,066	55,879	2,396	16,379	570	2,472	69,312	721	724	11,591	117
1904	1,427	47,420	2,585	17,203	604	2,820	74,328	589	770	10,933	145
1905	1,283	48,286	2,310	15,895	533	1,904	87,004	711	759	10,701	168
1906	1,344	57,586	2,439	15,981	595	1,669	81,109	950	901	15,780	157
1907	1,624	51,120	2,561	15,855	640	3,138	106,748	934	881	17,786	213
1908	1,548	61,697	2,713	19,533	522	2,814	85,810	791	988	13,362	238
1909	1,358	52,583	2,170	17,502	419	1,990	114,599	846	1,058	19,185	274
1910	1,684	49,784	2,144	15,588	491	3,007	154,621	1,054	763	29,402	378
1911	2,032	65,726	2,190	14,818	532	3,726	145,744	872	643	15,495	492
1912	2,307	64,163	2,474	19,599	438	2,155	175,966	905	515	18,746	478
1913	2,550	89,006	2,806	21,094	512	3,709	170,747	1,091	560	21,912	503
1914	2,405	77,151	2,418	18,901	441	3,477	161,777	929	895	16,720	508
1915	1,129	39,297	1,372	9,464	174	3,729	196,122	939	1,487	24,153	588
1916	1,177	57,538	1,571	9,310	201	4,574	304,183	1,218	1,769	25,818	507
1917	1,042	61,469	1,639	8,842	184	6,885	364,914	1,175	1,924	32,540	699
1918	1,068	63,207	1,071	5,095	106	3,638	414,984	1,283	1,878	22,913	504
1919	1,073	62,753	882	8,065	92	2,623	422,215	977	1,757	14,269	475
1920	1,518	80,791	1,322	7,461	234	4,026	660,610	1,492	2,152	34,151	727
1921	1,269	65,710	877	9,742	123	2,093	371,300	920	1,831	23,872	624
1922	1,543	35,162	786	10,786	268	1,592	578,512	1,124	2,190	30,768	902
1923	1,549	57,466	1,040	9,012	383	3,498	810,028	1,958	2,695	32,773	1,263
1924[1]	1,867	60,868	1,208	11,194	815	1,955	633,489	1,786	2,417	28,512	1,187

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[1] Preliminary.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS						
Cattle:	*Number*	*Number*	*Number*	*Per cent*	*Per cent*	*Per cent*
Belgium	4,930	1,443	2,398	3.2	2.3	7.3
Canada	3,831	1,601	962	2.5	2.6	2.9
Cuba	5,799	2,529	3,046	3.7	4.1	9.3
Germany			1			(1)
Mexico	106,131	49,223	26,006	68.3	80.1	79.4
United Kingdom	34,158	6,417	3	22.0	10.4	(1)
Other countries	432	273	345	.3	.5	1.1
Total	155,281	61,486	32,761	100.0	100.0	100.0
Horses:						
Belgium	107	4	40	.6	.1	.3
Canada	2,915	2,496	1,754	16.4	28.9	15.0
Cuba	782	491	604	4.4	5.7	5.2
Germany	221	10	41	1.2	.1	.4
Mexico	11,747	3,802	7,579	65.9	44.0	64.8
Spain	1,206	1,214	1,011	6.8	14.0	8.6
United Kingdom	320	158	110	1.8	1.8	.9
Other countries	529	466	554	2.9	5.4	4.8
Total	17,827	8,641	11,693	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS—contd.						
	Pounds	*Pounds*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
Butter:						
Canada	874,712	76,314	42,085	11.7	.8	.8
Cuba	780,011	767,108	804,905	10.4	8.2	14.8
Germany	1,817	2,228	64,685	(1)	(1)	1.2
Haiti	456,037	615,399	512,453	6.1	6.5	9.4
Japan	67,168	51,201	149,305	.9	.5	2.8
Mexico	866,259	904,158	843,245	11.5	9.6	15.5
Other South America	429,292	359,809	209,866	5.7	3.8	3.9
Other West Indies	1,637,662	1,433,345	791,720	21.8	15.2	14.6
Panama	698,162	657,793	739,120	9.3	7.0	13.6
Peru	266,233	234,975	518,243	3.5	2.5	9.6
Philippine Islands	276,549	354,889	249,749	3.7	3.8	4.6
United Kingdom	572,227	3,408,128	51	7.6	36.2	(1)
Other countries	585,868	544,490	499,872	7.8	5.9	9.2
Total	7,511,997	9,409,837	5,425,299	100.0	100.0	100.0
Cheese:						
Canada	1,283,337	660,943	264,967	17.2	7.8	6.7
China	182,952	190,980	114,722	2.4	2.3	2.9
Cuba	1,448,039	1,496,424	1,122,695	19.4	17.7	28.5
Mexico	1,497,279	1,037,719	824,468	20.0	12.3	21.0
Other Central America	270,681	276,221	280,679	3.6	3.3	7.1
Other West Indies (including Bermuda)	807,936	679,867	518,422	10.8	8.0	13.2
Panama	358,301	344,933	339,431	4.8	4.1	8.6
Peru	11,482	51,500	107,874	.2	.6	2.7
Philippine Islands	92,595	104,799	97,980	1.2	1.2	2.5
Sweden	288,347	8,054	3,489	3.9	.1	.1
United Kingdom	757,617	3,296,276	65,046	10.1	39.0	1.7
Other countries	472,886	298,605	198,538	6.4	3.6	5.0
Total	7,471,452	8,446,321	3,938,311	100.0	100.0	100.0
Beef, canned:						
British Guiana	14,344	38,021	13,650	.4	1.6	.9
Canada	173,600	93,900	31,735	4.6	4.1	2.1
Cuba	28,882	89,166	35,230	.8	3.9	2.3
Dutch East Indies	51,185	116,252	9,459	1.4	5.1	.6
French Guiana	6,249	10,944	6,973	.2	.5	.5
Germany	13,181	52,192	387,733	.4	2.3	25.1
Honduras	22,802	44,202	57,852	.6	1.9	3.7
Japan	102,059	58,885	45,887	2.7	2.6	3.0
Mexico	84,085	81,189	77,627	2.2	3.5	5.0
Newfoundland and Labrador	46,975	64,663	52,264	1.3	2.8	3.4
Other West Indies (including Bermuda)	344,142	426,235	118,025	9.2	18.4	7.6
Panama	22,701	28,454	37,788	.6	1.2	2.4
Philippine Islands	94,610	291,241	113,388	2.5	12.6	7.3
United Kingdom	2,463,365	722,441	303,680	65.7	31.2	19.7
Other countries	280,306	194,695	253,416	7.4	8.3	16.4
Total	3,748,486	2,312,480	1,544,707	100.0	100.0	100.0
Beef, pickled and other cured:						
Belgium	693,384	363,751	384,705	2.6	1.5	1.8
British West Africa	425,220	817,731	1,277,336	1.6	3.4	5.8
Canada	1,079,987	1,460,891	1,066,340	4.0	6.0	4.9
Cuba	126,133	175,718	123,317	.5	.7	.6
Denmark	308,725	196,700	103,520	1.2	.8	.5
Dutch Guiana	1,390,643	1,137,500	855,750	5.2	4.7	3.9
French Guiana	405,329	481,006	338,675	1.5	2.0	1.5
Germany	954,126	462,936	447,215	3.6	1.9	2.0
Netherlands	178,266	190,989	62,462	.7	.8	.3
Newfoundland and Labrador	6,942,314	6,627,439	7,420,262	25.9	27.4	34.0
Norway	3,481,835	1,785,320	1,105,581	13.0	7.4	5.1
Other West Indies (including Bermuda)	4,985,528	5,308,574	4,875,662	18.6	21.9	22.3
Panama	272,320	259,924	223,229	1.0	1.1	1.0
United Kingdom	3,513,473	3,084,799	1,667,457	13.1	12.8	7.6
Other countries	2,016,841	1,831,991	1,899,470	7.5	7.6	8.7
Total	26,774,124	24,185,263	21,850,981	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS—contd.						
	Pounds	*Pounds*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
Oleo oil:						
Belgium	1,472,357	1,665,677	1,843,777	1.3	1.6	2.0
Denmark	2,493,656	2,581,795	3,279,632	2.1	2.5	3.5
France	3,892,117	245,712	19,111	3.3	.2	(1)
Germany	14,878,393	13,987,054	11,218,141	12.7	13.3	12.1
Greece	1,877,494	1,190,630	4,761,951	1.6	1.1	5.1
Netherlands	46,629,929	47,052,838	41,649,811	39.8	44.8	44.8
Newfoundland and Labrador	1,168,096	1,522,240	1,282,125	1.0	1.5	1.4
Norway	15,956,477	12,133,362	12,142,884	13.6	11.6	13.1
Sweden	2,676,865	2,383,367	1,223,004	2.3	2.3	1.3
Turkey in Europe	11,148,201	4,123,958	18,901	9.5	3.9	(1)
United Kingdom	11,081,989	14,967,025	12,177,331	9.5	14.3	13.1
Other countries	3,898,686	3,102,720	3,348,333	3.3	2.9	3.6
Total	117,174,260	104,956,378	92,965,001	100.0	100.0	100.0
Lard compounds containing animal fats:						
Bermuda	157,360	76,933	39,108	.5	.7	.6
British West Africa	82,883	78,051	64,269	.3	.7	.9
Canada	416,069	64,281	141,132	1.4	.6	2.0
Central America	1,306,627	748,478	701,491	4.3	6.7	10.2
Chile	7,835	166,690	91,698	(1)	1.5	1.3
Cuba	3,965,013	1,413,857	930,353	13.1	12.7	13.5
Dominican Republic	41,851	46,307	36,099	.1	.4	.5
Dutch West Indies	253,407	271,488	236,185	.8	2.4	3.4
Germany	3,046,988	3,473	94,198	10.0	(1)	1.4
Haiti	1,883,097	1,444,849	1,498,345	6.2	13.0	21.7
Jamaica	232,990	155,905	50,668	.8	1.4	.7
Mexico	7,277,069	2,692,365	1,307,222	24.0	24.2	18.9
Netherlands	18,133	80,228	90,993	.1	.7	1.3
Newfoundland and Labrador	88,374	112,614	94,727	.3	1.0	1.4
Norway	1,397,358	735,077	86,150	4.6	6.6	1.2
Panama	582,151	357,509	315,049	1.9	3.2	4.6
Switzerland	44,608			.1		
Trinidad and Tobago	1,571,869	400,339	19,281	5.2	3.6	.3
Ukraine	987,189			3.3		
United Kingdom	4,029,319	1,575,543	265,037	13.3	14.1	3.8
Virgin Islands	295,826	130,556	283,383	1.0	1.2	4.1
Other countries	2,642,160	585,187	561,978	8.7	5.3	8.2
Total	30,328,176	11,139,730	6,907,366	100.0	100.0	100.0
Bacon:						
Belgium	16,743,147	23,215,436	16,089,326	4.8	5.7	3.8
Canada	11,021,627	9,925,008	9,975,533	3.1	2.4	2.4
Cuba	23,461,552	24,829,609	26,055,330	6.7	6.1	6.2
Denmark	3,623,419	2,456,058	1,601,989	1.0	.6	.4
France	9,363,454	7,758,436	14,941,288	2.7	1.9	3.5
Germany	53,252,825	74,441,278	80,390,080	15.2	18.2	19.0
Italy	2,481,361	9,259,356	38,399,216	.7	2.3	9.1
Mexico	416,135	395,045	414,907	.1	.1	.1
Netherlands	20,847,482	30,971,830	37,111,960	5.9	7.6	8.8
Norway	9,146,692	12,268,761	10,427,177	2.6	3.0	2.5
Sweden	6,749,329	9,768,261	6,876,016	1.9	2.4	1.6
United Kingdom	184,703,155	188,274,240	161,028,296	52.7	46.1	38.0
Other countries	8,738,774	14,771,022	20,185,926	2.6	3.6	4.6
Total	350,548,952	408,334,340	423,500,044	100.0	100.0	100.0
Hams and shoulders, cured:						
Belgium	9,690,036	13,978,797	21,184,772	6.6	4.4	5.6
Canada	10,663,674	19,535,776	16,778,985	3.9	6.1	4.4
Cuba	9,070,883	12,784,118	14,249,467	3.3	4.0	3.7
Dominican Republic	321,305	325,649	332,694	.1	.1	.1
France	894,348	2,142,135	4,586,967	.3	.7	1.2
Mexico	889,958	1,027,949	1,063,290	.3	.3	.3
Newfoundland and Labrador	482,578	648,577	804,218	.2	.2	.2
Panama	472,999	630,989	983,826	.2	.2	.3
United Kingdom	233,566,413	259,352,777	307,771,027	86.0	81.2	80.7
Other countries	5,589,592	8,842,306	13,808,488	2.1	2.8	3.5
Total	271,641,786	319,269,073	381,563,734	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS—contd.						
	Pounds	*Pounds*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
Lard:						
Belgium	43,591,420	50,472,076	40,634,402	5.4	5.3	4.0
Canada	8,852,480	14,318,375	15,230,837	1.0	1.5	1.5
Cuba	73,926,475	87,897,540	92,082,570	9.0	9.2	9.1
Denmark	6,922,941	5,699,646	7,364,675	.9	.6	.7
Dominican Republic	3,050,146	4,200,001	4,148,800	.4	.4	.4
Ecuador	3,501,343	4,518,308	4,052,907	.4	.5	.4
France	37,069,312	37,801,672	32,616,060	4.6	4.0	3.2
Germany	260,716,401	328,111,752	329,792,983	32.1	34.4	32.5
Haiti	1,431,574	1,763,529	2,238,522	.2	.2	.2
Italy	9,051,392	29,570,822	77,209,556	1.1	3.1	7.6
Mexico	44,435,678	44,951,072	45,809,783	5.5	4.7	4.5
Netherlands	42,830,544	47,802,425	71,570,259	5.3	5.0	7.1
Peru	5,118,918	7,799,400	10,133,557	.6	.8	1.0
Poland and Danzig	2,716,022	6,708,091	3,279,220	.3	.7	.3
Sweden	5,389,566	5,941,585	5,498,148	.7	.6	.5
Switzerland	3,830,264	2,789,067	2,722,105	.5	.3	.3
United Kingdom	244,465,234	241,144,099	240,007,876	30.1	25.3	23.6
Venezuela	659,156	2,192,440	2,101,955	.1	.2	.2
Other countries	14,820,530	28,959,805	28,404,173	1.8	3.2	2.9
Total	812,379,396	952,641,705	1,014,898,388	100.0	100.0	100.0
Lard, neutral:						
Belgium	641,869	971,168	801,047	3.3	3.7	3.3
Denmark	1,238,503	1,212,976	1,284,990	6.3	4.6	5.3
Germany	2,618,949	2,059,671	2,411,557	13.4	7.8	10.0
Netherlands	5,910,743	8,778,345	8,027,907	30.2	33.1	33.1
Newfoundland and Labrador	664,227	784,755	999,405	3.4	3.0	4.1
Norway	4,444,394	4,314,719	3,293,354	22.7	16.3	13.6
Sweden	1,219,533	1,439,750	1,401,896	6.2	5.4	5.8
United Kingdom	2,019,690	5,476,907	4,609,418	10.3	20.7	19.0
Other countries	815,032	1,455,788	1,409,407	4.2	5.4	5.8
Total	19,572,940	26,494,079	24,238,981	100.0	100.0	100.0
Pork, pickled:						
Belgium	628,129	328,441	723,541	1.9	.8	1.9
British Guiana	696,250	972,334	776,440	2.1	2.4	2.1
British Honduras	567,479	708,250	676,121	1.7	1.7	1.8
British West Indies	2,711,473	3,377,783	3,083,656	8.1	8.3	8.2
Canada	10,856,771	13,348,745	8,436,629	32.4	32.6	22.5
Cuba	1,319,231	1,379,111	4,411,895	3.9	3.4	11.8
Germany	1,746,028	3,523,805	3,308,849	5.2	8.6	8.8
Haiti	1,222,747	1,269,842	1,304,729	3.6	3.1	3.5
Newfoundland and Labrador	4,756,298	5,265,840	5,154,915	14.2	12.9	13.8
Norway	1,257,909	1,567,944	2,349,184	3.8	3.8	6.3
United Kingdom	4,913,655	5,852,630	4,105,706	14.7	14.3	11.0
Other countries	2,834,176	3,339,031	3,137,734	8.4	8.1	8.3
Total	33,510,146	40,933,756	37,469,399	100.0	100.0	100.0
VEGETABLE PRODUCTS						
Cotton:						
Austria	2,003,919	1,478,876	1,072,094	.1	.1	(1)
Belgium	93,136,041	92,884,508	84,484,106	2.8	3.5	2.9
Canada	100,583,080	108,525,863	75,865,482	3.0	4.1	2.6
China	67,196,247	11,556,176	13,812,830	2.0	.4	.5
Czechoslovakia	397,059	495,567	26,227	(1)	(1)	(1)
France	410,024,663	352,099,567	375,712,020	12.2	13.4	12.7
Germany	808,336,738	472,823,551	672,777,063	24.1	18.0	22.8
Italy	234,295,065	286,034,186	281,866,511	7.0	10.9	9.6
Japan	447,883,525	339,579,297	291,978,531	13.3	12.9	9.9
Mexico	3,097,263	7,745,906	540,865	.1	.3	(1)
Netherlands	48,101,703	37,800,219	56,227,936	1.4	1.4	1.9
Norway	3,261,395	2,099,248	2,468,546	.1	.1	.1
Poland and Danzig	9,081,134	11,111,022	4,377,654	.3	.4	.1
Portugal	10,277,523	14,106,863	9,372,335	.3	.5	.3
Spain	170,775,695	125,121,820	108,126,492	5.1	4.8	3.7
Sweden	26,827,106	30,295,627	36,161,419	.8	1.2	1.2
Switzerland	2,476,900	1,569,927	1,969,616	.1	.1	.1
United Kingdom	903,371,622	701,503,949	847,447,334	26.9	26.7	28.7
Other countries	17,952,170	29,899,975	85,069,327	.4	1.2	2.9
Total	3,358,878,748	2,626,732,147	2,949,356,388	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Fruits:						
Apples, fresh [2]—	*Boxes*	*Boxes*	*Boxes*	*Per cent*	*Per cent*	*Per cent*
Argentina	4,200	60,777	86,716	.3	1.7	1.4
Brazil	8,280	39,550	84,543	.6	1.1	1.4
Canada	204,677	347,919	645,817	19.0	10.0	10.4
Cuba	10,365	49,973	85,425	.7	1.4	1.4
Denmark	23,587	21,969	118,238	1.7	.6	1.9
Germany	2	14,483	476,633	(1)	.4	7.7
Mexico	26,011	103,824	126,223	1.9	3.0	2.0
Norway	57,534	128,537	175,862	4.1	3.7	2.8
Sweden	33,399	25,254	179,274	2.4	.7	2.9
United Kingdom	939,675	2,503,633	3,661,826	67.4	71.7	59.1
Other countries	27,204	195,325	557,642	.9	5.7	9.0
Total	1,394,934	3,491,244	6,198,199	100.0	100.0	100.0
Apples, fresh—	*Barrels*	*Barrels*	*Barrels*			
Argentina	7,857	13,083	26,794	1.2	2.2	1.3
Brazil	6,774	1,602	232	1.1	.3	(1)
Canada	44,824	47,095	45,459	7.1	7.9	2.2
Cuba	20,522	20,156	24,537	3.3	3.4	1.2
Denmark	9,031	7	26,428	1.4	(1)	1.3
Germany	74	18	42,568	(1)	(1)	2.1
Mexico	20,983	4,414	1,749	3.3	.7	.1
Norway	27,839	13,261	30,244	4.4	2.2	1.5
Sweden	2,803	1,180	78,768	.4	.2	3.9
United Kingdom	456,227	480,437	1,734,786	72.8	81.1	85.4
Other countries	30,246	11,418	20,676	5.0	2.0	1.0
Total	629,181	592,581	2,032,241	100.0	100.0	100.0
Apples, dried—	*Pounds*	*Pounds*	*Pounds*			
Argentina	20,609	53,735	111,049	.2	.4	.4
Belgium	306,180	402,105	394,650	2.5	3.1	1.3
Canada	22,753	250,246	70,439	.2	2.0	.2
China	93,448	52,332	65,692	.8	.4	.2
Denmark	1,300,312	991,536	1,585,798	10.5	7.7	5.2
Finland	273,500	619,591	439,134	2.2	4.8	1.4
France	1,327,993	1,124,350	249,303	10.7	8.8	.8
Germany	1,281,310	836,265	12,211,971	10.3	6.5	40.2
Netherlands	4,603,615	3,761,850	9,384,147	37.0	29.3	30.9
Norway	505,974	898,108	480,481	4.1	7.0	1.6
Sweden	1,356,507	1,674,426	2,594,713	10.9	13.1	8.5
United Kingdom	1,047,420	1,677,141	2,171,010	8.4	13.1	7.1
Other countries	282,410	475,565	651,952	2.2	3.8	2.2
Total	12,431,121	12,817,250	30,410,339	100.0	100.0	100.0
Apricots, dried—						
Belgium	718,651	394,945	1,911,302	4.3	3.5	4.9
Canada	659,949	802,276	2,152,860	3.9	7.2	5.6
Denmark	1,237,817	1,243,494	3,593,724	7.4	11.1	9.3
France	3,858,817	3,306,111	647,575	23.1	29.5	1.7
Germany	2,477,502	323,556	9,252,229	14.8	2.9	23.9
Japan	220,170	406,946	396,348	1.3	3.6	1.0
Netherlands	1,642,587	897,500	9,896,676	9.8	8.0	25.5
New Zealand	284,150	226,795	143,015	1.7	2.0	.4
Norway	806,752	1,085,049	1,455,814	4.8	9.7	3.8
Sweden	879,145	801,447	1,670,550	5.3	7.2	4.3
United Kingdom	3,585,399	1,246,608	6,419,033	21.4	11.1	16.6
Other countries	362,670	459,456	1,237,552	2.2	4.2	3.0
Total	16,735,609	11,198,183	38,776,678	100.0	100.0	100.0
Oranges—	*Boxes*	*Boxes*	*Boxes*			
Canada	1,531,264	1,674,106	2,324,329	93.4	93.7	90.1
United Kingdom	17,515	27,572	80,074	1.0	1.5	3.1
Other countries	91,989	97,535	177,405	5.6	5.4	6.8
Total	1,640,538	1,799,213	2,591,808	100.0	100.0	100.0
Prunes—	*Pounds*	*Pounds*	*Pounds*			
Belgium	3,945,320	2,515,887	3,522,493	3.6	3.2	2.6
Canada	14,253,357	13,951,017	15,209,349	13.0	17.6	11.1
Denmark	4,133,137	2,008,032	2,935,746	3.8	2.5	2.2
France	25,063,197	26,586,389	3,694,496	22.9	33.6	2.7
Germany	16,609,695	268,056	51,125,557	15.2	.3	37.5

[1] Less than 0.05 per cent. [2] Included in "Apples, fresh—Barrels" prior to Jan. 1, 1922.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Fruits—Continued.						
Prunes—Continued.	*Pounds*	*Pounds*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
Mexico	700,885	1,029,352	812,708	.6	1.3	.6
Netherlands	4,441,962	1,771,449	12,015,176	4.1	2.2	8.8
New Zealand	1,204,320	1,520,060	1,428,849	1.1	1.9	1.0
Norway	563,781	742,431	1,233,414	.5	.9	.9
Sweden	5,489,977	4,864,165	7,047,009	5.0	6.1	5.2
United Kingdom	29,581,264	18,995,239	30,160,616	27.0	23.9	22.1
Other countries	3,371,248	5,076,736	7,268,072	3.2	6.5	5.3
Total	109,398,133	79,228,753	136,448,485	100.0	100.0	100.0
Raisins—						
Canada	27,365,435	30,764,423	34,093,277	55.1	32.7	38.7
China	163,601	1,320,312	4,962,689	.3	1.4	5.6
Denmark	191,786	2,774,732	4,705,554	.4	3.0	5.3
Japan	2,722,984	4,632,227	7,695,360	5.5	4.9	8.7
Mexico	773,421	1,254,672	1,586,697	1.6	1.3	1.8
Netherlands	477,160	6,546,309	4,107,251	1.0	7.0	4.7
New Zealand	2,086,978	5,082,815	4,079,832	4.2	5.4	4.6
United Kingdom	10,447,997	37,411,094	20,607,010	29.1	39.8	23.4
Other countries	1,409,812	4,195,787	6,313,974	2.8	4.5	7.2
Total	49,639,114	93,962,362	88,151,644	100.0	100.0	100.0
Fruits, canned [4]—	*Dollars*	*Pounds*	*Pounds*			
Belgium	149,831	1,545,930	4,413,633	.9	.7	2.7
Canada	679,743	10,191,708	10,364,589	4.1	4.9	6.3
Cuba	38,601	4,021,997	6,573,053	.2	2.0	4.0
Dutch East Indies	229,578	2,198,419	1,149,410	1.4	1.1	.7
France	435,083	6,454,478	3,340,040	2.7	3.1	2.0
Netherlands	107,680	1,941,947	3,009,816	.7	.9	1.8
Norway	64,991	932,074	738,177	.4	.4	.4
Philippine Islands	46,471	1,011,011	658,346	.3	.5	.4
United Kingdom	13,688,171	164,760,873	120,394,446	83.6	79.5	72.6
Other countries	933,061	14,191,477	15,183,478	5.7	6.9	9.1
Total	16,373,219	207,220,004	165,824,988	100.0	100.0	100.0
Glucose—	*Pounds*	*Pounds*	*Pounds*			
Argentina	3,544,514	4,485,924	3,293,295	1.4	2.9	2.3
Belgium	13,725,027	6,384,683	4,982,609	5.3	4.1	3.5
British South Africa	2,926,270	3,737,884	3,795,921	1.1	2.4	2.7
Canada	4,595,089	2,277,590	1,958,100	1.8	1.5	1.4
Cuba	748,445	2,037,531	2,795,377	.3	1.3	2.0
Egypt	4,578,321	11,091,619	8,421,800	1.8	7.1	6.0
France	7,240,544	1,322,484	35,301	2.8	.8	(1)
Germany	26,104,465	1,794,295	667,460	10.1	1.1	.5
Greece	4,603,104	3,585,359	3,876,155	1.8	2.3	2.7
Italy	1,277,617	1,202,379	4,075,938	.5	.8	2.9
Mexico	1,822,090	2,638,023	2,671,755	.7	1.7	1.9
Netherlands	14,205,088	2,307,945	3,595,020	5.5	1.5	2.5
New Zealand	2,418,252	2,412,760	2,272,816	.9	1.5	1.6
Norway	2,262,350	2,293,564	2,075,660	.9	1.5	1.5
Sweden	1,084,443	1,542,520	3,034,049	.4	1.0	2.1
Turkey in Europe	6,980,132	2,573,822	2,685,746	2.4	1.6	1.9
Philippine Islands	744,962	2,087,695	1,672,963	.3	1.3	1.2
United Kingdom	147,372,616	93,054,723	77,681,081	57.0	59.6	55.0
Other countries	13,134,564	9,483,839	11,654,063	5.0	6.0	8.3
Total	258,447,893	156,314,639	141,141,220	100.0	100.0	100.0
Grains and grain products:						
Corn—	*Bushels*	*Bushels*	*Bushels*			
Belgium	4,470,782	1,930,687	563,830	2.5	2.1	2.7
Canada	61,643,197	32,153,860	8,257,917	34.9	34.2	39.0
Cuba	2,694,132	2,778,141	2,615,050	1.5	3.0	12.3
Denmark	7,265,923	3,320,120	885,964	4.1	3.5	4.2
France	2,974,911	3,174,168	380,313	1.7	3.4	1.8
Germany	27,175,486	11,806,514	672,586	15.4	12.6	3.2
Italy	1,427,684	960,110	11	.8	1.0	(1)
Mexico	10,101,521	288,487	336,880	5.7	.3	1.6
Netherlands	22,839,667	13,961,586	2,368,892	12.9	14.9	11.2
Norway	1,066,901	823,113	85,744	.6	.9	.4
Russia in Europe	5,872,694	3,392		3.3	(1)	
Spain	2,208,652	422,375	151,462	1.3	.4	.7
United Kingdom	22,074,350	21,271,060	4,448,973	12.5	22.6	21.0
Other countries	4,569,754	1,170,390	418,772	2.8	1.2	1.9
Total	176,385,614	94,064,053	21,186,344	100.0	100.0	100.0

[1] Less than 0.05 per cent.

[4] Reported in value only prior to July 1, 1922.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Grains and grain products—Continued.						
Rye—	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Per cent*	*Per cent*
Canada	8,427,829	14,212,391	8,579,023	28.4	27.6	48.5
Denmark	994,996	1,005,706	523,949	3.4	2.0	3.0
Finland	1,399,420	1,240,592	430,935	4.7	2.4	2.4
Germany	5,727,866	16,417,691	4,486,418	19.3	31.9	25.3
Netherlands	3,675,069	9,238,062	891,742	12.4	18.0	5.0
Norway	4,802,300	5,906,453	1,212,953	16.2	11.5	6.9
Russia in Europe	2,623,538	928,824	4,328	8.8	1.8	(1)
United Kingdom	847,729	985,606	168,386	2.9	1.9	1.0
Other countries	1,184,855	1,476,227	1,406,827	3.9	2.9	7.9
Total	29,683,602	51,411,550	17,704,561	100.0	100.0	100.0
Rye flour—	*Barrels*	*Barrels*	*Barrels*			
Austria		478			1.1	
Belgium			10,443			2.9
Brazil	1,236	503		2.8	1.2	
Canada	1,573	4,367	4,108	3.6	10.4	1.1
Denmark	1,792	1,724	7,513	4.1	4.1	2.1
Finland	15,852	8,443	23,675	36.5	20.1	6.5
France		1,125	26,714		2.7	7.3
Germany	2,919	1,466	189,407	6.7	3.5	51.7
Latvia	137	3,244		.3	7.7	
Netherlands	5,796	3,273	69,747	13.4	7.8	19.0
Norway	4,939	5,062	888	11.4	12.1	.2
Sweden	1,411	7,527	27,688	3.3	18.0	7.6
Turkey in Europe	5,275			12.2		
United Kingdom	484		1,185	1.1		.3
Virgin Islands	914	709	753	2.1	1.7	.2
Other countries	1,047	3,982	4,072	2.5	9.6	1.1
Total	43,375	41,903	366,193	100.0	100.0	100.0
Wheat—	*Bushels*	*Bushels*	*Bushels*			
Belgium	17,526,947	11,345,230	4,289,722	8.4	7.3	5.5
France	5,694,338	14,750,870	2,460,865	2.7	9.5	3.1
Germany	21,782,679	8,492,567	1,919,085	10.5	5.5	2.4
Gibraltar	2,079,257	1,096,580	183,592	1.0		.2
Italy	35,656,391	33,771,801	7,814,642	17.1	21.8	9.9
Netherlands	19,257,764	12,246,730	4,207,748	9.2	7.9	5.4
Norway	262,671	1,241,986	67,200	.1	.8	.1
Portugal	808,666			.4		
Russia in Europe	775,817	85,274		.4	.1	
Spain	448,806	23,997		1.2	(1)	
United Kingdom	48,808,181	28,237,471	16,811,144	23.4	18.2	21.3
Other Europe	2,097,057	1,858,269	1,069,762	1.1	1.2	1.4
Total Europe	157,198,574	113,150,775	38,823,760	75.5	73.0	49.3
Canada	29,341,265	31,992,628	17,979,540	14.1	20.6	22.8
China	2,033,553	1,106,580	8,301,021	1.0	.7	10.5
Japan	11,002,363	5,353,422	10,255,908	5.3	3.5	13.0
Other countries	8,745,336	3,347,566	3,432,805	4.1	2.2	4.4
Total	208,321,091	154,950,971	78,793,034	100.0	100.0	100.0
Wheat flour—	*Barrels*	*Barrels*	*Barrels*			
Belgium	123,479	42,072	58,834	.8	.3	.3
Denmark	359,403	194,899	174,494	2.3	1.3	1.0
Finland	432,881	655,565	619,589	2.7	4.4	3.6
Germany	1,516,353	1,062,684	1,488,329	9.6	7.1	8.6
Greece	63,810	317,738	388,512	.4	2.1	2.9
Italy	50,058	54,280	153,333	.3	.4	.3
Netherlands	917,560	982,736	1,841,398	5.8	6.6	10.7
Norway	408,410	216,555	119,770	2.6	1.5	.7
Poland and Danzig	146,744	158,785	34,716	.9	1.1	.2
Russia in Europe	154,472	313,519	252	1.0	2.1	(1)
Sweden	137,734	105,507	143,574	.9	.7	.8
Turkey in Europe	1,381,963	472,378	32,799	8.7	3.2	.2
United Kingdom	3,190,762	1,913,853	1,451,452	20.2	12.9	8.4
Other Europe	408,937	518,670	90,569	2.6	3.4	.5
Total Europe	9,292,566	7,009,221	6,597,621	58.8	47.1	38.2
Brazil	327,018	477,568	530,160	2.1	3.2	3.1
British West Africa	65,574	108,703	124,229	.4	.7	.7
Canada	68,216	66,936	114,961	.4	.4	.7
Central America	499,827	537,868	562,360	3.2	3.6	3.3
China	228,871	1,475,843	2,938,805	1.4	9.9	17.0

1 Less than 0.05 per cent.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Grains and grain products—Continued.				Per cent	Per cent	Per cent
Wheat flour—Continued.	*Barrels*	*Barrels*	*Barrels*			
Cuba	1,068,721	1,088,582	1,114,160	6.8	7.3	6.5
Egypt	190,224	293,147	128,966	1.2	2.0	.7
Haiti	162,488	281,000	428,634	1.0	1.9	2.5
Hongkong	973,255	825,197	1,354,656	6.2	5.5	7.9
Japan	629,012	244,560	171,050	4.0	1.6	1.0
Kwantung (leased territory)	344,567	384,909	934,358	2.2	2.6	5.4
Mexico	245,670	365,664	495,263	1.6	2.5	2.9
Other West Indies	508,775	473,121	524,137	3.2	3.2	3.0
Panama	95,120	88,240	85,503	.6	.6	.5
Philippine Islands	333,046	469,838	585,419	2.1	3.2	3.4
Venezuela	77,308	83,061	59,692	.5	.6	.3
Other countries	686,566	609,256	503,246	4.3	4.1	2.9
Total	15,796,824	14,882,714	17,252,620	100.0	100.0	100.0
Hops:	*Pounds*	*Pounds*	*Pounds*			
Australia	488,666	382,633	55,670	2.5	2.8	.3
Belgium	1,292,790	6,852,576	5,290,342	6.6	50.8	25.9
Canada	2,762,124	3,031,538	3,142,801	14.1	22.5	15.4
Germany	121,976	53,270	1,308,643	.6	.4	6.4
Japan	167,320	168,521	552,500	.9	1.2	2.7
United Kingdom	13,845,499	2,351,919	8,341,301	70.9	17.4	40.8
Other countries	843,263	656,726	1,769,448	4.4	4.9	8.5
Total	19,521,647	13,497,183	20,460,705	100.0	100.0	100.0
Oil cake and oil-cake meal:						
Cottonseed cake—						
Denmark	264,890,758	195,357,016	150,179,071	63.8	57.0	74.7
Germany	117,369,484	132,347,954	39,142,550	28.3	38.6	19.5
Sweden	20,929,920	4,264,960	2,953,708	5.0	1.2	1.5
United Kingdom	10,955,664	7,775,307	4,890,946	2.6	2.3	2.4
Other countries	1,110,853	2,798,957	3,760,879	.3	.9	1.9
Total	415,256,679	342,544,194	200,927,154	100.0	100.0	100.0
Cottonseed meal—						
Belgium	4,812,760	3,603,903	448,000	4.1	3.2	.9
Canada	4,146,348	2,627,740	1,863,430	3.5	2.4	3.8
Germany	6,953,787	3,566,500	4,039,575	5.9	3.2	8.2
Netherlands	1,927,000	3,284,869		1.6	2.9	
Norway	13,710,014	11,201,439	3,920,000	11.7	10.0	7.9
United Kingdom	75,395,136	83,015,447	35,136,660	64.2	74.2	71.1
Other countries	10,518,912	4,505,912	4,031,456	9.0	4.1	8.1
Total	117,463,957	111,805,810	49,439,121	100.0	100.0	100.0
Linseed or flaxseed cake—						
Belgium	152,114,660	91,655,770	86,467,843	32.4	17.1	15.8
Germany	6,435,135	16,215,405	17,184,173	1.4	3.0	3.1
Netherlands	276,237,018	351,445,009	361,799,262	58.8	65.5	66.2
United Kingdom	27,731,137	69,518,709	77,948,602	5.9	13.0	14.3
Other countries	6,879,426	7,720,345	3,447,672	1.5	1.4	.6
Total	469,397,376	536,555,238	546,847,552	100.0	100.0	100.0
Oils, vegetable:						
Cottonseed—						
Argentina	3,384,751	3,840,798	642,753	3.7	6.0	1.6
Canada	38,492,691	26,549,253	20,516,191	42.0	41.3	52.0
Chile	1,372,553	4,174,868	858,662	1.5	6.5	2.2
Cuba	2,914,611	3,442,620	2,200,244	3.2	5.4	5.6
Denmark	7,867,074	1,705,794	19,016	8.6	2.7	(1)
Dominican Republic	723,408	1,045,782	1,070,257	.8	1.6	2.7
French Guiana	525,554	493,331	188,324	.6	.8	.5
French West Indies	2,623,449	231,380	25,628	2.9	.4	.1
Germany	1,099,753	361,201	119,734	1.2	.6	.3
Greece	867,962	302,320	18,877	.9	.5	(1)
Italy	882,514	206,099	11,779	1.0	.3	(1)
Mexico	3,298,694	6,711,448	8,376,445	3.6	10.4	21.3
Netherlands	4,265,064	1,312,695		4.7	2.0	
Norway	9,436,843	5,155,490	1,824,917	10.3	8.0	4.6
Panama	831,898	515,414	538,598	.9	.8	1.4
United Kingdom	2,526,698	342,188	19,697	2.8	.5	(1)
Uruguay	2,933,942	1,997,893	289,552	3.2	3.1	.7
Other countries	7,567,176	5,903,295	2,696,868	8.1	9.1	7.0
Total	91,614,635	64,291,869	39,417,542	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Tobacco, leaf:	*Pounds*	*Pounds*	*Pounds*	*Per cent*	*Per cent*	*Per cent*
Argentina	1,065,975	2,486,390	2,302,490	.2	.6	.4
Australia	15,241,757	18,030,795	24,388,905	3.4	4.0	4.4
Belgium	21,610,307	22,922,338	35,065,658	4.8	5.1	6.3
British West Africa	7,143,013	10,330,701	9,430,198	1.6	2.3	1.7
Canada	13,117,029	14,134,995	13,156,799	2.9	3.2	2.4
China	22,945,067	39,792,536	66,017,078	5.1	8.9	11.8
Denmark	3,829,171	5,037,335	5,531,636	.8	1.1	1.0
France	43,166,050	37,638,320	29,376,348	9.6	8.5	5.3
French Africa	2,853,526	5,292,900	8,945,266	.6	1.2	1.6
Germany	29,988,577	30,681,022	55,667,010	6.6	6.9	10.0
Haiti	1,409,940	1,430,497	1,362,450	.3	.3	.2
Hongkong	648,145	1,394,714	718,104	.1	.3	.1
Italy	46,971,663	42,400,610	25,206,503	10.4	9.5	4.5
Japan	2,339,513	2,471,857	11,615,799	.5	.6	2.1
Mexico	2,542,100	434,837	1,502,878	.6	.1	.3
Netherlands	19,870,686	16,901,535	50,302,103	4.4	3.8	9.0
Norway	3,622,038	3,425,895	4,275,471	.8	.8	.8
Portugal	5,814,821	5,714,648	3,757,887	1.3	1.3	.7
Spain	12,534,194	13,794,761	22,072,215	2.8	3.1	4.0
Sweden	4,231,477	5,919,714	6,991,487	.9	1.3	1.3
Switzerland	2,685,712	2,056,692	2,378,141	.6	.5	.4
United Kingdom	178,817,353	152,709,237	161,237,389	39.6	34.3	28.9
Other countries	9,440,332	10,148,858	15,986,452	2.1	2.3	2.8
Total	451,888,436	445,142,247	557,288,267	100.0	100.0	100.0
Potatoes (white):	*Bushels*	*Bushels*	*Bushels*			
Bermuda	19,071	22,959	17,565	.8	.8	.6
British Guiana	15,044	31,548	27,958	.6	1.1	.9
Canada	339,236	414,487	536,653	14.6	13.9	17.5
Cuba	1,479,437	1,921,631	1,931,518	63.6	64.5	62.8
Dominican Republic	35,112	37,752	31,777	1.5	1.3	1.0
Mexico	173,577	143,690	203,156	7.5	4.8	6.6
Panama	126,034	157,326	156,259	5.4	5.3	5.1
Philippine Islands	8,268	46,190	12,452	.4	1.6	.4
United Kingdom	2,295	27,286		.1	.9	
Venezuela	19,446	25,754	22,142	.8	.9	.7
Other countries	109,627	151,341	135,466	4.7	4.9	4.4
Total	2,327,147	2,979,951	3,074,946	100.0	100.0	100.0
FOREST PRODUCTS						
Naval stores:						
Rosin—	*Barrels*	*Barrels*	*Barrels*			
Argentina	59,643	86,328	97,151	11.4	8.3	8.0
Australia	14,857	10,880	22,316	1.9	1.0	1.8
Belgium	21,969	22,690	32,732	2.8	2.2	2.7
Brazil	88,842	103,318	110,398	11.3	9.9	9.1
Canada	49,802	58,698	60,206	6.3	5.6	5.0
Cuba	13,719	16,022	16,063	1.7	1.5	1.3
Dutch East Indies	31,961	46,215	25,551	4.1	4.4	2.1
Germany	115,247	162,485	263,325	14.7	15.6	21.8
Italy	17,711	34,827	30,529	2.3	3.3	2.5
Japan	44,146	86,739	69,019	5.6	8.3	5.7
Netherlands	12,833	16,917	31,748	1.6	1.6	2.6
Sweden	16,943	27,148	22,024	2.2	2.6	1.8
United Kingdom	205,681	277,269	327,760	26.2	26.7	27.1
Uruguay	9,962	14,765	12,470	1.3	1.4	1.0
Other countries	52,797	75,521	87,096	6.6	7.6	7.5
Total	786,113	1,039,742	1,208,388	100.0	100.0	100.0
Turpentine, spirits of—	*Gallons*	*Gallons*	*Gallons*			
Argentina	455,089	397,356	406,222	4.2	4.4	3.6
Australia	596,974	481,344	708,413	5.5	5.3	6.3
Belgium	772,324	291,953	467,216	7.2	3.2	4.2
Brazil	217,634	131,229	138,609	2.0	1.5	1.2
British South Africa	71,967	75,452	72,831	.7	.8	.7
Canada	973,567	884,901	947,853	9.0	9.8	8.5
Germany	835,407	491,331	951,021	7.7	5.5	8.5
Netherlands	899,236	706,906	826,315	8.3	7.8	7.4
United Kingdom	5,491,387	5,012,968	6,077,604	50.9	55.6	54.3
Other countries	473,635	533,916	598,089	4.5	6.1	5.3
Total	10,786,260	9,012,356	11,194,173	100.0	100.0	100.0

TABLE 684.—*Destination of principal farm products exported from the United States, 1922–1924*—Continued

Article and country to which exported	Year ended June 30					
	1922	1923	1924	1922	1923	1924
FOREST PRODUCTS—continued						
Wood:						
Lumber—						
Fir—	*M feet*	*M feet*	*M feet*	*Per cent*	*Per cent*	*Per cent*
Australia	60,905	77,819	54,745	9.0	16.6	8.7
British South Africa	3,708	15,725	2,914	.6	3.4	.5
Canada	2,564	11,185	12,458	.4	2.4	2.0
Chile	5,477	14,420	30,267	.8	3.1	4.8
China	118,061	68,121	72,937	17.4	14.5	11.6
Cuba	3,443	8,509	10,881	.5	1.8	1.7
Japan	397,484	185,259	323,286	58.6	39.6	51.4
Mexico	8,141	12,494	21,227	1.2	2.7	3.4
Peru	44,024	34,479	55,494	6.5	7.4	8.8
United Kingdom	9,813	15,144	12,012	1.4	3.2	1.9
Other countries	24,683	25,133	32,332	3.6	5.3	5.2
Total	678,303	468,288	628,553	100.0	100.0	100.0
Oak—						
Argentina	6,932	9,155	7,953	7.9	6.6	4.9
Belgium	8,174	10,101	14,920	9.3	7.3	9.2
British South Africa	567	1,309	3,521	.6	.9	2.2
Canada	23,991	37,879	35,940	27.4	27.4	22.2
Netherlands	784	1,393	2,526	.9	1.0	1.6
Spain	553	1,787	1,520	.6	1.3	.9
United Kingdom	42,184	67,544	85,213	48.2	48.9	52.7
Uruguay	1,268	2,042	1,061	1.4	1.5	.7
Other countries	3,074	6,908	9,103	3.7	5.1	5.6
Total	87,527	138,118	161,757	100.0	100.0	100.0
Pine, yellow, long leaf—						
Argentina	120,174	178,200	154,254	26.2	30.3	24.9
Belgium	27,405	14,217	21,168	6.0	2.4	3.4
Canada	15,420	33,006	38,137	3.4	5.6	6.2
Cuba	61,001	125,354	124,266	13.3	21.3	20.1
Dominican Republic	5,384	5,519	9,037	1.2	.9	1.5
France	7,003	6,265	5,336	1.5	1.1	.9
Italy	8,400	10,638	15,913	1.8	1.8	2.6
Mexico	60,262	54,495	60,472	13.2	9.3	9.8
Netherlands	7,542	5,817	9,060	1.6	1.0	1.5
Other West Indies	26,695	37,574	42,311	5.8	6.4	6.8
Panama	4,626	4,202	5,808	1.0	.7	.9
Spain	20,317	21,846	23,560	4.4	3.7	3.8
United Kingdom	39,827	41,208	44,136	8.7	7.0	7.1
Uruguay	12,206	15,203	18,279	2.7	2.6	3.0
Other countries	41,761	34,021	46,756	9.2	5.9	7.5
Total	458,023	587,565	618,493	100.0	100.0	100.0
Railroad ties—	*Number*	*Number*	*Number*			
British India	44,092	215,458		2.3	8.8	
Canada	843,770	614,412	638,646	43.8	25.0	23.1
Chile	21,000	52,500		1.1	2.1	
China	6,115	36,016	59,083	.3	1.5	2.1
Chosen		23,935	51,335		1.0	1.9
Colombia	22,479		32,781	1.2		1.2
Costa Rica	1,546	15,725	28,617	.1	.6	1.0
Cuba	2,012	39,841	50,078	.1	1.6	1.8
Guatemala	65,325	153,811	173,042	3.4	6.3	6.3
Honduras	218,506	481,947	402,522	11.3	19.6	14.6
Jamaica	6,243	29,379	53,739	.3	1.2	1.9
Japan	68,428	233,382	209,788	3.5	9.5	7.6
Mexico	397,552	282,933	766,017	20.6	11.5	27.8
Palestine and Syria	12,109	117,903		.6	4.8	
Panama	22,248	390	11,277	1.2	(1)	.4
Peru	45,509	103,400	228,850	2.4	4.2	8.3
United Kingdom	73,606	33,181	9,560	3.8	1.3	.3
Other countries	78,086	25,270	43,618	4.0	1.0	1.7
Total	1,928,526	2,459,543	2,758,953	100.0	100.0	100.0

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] Less than 0.05 per cent.

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS						
Cattle:	*Number*	*Number*	*Number*	*Per ct.*	*Per ct.*	*Per ct.*
Canada	128,803	230,227	141,171	85.0	91.4	91.2
Mexico	22,076	20,301	12,853	14.6	8.1	8.3
United Kingdom	246	737	680	.2	.3	.5
Other countries	408	622	32	.2	.2	(1)
Total	151,533	251,887	154,736	100.0	100.0	100.0
Horses:						
Canada	2,566	2,165	1,900	81.8	76.9	77.3
Mexico	293	203	30	9.3	7.2	1.2
United Kingdom	188	310	419	6.0	11.0	17.0
Other countries	89	138	109	2.9	4.9	4.5
Total	3,136	2,816	2,458	100.0	100.0	100.0
Butter:	*Pounds*	*Pounds*	*Pounds*			
Argentina	403,538	703,479	4,212,842	4.2	5.0	14.3
Australia	2,055,537	130,036	74,368	21.5	.8	.3
Canada	5,101,084	2,999,355	6,451,170	32.5	19.0	21.9
Denmark	2,888,338	7,371,147	10,457,458	30.2	46.7	35.5
Netherlands	91,117	109,861	440,423	1.0	.7	1.5
New Zealand	845,065	3,887,174	5,047,654	8.8	24.6	17.1
United Kingdom	70,991	369,106	1,719,622	.7	2.3	5.8
Other countries	95,622	112,127	1,062,287	1.1	.9	3.6
Total	9,551,292	15,772,285	29,465,824	100.0	100.0	100.0
Cheese:						
Argentina	5,626,213	4,000,545	2,736,340	16.4	7.3	4.1
Canada	4,823,777	5,858,305	1,803,217	14.1	10.7	2.7
France	2,290,502	4,537,008	4,418,938	6.6	8.3	6.6
Greece	808,433	922,287	2,055,266	2.4	1.7	3.1
Italy	12,085,693	20,571,704	32,922,074	35.3	37.7	49.4
Netherlands	1,614,852	2,147,774	3,048,284	4.7	3.9	4.6
Norway	236,290	469,419	467,630	.7	.9	.7
Spain	531,020	12,391	22,958	1.5	(1)	(1)
Switzerland	5,450,139	14,765,121	16,140,224	15.9	27.1	24.2
United Kingdom	261,051	531,157	560,432	.8	1.0	.8
Other countries	572,634	739,559	2,421,403	1.6	1.4	3.8
Total	34,270,604	54,555,270	66,596,766	100.0	100.0	100.0
Fibers, animal:						
Silk, raw in skeins reeled from cocoon—						
China	7,328,677	10,584,948	8,718,404	15.2	20.1	18.9
France	259,414	408,684	386,454	.5	.8	.8
Italy	1,613,784	1,818,206	1,576,078	3.3	3.5	3.4
Japan	38,590,110	37,989,046	34,478,018	80.1	72.1	74.6
Other countries	386,979	1,882,720	1,046,455	.9	3.5	2.3
Total	48,178,964	52,683,604	46,205,409	100.0	100.0	100.0
Wool, unmanufactured—						
Carpet wool—						
Argentina	12,354,133	8,695,254	7,758,910	8.3	5.1	6.6
British India	3,022,867	3,696,097	3,432,146	2.0	2.2	2.9
British South Africa	100,493	220,748	97,498	.1	.1	.1
Chile	25,275	80,119	92,556	(1)	.1	.1
China	66,679,144	65,140,551	57,718,076	44.8	37.9	48.8
Denmark	1,022,300	1,021,014	41,349	.7	.6	(1)
France	3,641,970	6,156,173	2,982,313	2.4	3.6	2.5
Germany	2,060,172	4,205,049	1,577,217	1.4	2.4	1.3
Greece	60,501	175,175	207,774	(1)	.1	.2
Italy	4,141,621	6,062,134	2,823,275	2.8	3.5	2.4
Palestine and Syria	219,789	2,850,141	4,191,409	.1	1.7	3.5
Persia	211,998	303,268	681,037	.1	.2	.6
Spain	381,049	681,433	357,545	.3	.4	.3
Turkey in Asia	278,960	2,456,828	2,071,319	.2	1.4	1.7
United Kingdom	50,241,626	60,859,099	29,396,257	33.8	35.4	24.8
Uruguay	587,337	266,526	24,288	.4	.2	(1)
Other countries	3,757,671	9,003,583	4,922,194	2.6	5.1	4.2
Total	148,786,906	171,879,192	118,375,163	100.0	100.0	100.0

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS—Continued						
Fibers, animal—Continued.						
Wool, unmanufactured—Contd.						
Clothing, wool—	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
Argentina	6,002,098	9,762,858	3,101,080	18.3	22.3	24.2
Australia	8,610,375	5,195,722	881,209	26.2	11.9	6.9
British South Africa	1,842,901	1,225,269	346,769	5.6	2.8	2.7
Canada	726,928	3,465,426	1,145,330	2.2	7.9	8.9
Chile	1,116,755	1,036,420	674,544	3.4	2.4	5.3
China	73,992	334,253	----------	.2	.8	----------
New Zealand	2,780,246	665,235	305,066	8.5	1.5	2.4
Peru	31,599	268,938	129,963	.1	.6	1.0
United Kingdom	2,801,571	15,407,663	4,236,568	8.5	35.3	33.0
Uruguay	8,376,306	4,365,494	1,137,585	25.5	10.0	8.9
Other countries	458,115	1,976,011	861,622	1.5	4.5	6.7
Total	32,820,886	43,703,289	12,819,736	100.0	100.0	100.0
Combing wool—						
Argentina	14,023,407	77,256,141	19,787,998	20.3	25.9	19.2
Australia	20,477,363	69,406,989	33,180,931	29.6	23.3	32.2
British South Africa	4,499,919	16,187,811	3,224,939	6.5	5.4	3.1
Canada	540,807	5,952,834	4,813,879	.8	2.0	4.7
New Zealand	8,208,468	13,666,196	5,884,796	11.9	4.6	5.7
United Kingdom	4,880,008	58,657,619	23,751,430	7.0	19.7	23.1
Uruguay	14,596,556	42,040,631	6,572,372	21.1	14.1	6.4
Other countries	2,006,432	15,327,931	5,786,534	2.8	5.0	5.6
Total	69,232,960	298,496,152	103,002,879	100.0	100.0	100.0
Hair of the Angora goat, alpaca, etc.—						
British South Africa	1,003,713	3,469,041	715,599	23.6	30.5	14.5
Chile	25,743	----------	----------	.6	----------	----------
China	328,724	274,764	134,818	7.7	2.4	2.7
Germany	7,436	12,354	----------	.2	.1	----------
Peru	389,601	309,003	911,394	9.2	2.7	18.5
Turkey in Asia	----------	28,389	----------	----------	.3	----------
Turkey in Europe	530,368	2,601,398	1,255,881	12.5	22.8	25.5
United Kingdom	1,949,548	4,674,695	1,852,429	45.9	41.0	37.6
Other countries	11,351	24,380	54,460	.3	.2	1.2
Total	4,246,484	11,394,024	4,924,581	100.0	100.0	100.0
Wooled sheep and lamb skins—						
Argentina	----------	3,589,607	1,133,977	-------	14.5	8.9
Australia	----------	3,042,277	733,849	-------	12.3	5.8
Brazil	----------	369,676	1,405,110	-------	1.5	11.0
British South Africa	----------	1,077,400	406,596	-------	4.4	3.2
Canada	----------	1,576,718	616,488	-------	6.4	4.8
Chile	----------	1,247,515	1,719,746	-------	5.0	13.5
Denmark	----------	892,505	309,173	-------	3.6	2.4
France	----------	344,430	327,021	-------	1.4	2.6
Greece	----------	312,271	429,312	-------	1.3	3.4
New Zealand	----------	926,304	214,479	-------	3.7	1.7
Spain	----------	2,194,237	1,676,924	-------	8.9	13.2
United Kingdom	----------	6,159,610	2,322,562	-------	24.9	18.3
Uruguay	----------	1,450,412	428,281	-------	5.9	3.4
Other countries	----------	1,524,596	1,002,062	-------	6.2	7.8
Total	[1]	[2] 24,707,558	12,725,550	[1]	[2] 100.0	100.0
Hides and skins other than furs:						
Calfskins, dry—						
Argentina	8,768,928	4,474,240	1,673,587	54.2	29.9	15.6
Australia	57,835	30,678	407,497	.4	.2	3.8
Belgium	324,786	219,201	47,464	2.0	1.5	.4
British India	136,923	38,365	67,092	.8	.3	.6
Canada	985,266	1,224,488	735,369	6.1	8.2	6.8
China	76,259	159,923	40,728	.4	1.1	.4
Denmark	186,148	302,684	475,374	1.2	2.0	4.4
Finland	229,597	546,288	1,094,443	1.4	3.6	10.1
France	654,082	1,519,034	198,582	4.0	10.1	1.8

[1] Included with "Sheep and lamb skins."
[2] Includes "Sheep and lamb skins" prior to Sept. 22, 1922.

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMAL AND ANIMAL PRODUCTS—CON.						
Hides and skins other than furs—Con.						
Calfskins, dry—Continued.	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
Germany	94, 936	587, 669	318, 101	.6	3.9	3.0
Italy	112, 618	90, 331	42, 750	.7	.6	.4
Latvia	166, 120	531, 818	1, 302, 671	1.0	3.6	12.1
Netherlands	646, 738	1, 070, 450	509, 728	4.0	7.1	4.7
New Zealand	13, 306	171, 016	1, 011, 853	.1	1.1	9.4
Norway	523, 791	797, 118	390, 814	3.2	5.3	3.6
Poland	256, 631	162, 886	135, 176	1.6	1.1	1.3
Russia in Europe		269, 914	74, 518		1.8	.7
Sweden	665, 999	961, 618	128, 713	4.1	6.4	1.2
Switzerland	203, 789	87, 171		1.3	.6	
United Kingdom	652, 285	1, 225, 966	476, 850	4.0	8.2	4.4
Uruguay	949, 615	106, 712	774, 580	5.9	.7	7.2
Other countries	475, 130	407, 515	858, 148	3.0	2.7	8.1
Total	[4] 16, 174, 682	[5] 14, 988, 085	10, 754, 038	[6] 100.0	[5] 100.0	100.0
Calfskins, wet—						
Argentina	978, 216	1, 144, 697	620, 425	3.9	3.7	3.4
Australia	352, 817	148, 134	542, 203	1.4	.5	2.9
Belgium	1, 094, 940	1, 084, 696	129, 756	4.3	3.5	.7
Canada	4, 311, 897	5, 068, 156	5, 412, 337	17.0	18.5	29.3
Denmark	1, 543, 066	2, 103, 810	477, 312	6.1	6.8	2.6
Finland	269, 759	623, 330	639, 043	1.1	2.0	3.5
France	7, 233, 314	8, 833, 727	3, 395, 954	28.5	28.7	18.4
Italy	1, 185, 736	1, 243, 504	370, 937	4.7	4.0	2.0
Netherlands	1, 933, 826	1, 560, 670	425, 084	7.6	5.1	2.3
New Zealand	1, 212, 217	126, 460	392, 815	4.8	.4	2.1
Norway	343, 102	461, 568	291, 977	1.4	1.5	1.6
Poland	486, 273	448, 907	145, 102	1.9	1.5	.8
Sweden	1, 567, 035	3, 065, 676	1, 295, 525	6.2	10.0	7.0
Switzerland	1, 267, 438	1, 085, 592	515, 619	5.0	3.5	2.8
United Kingdom	596, 897	2, 605, 954	2, 154, 343	2.4	9.1	11.7
Uruguay	90, 518	9, 308	11, 961	.4	(1)	.1
Other countries	914, 329	921, 469	1, 627, 493	3.3	3.2	8.8
Total	[4] 25, 383, 380	[5] 30, 735, 598	18, 450, 876	[6] 100.0	[5] 100.0	100.0
Kip skins, dry—						
Argentina		7, 203, 064	2, 381, 371		61.9	67.3
Belgium		82, 718			.7	
British India		118, 042	85, 425		1.0	2.4
British West Africa		365, 978	40, 461		3.1	1.1
Canada		290, 142	140, 922		2.5	4.0
China		248, 207	28, 516		2.1	.8
France		538, 270	154, 251		4.6	4.4
Lithuania			28, 209			.8
Netherlands		108, 831			.9	
Sweden		174, 860	105, 950		1.5	3.0
United Kingdom		831, 957	297, 708		7.2	8.4
Uruguay		746, 250	105, 953		6.4	3.0
Other countries		920, 130	172, 085		8.1	4.8
Total	(8)	[7] 11, 628, 449	3, 540, 851	(8)	[7] 100.0	100.0
Kip skins, wet—						
Argentina		2, 999, 463	2, 927, 069		32.7	37.3
Belgium		258, 375	102, 272		2.8	1.3
Canada		702, 258	1, 010, 218		7.7	12.9
China		555, 793	435, 059		6.1	5.5
France		3, 144, 255	1, 801, 337		34.4	22.9
Lithuania			149, 520			1.9
Netherlands		415, 409	226, 589		4.5	2.9
Sweden		188, 252	93, 113		2.1	1.2
United Kingdom		113, 494	464, 106		1.2	5.9
Other countries		785, 240	648, 440		8.5	8.2
Total	(8)	[7] 9, 167, 539	7, 857, 723	(8)	[7] 100.0	100.0

[4] Includes "Kip skins."
[5] Includes "Kip skins" prior to Sept. 22, 1922.
[6] Included with "Calfskins."
[7] Includes "Calfskins" prior to Sept. 22, 1922

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30—					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS—CON.						
Hides and skins other than furs—Con.						
Cattle hides, dry—	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
Argentina	4,321,130	17,719,184	2,509,740	23.4	30.1	13.9
Australia	77,156	126,878	488,810	.4	.2	2.7
Brazil	94,878	1,709,727	144,644	.5	2.9	.8
British India	182,043	1,221,502	82,965	1.0	2.1	.5
Canada	1,724,734	4,186,832	1,466,187	9.4	7.1	8.1
China	1,649,188	6,905,068	1,028,209	8.9	11.7	5.7
Colombia	5,283,096	7,865,138	6,271,063	28.7	13.4	34.6
Cuba	42,700	692,290	1,724	.2	1.2	(1)
Dutch East Indies	1,644,993	2,582,016	317,022	8.9	4.4	1.8
Ecuador	149,652	349,107	100,624	.8	.6	.6
France	147,131	2,441,200	604,716	.8	4.2	3.3
Guatemala	51,466	18,962	12,597	.3	(1)	.1
Honduras	209,563	112,121	214,683	1.1	.2	1.2
Italy	10,402	366,540	37,111	.1	.6	.2
Mexico	389,328	425,597	240,454	2.1	.7	1.3
New Zealand	3,133	198,220	73,964	(1)	.3	.4
Nicaragua	736,175	634,478	446,524	4.0	1.1	2.5
Peru	91,245	442,858	95,041	.5	.8	.5
Switzerland		151,535	1,800		.3	(1)
United Kingdom	660,643	3,279,153	191,395	3.6	5.6	1.1
Uruguay	1,576	1,097,292	347,144	(1)	1.9	1.9
Venezuela	823,105	2,383,540	2,114,545	4.5	4.1	11.7
Other countries	145,141	3,860,936	1,321,372	.8	6.5	7.1
Total	18,438,517	58,770,243	18,111,934	100.0	100.0	100.0
Cattle hides, wet—						
Argentina	86,679,343	186,696,992	99,660,875	46.5	53.9	62.9
Australia	2,415,991	5,082,759	1,833,715	1.3	1.5	1.2
Brazil	15,687,498	24,403,024	2,511,514	8.4	7.0	1.6
Canada	34,190,737	30,489,525	28,602,925	18.3	8.8	18.1
Cuba	15,206,397	12,418,583	2,019,120	8.2	3.6	1.3
France	1,222,972	12,840,361	2,658,590	.7	3.7	1.7
Italy	1,641,136	5,067,392	701,266	.9	1.6	.4
Uruguay	17,945,386	34,551,240	11,714,089	9.6	10.0	7.4
Venezuela	816,260	375,171	84,107	.4	.1	.1
Other countries	10,692,188	34,067,902	8,576,629	5.7	9.8	5.3
Total	186,497,917	346,612,958	158,362,830	100.0	100.0	100.0
Goat and kid skins, dry—						
Aden	3,112,822	4,549,505	2,855,206	4.6	6.4	5.5
Algeria and Tunis	851,855	1,137,958	811,789	1.2	1.6	1.6
Argentina	6,372,141	4,843,644	3,130,925	9.3	6.8	6.0
Brazil	4,684,504	4,569,259	4,132,230	6.9	6.5	8.0
British East Africa	1,047,004	349,862	470,050	1.5	.5	.9
British India	19,904,553	19,597,086	13,173,680	29.2	28.0	25.4
British South Africa	933,335	1,359,964	1,066,425	1.4	1.9	2.1
British West Africa	764,944	1,147,479	1,023,086	1.1	1.6	2.0
China	15,035,533	12,148,704	8,636,578	22.0	17.2	16.7
Dutch East Indies	826,707	1,246,198	1,634,425	1.2	1.7	3.2
France	415,508	1,361,982	632,390	.6	1.9	1.2
Greece	477,339	325,808	220,157	.7	.5	.4
Mexico	2,086,054	2,783,963	2,804,017	3.1	3.9	5.4
Morocco	351,542	401,520	175,133	.5	.6	.3
Netherlands	363,132	593,985	247,226	.5	.8	.5
Peru	979,674	853,525	863,757	1.4	1.2	1.7
Spain	2,605,221	3,451,732	3,158,354	3.8	4.9	6.1
United Kingdom	1,396,013	1,925,208	1,263,918	2.0	2.7	2.4
Venezuela	1,772,041	1,801,211	1,438,685	2.6	2.5	2.8
Other countries	4,247,537	6,343,457	4,072,877	6.4	8.8	7.8
Total	68,227,549	70,794,050	51,810,858	100.0	100.0	100.0
Goat skins, wet—						
Argentina	77,377	158,018	53,962	.5	.8	.4
Brazil		9,828			.1	
British India	14,692,364	16,824,162	12,980,559	96.0	90.4	92.3
British South Africa	38,677	147,200	409,640	.3	.8	2.9
China		15,733	6,573		.1	(1)
Spain		97,928			.5	
Other countries	498,674	1,354,177	610,247	3.2	7.3	4.4
Total	15,307,092	18,607,046	14,060,981	100.0	100.0	100.

[1] Less than 0.05 per cent.

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
ANIMALS AND ANIMAL PRODUCTS—continued						
Hides and skins other than furs—Con.						
Sheep and lamb skins, dry and wet—	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
Aden	406,100	872,613	489,606	.8	1.4	1.0
Argentina	12,964,069	12,639,805	11,308,405	26.5	20.5	23.2
Australia	712,350	1,796,439	1,940,409	1.5	2.9	4.0
Brazil	1,846,780	1,481,257	2,154,337	3.8	2.4	4.4
British India	1,367,388	144,459	148,947	2.8	.2	.3
British South Africa	1,490,700	1,422,258	960,399	3.1	2.3	2.0
Canada	2,189,962	2,083,303	845,981	4.5	3.4	1.7
Chile	138,343	261,855	54,846	.3	.4	.1
China	31,063	544,950	788,513	.1	.9	1.6
France	346,835	722,151	557,836	.7	1.2	1.1
Greece	120,079	248,381	166,785	.2	.4	.3
New Zealand	13,351,877	12,740,486	12,702,800	27.3	20.7	26.1
Spain	1,507,417	1,784,401	1,379,997	3.1	2.9	2.8
United Kingdom	9,953,330	21,201,197	10,377,669	20.4	34.4	21.3
Uruguay	712,923	1,879,692	2,328,779	1.5	3.0	4.8
Other countries	1,699,176	1,853,814	2,514,874	3.4	3.0	5.3
Total, wet and dry	[2] 48,838,392	[2] 61,668,061	48,720,183	100.0	100.0	100.0
VEGETABLE PRODUCTS						
Cocoa or cacao beans:						
Brazil	18,975,068	59,978,071	71,736,843	6.0	15.7	18.7
British West Africa	97,125,629	122,276,584	152,532,542	30.6	32.1	39.8
British West Indies	36,052,288	39,938,150	35,004,010	11.4	10.5	9.1
Cuba	6,827,624	504,783	84,900	2.2	.1	[1]
Dominican Republic	50,562,225	42,457,894	42,368,024	15.9	11.1	11.1
Ecuador	37,438,630	40,886,824	30,310,474	11.8	10.7	7.9
Haiti	3,638,744	5,026,713	2,648,900	1.1	1.3	.7
Portugal	4,392,107	2,398,716	1,675,833	1.4	.6	.4
United Kingdom	21,177,841	16,030,547	9,525,066	6.7	4.2	2.5
Venezuela	20,002,934	21,990,119	15,253,536	6.3	5.8	4.0
Other countries	20,931,283	30,019,663	21,831,114	6.6	7.9	5.8
Total	317,124,373	381,508,058	382,971,242	100.0	100.0	100.0
Coffee:						
Aden	1,604,622	2,436,100	5,157,285	.1	.2	.4
Brazil	756,581,844	840,038,490	950,950,167	61.1	64.4	66.5
Central America	99,134,597	125,398,369	90,816,554	8.0	9.6	6.4
Colombia	234,921,617	193,889,565	254,381,159	19.0	14.9	17.8
Dutch East Indies	22,831,697	20,987,513	21,084,533	1.8	1.6	1.5
Mexico	38,444,169	39,490,998	31,601,993	3.1	3.0	2.2
Venezuela	65,267,153	58,509,417	59,967,439	5.3	4.5	4.2
West Indies	6,626,607	10,500,978	5,295,525	.5	.8	.4
Other countries	12,599,772	13,936,254	10,487,425	1.1	1.0	.6
Total	1,238,012,078	1,305,187,684	1,429,742,080	100.0	100.0	100.0
Fibers, vegetable:						
Cotton, raw—						
British India	5,186,749	8,804,607	16,302,430	2.9	3.8	11.2
China	7,656,667	24,792,329	21,577,342	4.3	10.5	14.8
Egypt	110,921,695	157,990,018	78,631,055	61.9	66.9	53.8
Mexico	26,818,225	15,868,478	13,442,658	15.0	6.7	9.2
Peru	17,433,458	10,335,486	9,955,561	9.7	4.4	6.8
United Kingdom	5,599,225	5,274,508	4,181,755	3.1	2.2	2.9
Other countries	5,569,036	12,936,993	4,932,732	3.1	5.5	1.3
Total	179,165,055	236,092,419	146,023,533	100.0	100.0	100.0
Flax—	*Tons*	*Tons*	*Tons*			
Belgium	593	765	280	11.8	9.3	5.9
Canada	710	2,091	1,292	14.1	25.5	26.4
Chile	8	73	39	.2	.9	.8
Denmark		150			1.8	
France	4	3	4	.1	[1]	.1
Germany	85	471	2	1.7	5.7	[1]
Italy	60	451	297	1.2	5.5	6.1

[1] Less than 0.05 per cent.
[2] Includes "Sheep and lamb skins, wooled."

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Fibers, vegetable—Continued.						
Flax—Continued.	*Tons*	*Tons*	*Tons*	*Per ct.*	*Per ct.*	*Per ct.*
Japan	670	126	316	13.3	1.5	6.5
Latvia	1	484	341	(1)	5.9	7.0
Netherlands	706	282	170	14.1	3.4	3.5
Poland	9	344	62	.2	4.2	1.3
United Kingdom	2,171	2,661	1,699	43.2	32.4	34.8
Other countries	4	306	373	.1	3.9	7.6
Total	5,021	8,207	4,885	100.0	100.0	100.0
Manila fiber—						
Philippine Islands	43,463	96,758	97,261	99.4	99.1	99.2
Other countries	260	851	771	.6	.9	.8
Total	43,723	97,609	98,032	100.0	100.0	100.0
Sisal grass—						
Belgium	748	864	4,759	1.0	.9	4.9
British East Africa	1,316	3,104	1,875	1.8	3.2	1.9
Dutch East Indies	3,085	8,932	11,172	4.3	9.2	11.5
Mexico	64,000	77,383	71,162	88.4	79.3	73.4
United Kingdom	770	1,185	905	1.1	1.2	.9
Other countries	2,440	6,114	7,096	3.4	6.2	7.4
Total	72,359	97,582	96,969	100.0	100.0	100.0
Fruits:						
Bananas—	*Bunches*	*Bunches*	*Bunches*			
Central America	29,952,565	29,076,239	27,941,739	64.9	65.3	62.2
Colombia	2,587,000	2,466,880	2,343,982	5.6	5.5	5.2
Cuba	1,880,952	1,716,376	2,277,353	4.1	3.9	5.1
Jamaica	10,440,110	9,881,633	9,406,524	22.6	22.2	20.9
Other countries	1,259,005	1,363,118	2,953,207	2.8	3.1	6.6
Total	46,119,632	44,504,246	44,922,805	100.0	100.0	100.0
Currants—	*Pounds*	*Pounds*	*Pounds*			
Greece	[10] 47,887,459	18,556,646	16,809,739	96.8	98.1	98.0
Other countries	1,579,079	367,498	345,692	3.2	1.9	2.0
Total	49,466,538	18,924,144	17,155,431	100.0	100.0	100.0
Dates—						
British India	2,272,300	42,384,714	68,728	4.9	81.5	.2
Hejaz, Arabia, etc		2,168,026	36,530,233		4.2	82.8
Palestine and Syria	2,293,840	23,124	340	4.9	(1)	(1)
Turkey in Asia	27,471,388	2,334,231	2,810,883	58.8	4.5	6.4
United Kingdom	11,499,494	3,343,006	1,581,824	24.6	6.4	3.6
Other countries	3,204,795	1,784,130	3,150,674	6.8	3.4	7.0
Total	46,741,817	52,037,231	44,142,682	100.0	100.0	100.0
Figs:						
Greece	[10] 32,432,441	[10] 17,093,647	4,456,595	75.2	46.7	14.1
Italy	2,026,248	1,550,149	1,526,320	4.7	4.2	4.8
Portugal	4,778,498	6,163,428	3,866,124	11.1	16.8	12.2
Spain	1,934,947	1,173,151	322,381	4.5	3.2	1.0
Turkey in Asia		4,514,558	19,688,606		12.3	62.2
Turkey in Europe	314,749	1,146,765	115,006	.7	3.1	.4
United Kingdom	157,741	1,259,785	343,755	.4	3.4	1.1
Other countries	1,494,147	3,683,572	1,348,953	3.4	10.3	4.2
Total	43,138,771	36,585,055	31,667,740	100.0	100.0	100.0
Grains:						
Rice, uncleaned (including paddy)—						
French Indo-China		1,282,000			11.0	
Hongkong	168,969	317,561	149,843	2.8	2.7	2.9
Japan	5,406,071	2,552,505	2,326,042	88.3	21.9	45.5
Mexico	530,183	7,137,461	2,543,163	8.7	61.1	49.7
Other countries	15,056	388,691	98,757	.2	3.3	1.9
Total	6,122,279	11,678,218	5,117,505	100.0	100.0	100.0

[1] Less than 0.05 per cent.

[10] Includes Greece in Asia.

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Grains—Continued.						
Rice, cleaned—	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
British India	1,315,030	1,587,012	523,870	2.0	2.8	1.6
China	124,863	2,071,080	1,636,611	.2	3.6	5.1
Dutch East Indies		220,496			.4	
French Indo-China	89,000	27,773,526	1,770,000	.1	48.8	5.5
Germany	5,315,385	2,599,180	3,270,003	8.0	4.6	10.2
Hongkong	53,150,615	21,054,035	21,266,678	79.7	37.0	66.1
Italy	102,776	253,957	527,952	.2	.4	1.6
Mexico	2,079,614		187,167	3.1		.6
Netherlands	224,100	380,000	1,823,281	.3	.7	5.7
United Kingdom	3,228,478	518,672	295,778	4.8	.9	.9
Other countries	1,077,597	488,734	891,404	1.6	.8	2.7
Total	66,707,458	56,946,692	32,192,744	100.0	100.0	100.0
Rice flour and meal—						
Canada	708	1,744	1,480	.1	.2	.2
China	67	2,100	1,135	(1)	.2	.1
Dutch East Indies	114,258	6,394	2,717	14.5	.7	.3
French Indo-China	26,500	200,000		3.4	22.0	
Germany	46,203	156,750	159,040	5.8	17.2	17.7
Hongkong	239,970	172,992	201,446	30.4	19.0	22.4
Japan	362,047	342,963	388,278	45.8	37.6	43.1
Netherlands		22,400	60,069		2.5	6.7
United Kingdom		688	48,500		.1	5.4
Other countries	601	4,950	37,344	(1)	.5	4.1
Total	790,354	910,981	899,940	100.0	100.0	100.0
Wheat—	*Bushels*	*Bushels*	*Bushels*			
Canada	14,465,502	18,012,467	27,276,774	100.0	100.0	100.0
Other countries	7	73	7,131	(1)	(1)	(1)
Total	14,465,509	18,012,540	27,283,905	100.0	100.0	100.0
Wheat flour—	*Barrels*	*Barrels*	*Barrels*			
Canada	618,953	428,659	168,799	100.0	99.8	99.8
Other countries	152	762	333	(1)	.2	.2
Total	619,105	429,421	169,132	100.0	100.0	100.0
Nuts:						
Filberts, shelled—	*Pounds*	*Pounds*	*Pounds*			
France	622,692	539,693	1,474,318	11.4	8.7	20.1
Italy	372,328	277,172	509,054	6.9	4.5	6.9
Spain	1,692,595	4,672,896	3,017,464	31.1	75.3	41.0
Turkey in Europe	2,636,684	654,527	2,065,648	48.5	10.5	28.1
Other countries	110,719	64,285	286,514	2.1	1.0	3.9
Total	5,434,418	6,208,573	7,352,988	100.0	100.0	100.0
Filberts, not shelled—						
France	114,595	87,455	27,525	.8	.6	.2
Italy	13,255,626	13,911,108	14,037,698	93.8	96.8	99.5
Spain	228,261	244,377	44,932	1.6	1.7	.3
Turkey in Europe	479,841	58,264		3.4	.4	
Other countries	54,711	65,071	504	.4	.5	(1)
Total	14,133,034	14,366,275	14,110,659	100.0	100.0	100.0
Peanuts, shelled—						
China	505,685	28,350,727	42,043,532	6.8	66.8	87.0
Chosen	99,000			1.3		
Hongkong			60,822			.1
Japan	6,658,036	12,102,549	2,358,318	89.6	28.5	4.9
Kwantung, leased territory	1,950	41,000	536,156	(1)	.1	1.1
Spain	54,725	594,219	847,886	.7	1.4	1.8
Other countries	107,701	1,350,230	2,463,382	1.6	3.2	5.1
Total	7,427,127	42,438,725	48,309,746	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 685.—*Order of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Nuts—Continued.						
Peanuts, not shelled—	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
China	1,435,320	2,462,095	3,055,120	42.5	63.7	85.8
Hongkong	55,234	47,607	66,589	1.6	1.2	1.9
Japan	1,833,183	999,204	409,590	54.3	25.9	11.5
Spain	22,000	303,593	11,110	.7	7.9	.3
Other countries	30,357	49,640	18,215	.9	1.3	.5
Total	3,376,094	3,862,139	3,560,624	100.0	100.0	100.0
Walnuts, shelled—						
Canada	197,025	254,880	257,130	1.2	1.4	1.4
China	2,443,837	1,676,430	1,756,451	14.4	9.5	9.4
France	12,612,527	13,846,640	15,233,831	74.1	78.6	81.2
Italy	212,863	286,386	155,518	1.3	1.6	.8
Spain	411,871	585,329	710,591	2.4	3.3	3.8
Turkey in Europe	492,941	213,696	143,051	2.9	1.2	.8
Other countries	655,863	742,732	508,209	3.7	4.4	2.6
Total	17,026,927	17,606,092	18,794,784	100.0	100.0	100.0
Walnuts, not shelled—						
Canada	272,908	199,738	65,400	.6	1.0	.4
Chile	4,397,718	574,467	333,080	10.2	2.9	1.8
China	9,364,788	1,591,683	1,951,850	21.7	8.0	10.7
France	7,780,057	8,487,674	4,622,757	18.0	42.6	25.3
Italy	12,996,126	8,497,492	10,389,368	30.1	42.7	56.9
Japan	2,337,671	100,760	35,000	5.4	.5	.2
Rumania	4,025,488	73,218	166,266	9.3	.4	.9
Turkey in Europe	893,847	18,673	214,601	2.1	.1	1.2
Other countries	1,137,765	369,774	466,614	2.6	1.8	2.6
Total	43,206,378	19,913,419	18,244,936	100.0	100.0	100.0
Oils, vegetable:						
Coconut—						
British India	1,442,671	1,492,431	125,434	.6	.7	.1
French Oceania	1,119,833			.5		
Philippine Islands	226,651,689	210,968,211	181,013,122	98.4	99.2	99.9
Other countries	1,021,943	112,775	91,763	.5	.1	(1)
Total	230,236,127	212,573,417	181,230,319	100.0	100.0	100.0
Olive oil, edible—						
France	6,436,507	8,093,740	6,117,812	10.8	10.8	7.6
Greece	[10] 7,440,158	[10] 3,571,235	1,833,265	12.5	4.8	2.0
Italy	28,811,933	43,935,892	52,076,274	48.4	58.9	64.4
Spain	16,303,020	18,213,291	19,560,602	27.4	24.4	24.2
Turkey in Asia	28,095		634	(1)		(1)
Turkey in Europe	2,760	277,796	67,281	(1)	.4	.1
Other countries	532,957	533,971	1,434,877	.9	.7	1.7
Total	59,555,490	74,625,925	80,880,745	100.0	100.0	100.0
Soybean oil—						
China	3,904,328	2,105,590	1,534,950	47.1	5.4	8.7
Japan	1,133	4,190,610	21,010	(1)	10.8	.1
Kwantung, leased territory	2,838,600	31,621,507	16,034,400	34.3	81.8	90.9
Philippine Islands	1,027,058			12.4		
Other countries	511,440	717,674	40,790	6.2	2.0	.3
Total	8,282,559	38,635,381	17,631,210	100.0	100.0	100.0
Opium (9 per cent and more of morphia):						
France	1,654			1.1		
Greece	[10] 84,410	[10] 39,386	36,550	58.5	36.0	46.0
Turkey in Asia	1,693		1,770	1.2		2.2
Turkey in Europe	53,837	51,352	30,288	37.3	47.0	38.1
United Kingdom		18,551	10,874		17.0	13.7
Other countries	2,684			1.9		
Total	144,278	109,289	79,482	100.0	100.0	100.0

[1] Less than 0.05 per cent.

[10] Includes Greece in Asia.

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and country of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Spices:						
Pepper (unground)—	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
British India	4,625,092	6,900,406	1,310,831	12.5	20.6	4.8
Ceylon	14,975	284,132	2,141	(1)	.8	(1)
Dutch East Indies	25,311,488	18,594,560	21,793,822	68.5	55.5	79.8
Netherlands	529,274	285,144	117,864	1.4	.8	.4
Straits Settlements	3,794,021	5,130,284	3,073,238	10.3	15.3	11.2
United Kingdom	628,230	473,376	230,467	1.7	1.4	.8
Other countries	2,045,014	1,879,856	807,087	5.6	5.6	3.0
Total	36,948,094	33,547,758	27,335,450	100.0	100.0	100.0
Seeds:						
Flaxseed—	*Bushels*	*Bushels*	*Bushels*			
Argentina	10,408,928	22,330,931	16,169,352	76.4	89.3	82.6
Canada	3,012,515	2,191,103	3,365,498	22.1	8.8	17.2
Other countries	210,630	483,902	41,900	1.5	1.9	.2
Total	13,632,073	25,005,936	19,576,750	100.0	100.0	100.0
Clover seed—						
Clover, red—	*Pounds*	*Pounds*	*Pounds*			
Canada	464,626	131,284	556,231	5.0	21.5	2.3
Chile	509,646		654,654	5.5		2.7
Czechoslovakia	393,680	10,910	100,723	4.2	1.8	.4
France	2,461,023	245,766	17,094,803	26.5	40.4	70.4
Germany	3,345,976	52,848	733,345	36.0	8.7	3.0
Italy	1,531,695		974,564	16.5		4.0
Poland	425,947	132,000		4.6	21.7	
United Kingdom	36,300	35,858	3,883,926	.4	5.9	16.0
Other countries	120,760		289,125	1.3		1.2
Total	9,289,653	608,666	24,287,371	100.0	100.0	100.0
All other, including alsike, crimson, and all other clover—						
Canada	10,279,434	10,482,073	18,513,745	61.7	78.9	64.3
Chile	363,590		88,424	2.2		.3
Czechoslovakia	179,441	56,401	581,239	1.1	.4	2.0
France	1,661,501	1,569,395	6,080,806	10.0	11.8	21.1
Germany	3,335,442	303,289	1,431,992	20.0	2.3	5.0
Italy	457,672		17,600	2.7		.1
Poland	6,633	64,953	53,484	(1)	.5	.2
United Kingdom	96,450	475,639	935,547	.6	3.6	3.2
Other countries	282,940	341,708	1,101,301	1.7	2.5	3.8
Total	16,663,103	13,293,458	28,804,138	100.0	100.0	100.0
Sugar, raw, cane:						
Central America	43,738,777	68,980,024	33,196,167	.5	.8	.4
Cuba	7,720,255,237	8,041,592,152	6,515,263,383	91.2	92.1	86.5
Dominican Republic	93,067,270	3,479,673	78,190,621	1.1	(1)	1.0
Dutch East Indies	6,914	1,242	9,845,490	(1)	(1)	.1
Hongkong	571,774	2,747,611	664,523	(1)	(1)	(1)
Mexico	42,711,737	29,953,811	61,522,664	.5	.3	.8
Other South America	7,537,218	4,354,242	50,000,719	.1	(1)	.7
Peru	177,600	8,791,816	104,790,491	(1)	.1	1.4
Philippine Islands	538,469,767	553,232,644	630,852,125	6.4	6.3	8.4
Other countries	17,792,252	20,354,812	45,673,634	.2	.4	.7
Total	8,464,328,546	8,733,488,027	7,529,999,817	100.0	100.0	100.0
Tea:						
British East Indies	21,394,828	19,851,220	23,653,328	24.8	20.5	22.4
Canada	677,488	791,745	705,650	.8	.8	.7
China	16,211,659	13,507,750	18,535,792	18.8	14.0	17.6
Dutch East Indies	6,674,097	8,666,908	8,672,748	7.7	9.0	8.2
Japan	26,639,127	35,974,918	34,207,049	30.9	37.2	32.5
United Kingdom	11,293,042	15,545,681	17,777,316	13.1	16.1	16.9
Other countries	3,251,713	2,330,386	1,732,893	3.9	2.4	1.7
Total	86,141,949	96,668,608	105,374,776	100.0	100.0	100.0

[1] Less than 0.05 per cent.

TABLE 685.—*Origin of principal agricultural products imported into the United States, 1922–1924*—Continued

Article and county of origin	Year ended June 30					
	1922	1923	1924	1922	1923	1924
VEGETABLE PRODUCTS—continued						
Tobacco, leaf (unmanufactured):	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	*Per ct.*	*Per ct.*
British South Africa	23,090	2		(1)	(1)	
Bulgaria	928,357	296,027	1,546,617	1.4	.4	3.0
Canada	63,818	67,085	292,291	.1	.1	.6
China	287,510	217,549	102,639	.4	.3	.2
Cuba	21,401,159	23,188,132	18,297,557	32.8	31.4	34.9
Dominican Republic	192,542	562	550	.3	(1)	(1)
Dutch East Indies	172,041	119,016	19,431	.3	.2	(1)
Egypt	88,968	81,617	48,464	.1	.1	.1
Greece	[10] 26,800,505	[10] 27,945,126	12,887,544	41.1	37.9	24.6
Germany	2,647,612	2,481,680	3,215,890	4.1	3.4	6.1
Hongkong	16,710	10,316	286,604	(1)	(1)	.5
Mexico	3,415	29,738	2,455	(1)	(1)	(1)
Netherlands	5,459,354	9,700,553	6,327,453	8.4	13.1	12.1
Persia	79,800	6,506	20,337	.1	(1)	(1)
Philippine Islands	527,882	1,924,196	1,145,101	.8	2.6	2.2
Turkey in Asia	11,325	1,284,647	1,349,916	(1)	1.7	2.6
Turkey in Europe	4,795,334	4,580,140	1,052,244	7.4	6.2	2.0
United Kingdom	1,246,420	614,788	615,801	2.1	.8	1.2
Other countries	479,595	1,248,467	5,169,212	.6	1.8	9.9
Total	65,225,437	73,796,147	52,380,106	100.0	100.0	100.0
FOREST PRODUCTS						
India rubber, crude:						
Brazil	21,125,055	30,771,572	23,534,637	3.7	3.9	3.8
British East Indies	379,810,088	547,799,814	416,837,321	66.8	68.7	67.5
Canada	51,335	379,604	98,552	(1)	(1)	(1)
Dutch East Indies	72,924,828	113,302,153	115,233,963	12.8	14.2	18.7
France	995,282	2,742,632	1,310,209	.2	.3	.2
Mexico	349,471	144,253	32,756	.1	(1)	(1)
Netherlands	21,652,700	10,821,152	3,610,487	3.8	1.4	.6
Other South America	743,925	2,033,793	3,097,943	.1	.3	.5
Peru	286,177	1,574,697	764,401	.1	.2	.1
Portugal	1,396,078	10,748	75,883	.2	(1)	(1)
United Kingdom	62,728,626	75,700,650	47,513,200	11.0	9.5	7.7
Other countries	6,317,863	12,374,081	4,992,545	1.2	1.5	.9
Total	568,381,428	797,655,149	617,101,897	100.0	100.0	100.0
Wood:						
Cabinet wood, mahogany—						
British Africa	16,106	8,464	10,059	40.3	19.7	21.4
Central America	16,497	17,575	22,647	41.2	41.0	48.2
French Africa (including Algeria and Tunis)	1,161	6,307	5,974	2.9	14.7	12.7
Mexico	3,163	5,221	2,906	7.9	12.2	6.2
United Kingdom	1,430	3,923	2,897	3.6	9.1	6.2
Other countries	1,646	1,405	2,492	4.1	3.3	5.3
Total	40,003	42,895	46,975	100.0	100.0	100.0

Division of Statistical and Historical Research. Compiled from Monthly Summaries of Foreign Commerce of the United States, June, 1923 and 1924, Bureau of Foreign and Domestic Commerce.

[1] Less than 0.05 per cent.

[10] Includes Greece in Asia.

TABLE 686.—*Foreign trade of the United States in agricultural products: Comparative summary, 1901–1924*

Year ended June 30	Agricultural exports [1]			Agricultural imports [1]		Excess of agricultural exports (+) or of imports (−)	Forest products			
	Domestic		Foreign	Total	Percentage of all imports		Exports		Imports	Excess of exports (+) or of imports (−)
	Total	Percentage of all exports					Domestic	Foreign		
	Thousands	*Per cent*	*Thousands*	*Thousands*	*Per cent*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
1901	951,628	65.2	11,293	391,931	47.6	+570,990	55,369	3,599	57,144	+1,825
1902	857,114	63.2	10,308	413,745	45.8	+453,677	48,929	3,609	59,187	−6,649
1903	878,481	63.1	13,505	456,199	44.5	+435,787	58,734	2,805	71,478	−9,879
1904	850,160	59.5	12,625	461,435	46.6	+410,350	70,086	4,177	79,619	−5,356
1905	826,905	55.4	12,317	553,851	49.6	+285,370	63,199	3,790	92,681	−25,691
1906	976,047	56.7	10,856	554,175	45.2	+432,728	76,975	4,809	96,462	−14,678
1907	1,054,405	56.9	11,614	626,837	43.7	+439,182	92,949	5,500	122,421	−23,972
1908	1,017,396	55.5	10,299	539,690	45.2	+488,005	90,362	4,570	97,733	−2,801
1909	903,238	55.1	9,585	638,613	48.7	+274,210	72,442	4,983	123,920	−46,495
1910	871,158	50.9	14,470	687,509	44.2	+798,119	85,030	9,802	178,872	−84,040
1911	1,080,794	51.2	14,665	680,205	44.5	+365,254	103,039	7,587	162,312	−51,686
1912	1,050,627	48.4	12,108	782,457	47.4	+279,277	108,122	6,413	172,523	−57,988
1913	1,123,652	46.3	15,029	815,301	45.0	+323,381	124,836	7,432	180,502	−48,235
1914	1,113,974	47.8	17,729	924,247	48.8	+207,456	106,979	4,518	155,261	−43,765
1915	1,475,938	54.3	34,420	910,786	54.4	+590,571	52,554	5,089	165,849	−108,207
1916	1,518,071	35.5	42,088	1,189,705	54.1	+370,454	68,155	4,364	252,851	−180,331
1917	1,968,253	31.6	37,640	1,404,972	52.8	+600,921	68,919	11,172	322,699	−242,609
1918	2,280,466	39.1	39,553	1,618,874	55.9	+701,144	87,181	6,066	335,033	−241,787
1919	3,579,918	50.6	103,530	1,768,191	57.1	+1,915,257	113,275	6,004	293,781	−174,501
1920	3,861,521	48.6	122,598	3,129,659	59.7	+854,459	190,049	11,026	508,410	−307,334
1921	2,607,641	40.8	87,019	1,941,837	53.1	+752,823	141,876	7,805	343,141	−193,460
1922	1,915,866	51.8	40,783	1,282,880	49.2	+673,769	94,115	5,120	245,474	−146,239
1923	1,799,168	46.3	42,359	1,905,245	50.4	−62,718	129,982	6,989	405,725	−268,754
1924 [2]	1,866,897	44.2	57,640	1,716,734	48.3	+207,803	162,789	6,642	374,339	−204,908

Division of Statistical and Historical Research. Compiled from Foreign Commerce and Navigation of the United States, 1901–1918, and Monthly Summaries of Foreign Commerce of the United States, June, 1920–1924, Bureau of Foreign and Domestic Commerce. All values are gold.

[1] Not including forest products.

[2] Preliminary.

TABLE 687.—*Fruit stocks, rose stocks, bulbs, and tree seeds: Imports, by countries of origin, year ended June 30, 1922–1924* [1]

Country	Fruit stock			Rose stocks			Bulbs			Tree seeds		
	1922	1923	1924	1922	1923	1924	1922	1923	1924	1922	1923	1924
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Australia										58	29	26
Austria										4	4	6
Azores							19	28				
Belgium				2								
Bermuda							179	312	569		(1)	
Brazil										1	1	1
Canada									1	(2)	1	1
Chile		2								(2)	(2)	(2)
China							1,603	1,279	1,422	1	3	4
Cuba	174									(2)	1	
Czechoslovakia												1
Denmark											(2)	1
England	(2)	(2)	(2)	1,872	2,036	3,083	339	449	744	(2)	(2)	
France	18,079	17,538	23,126	2,432	2,462	2,444	42,311	40,624	50,600	44	30	39
Germany		150	64				12,628	18,139	17,959	3	2	2
Netherlands	1,150	2,914	322	2,326	2,886	4,103	132,386	149,476	179,540	(2)	(2)	
Ireland				100	161	156			(2)			
Italy	906	468	584				386	1,753	38	(2)	2	1
Japan							7,234	8,203	8,760	12	17	18
Luxemburg				1								
Poland										1	1	(2)
Scotland				40	40	40						
Siam										(2)		(2)
Spain		2	(2)							(2)		(2)
Sweden								9		(2)	(2)	(2)
West Indies										1	(2)	1
All others	(2)	(2)							(2)	1	(2)	(2)

Federal Horticultural Board.

[1] This does not include the comparatively small quantities of bulbs and other plants imported under special permits.

[2] Less than 500.

[3] Less than 500 pounds.

TABLE 688.—*Acreage, production, and farm value, 1922–1924*—Continued

Crop		Acreage	Production			Farm value Dec. 1	
			Per acre	Total	Unit	Per unit	Total
		Acres				*Dolls.*	*Dollars*
Spinach [1]	1922	23,760	2.9	67,900	Ton	69.53	4,721,000
	1923	30,550	3.1	95,800	do	56.44	5,407,000
	1924	33,600	3.1	105,400	do	60.20	6,977,000
Strawberries [1]	1922	132,800	1,961	260,403,000	Quart	.15	38,354,000
	1923	148,300	1,728	256,409,000	do	.15	38,258,000
	1924	146,750	1,819	266,951,000	do	.13	35,292,000
Tomatoes [1]	1922	345,420	4.8	1,658,000	Ton	30.33	50,295,000
	1923	409,890	4.2	1,723,200	do	33.46	57,662,000
	1924	462,860	3.7	1,718,900	do	31.79	54,641,000
Watermelons [1]	1922	211,060	[2] 337	71,128	Car	155.00	10,991,000
	1923	157,350	[2] 272	42,734	do	249.00	10,645,000
	1924	168,230	[2] 296	49,765	do	171.09	8,503,000
Cranberries [1 3]	1922	25,000	22.4	560,000	Barrel	10.18	5,702,000
	1923	28,000	23.3	652,000	do	7.15	4,664,000
	1924	28,000	18.7	523,000	do	9.88	5,165,000
Apples, total	1922			202,702,000	Bushel	.986	199,848,000
	1923			202,842,000	do	1.019	206,696,000
	1924			179,443,000	do	1.183	212,193,000
Apples, commercial	1922			31,945,000	Barrel	2.93	93,636,000
	1923			35,936,000	do	2.91	104,656,000
	1924			28,701,000	do	3.67	105,259,000
Peaches [1]	1922			55,852,000	Bushel	1.338	74,717,000
	1923			45,382,000	do	1.367	62,025,000
	1924			51,679,000	do	1.275	65,914,000
Pears [1]	1922			20,705,000	do	1.069	21,943,000
	1923			17,845,000	do	1.209	21,570,000
	1924			17,961,000	do	1.408	25,287,000
Grapes [1]	1922			2,076,000	Ton	47.76	99,167,000
	1923			2,227,000	do	31.88	71,000,000
	1924			1,777,000	do	41.47	73,705,000
Oranges (2 States)	1922			30,200,000	Box	2.10	63,310,000
	1923			36,500,000	do	1.78	64,940,000
	1924			35,400,000	do	1.82	64,200,000
Total	1922	353,835,250					7,816,020,000
	1923	355,597,730					8,727,019,000
	1924	355,217,400					9,477,752,000

Division of Crop and Livestock Estimates.

[1] See detailed crop tables for date to which prices refer.
[2] Principal producing States.
[3] Number.

TABLE 689.—*Crop acreages, aggregates, by States, 1922–1924*

State	Acreage of 19 crops			Per cent of total acreage in specified crops[1]	Total acreage of all crops (theoretical)		
	1922	1923	1924		1922	1923	1924
	1,000 acres	*1,000 acres*	*1,000 acres*	*Per cent*	*1,000 acres*	*1,000 acres*	*1,000 acres*
Maine	1,537	1,547	1,554	96	1,601	1,611	1,619
New Hampshire	523	512	516	94	556	545	549
Vermont	1,139	1,140	1,169	93	1,225	1,226	1,246
Massachusetts	567	571	570	86	659	664	663
Rhode Island	63	61	62	84	75	73	74
Connecticut	476	473	474	88	541	538	539
New York	8,128	8,081	8,086	91	8,932	8,880	8,886
New Jersey	902	898	897	86	1,049	1,044	1,042
Pennsylvania	7,781	7,688	7,521	97	8,022	7,926	7,754
Delaware	419	412	410	89	471	463	461
Maryland	1,805	1,806	1,746	91	1,984	1,985	1,919
Virginia	4,578	4,616	4,383	93	4,923	4,963	4,713
West Virginia	1,927	1,908	1,802	95	2,028	2,008	1,897
North Carolina	6,799	6,989	6,852	94	7,233	7,435	7,289
South Carolina	5,278	5,288	5,312	92	5,737	5,748	5,774
Georgia	9,580	9,304	8,828	94	10,191	9,898	9,391
Florida	1,598	1,273	1,253	89	1,346	1,430	1,408
Ohio	11,557	11,374	11,144	97	11,914	11,726	11,489
Indiana	11,473	11,371	11,010	96	11,951	11,845	11,469
Illinois	20,171	20,291	19,998	97	20,795	20,919	20,616
Michigan	9,030	8,899	8,876	93	9,710	9,569	9,544
Wisconsin	9,679	9,638	9,503	90	10,754	10,709	10,559
Minnesota	16,963	17,243	17,303	96	17,670	17,961	18,024
Iowa	21,060	21,132	20,950	97	21,721	21,786	21,598
Missouri	14,568	14,725	14,183	96	15,175	15,339	14,774
North Dakota	19,184	19,775	20,060	96	19,983	20,599	20,896
South Dakota	15,596	15,498	15,450	98	15,914	15,814	15,765
Nebraska	18,234	18,867	18,128	97	18,798	18,935	18,689
Kansas	21,154	20,503	21,432	93	22,746	22,046	23,045
Kentucky	5,868	5,990	5,563	95	6,177	6,305	5,856
Tennessee	6,657	6,514	6,445	91	7,315	7,158	7,082
Alabama	7,885	7,635	7,687	93	8,478	8,210	8,266
Mississippi	6,642	6,267	6,190	96	6,919	6,528	6,448
Louisiana	3,820	3,914	4,120	91	4,198	4,301	4,527
Texas	23,778	25,464	26,930	92	25,846	27,678	29,272
Oklahoma	14,268	14,616	15,179	93	15,342	15,716	16,322
Arkansas	6,364	6,274	6,618	93	6,843	6,746	7,116
Montana	6,672	6,545	6,904	87	7,669	7,523	7,936
Wyoming	1,552	1,606	1,597	90	1,724	1,784	1,774
Colorado	5,270	5,779	6,019	85	6,200	6,799	7,081
New Mexico	839	986	1,102	78	1,076	1,264	1,413
Arizona	454	478	513	85	534	562	604
Utah	1,078	1,073	1,046	88	1,225	1,219	1,189
Nevada	395	395	348	98	403	403	355
Idaho	2,703	2,706	2,586	91	2,970	2,974	2,842
Washington	3,929	3,923	3,783	86	4,569	4,562	4,399
Oregon	2,800	2,843	2,825	80	3,500	3,554	3,531
California[2]	5,264	5,037	3,732	75	7,019	6,716	4,976
United States	347,616	349,428	348,649	93.8	371,711	373,687	372,682

Division of Crop and Livestock Estimates. Estimated total acreage of 19 crops—corn, wheat, oats, barley, rye, buckwheat, potatoes, sweet potatoes, tobacco, flax, rice, all hay, cotton, peanuts, kafirs, beans, broomcorn, hops, and cranberries.

[1] Based on census proportions in 1919.

[2] Includes cotton acreage in Lower California (135,000 acres in 1922, 150,000 acres in 1923, and 140,000 acres in 1924).

TABLE 690.—*Irrigated land: Area, by States, 1909 and 1919*

State	Area irrigated (acres)		Per cent of total	
	1909	1919	1909	1919
Arizona	320,051	467,565	2.2	2.4
Arkansas	27,753	143,946	.2	.8
California	2,664,104	4,219,040	18.5	22.0
Colorado	2,792,032	3,348,385	19.3	17.4
Idaho	1,430,848	2,488,806	9.9	13.0
Kansas	37,479	47,312	.3	.2
Louisiana	380,200	454,882	2.6	2.4
Montana	1,679,084	1,681,729	11.6	8.8
Nebraska	255,950	442,690	1.8	2.3
Nevada	701,833	561,447	4.9	2.9
New Mexico	461,718	538,377	3.2	2.8
North Dakota	10,248	12,072	.1	.1
Oklahoma	4,388	2,969	(1)	(1)
Oregon	686,129	986,162	4.8	5.1
South Dakota	63,248	100,682	.4	.5
Texas	451,130	586,120	3.1	3.1
Utah	999,410	1,371,651	6.9	7.1
Washington	334,378	529,899	2.3	2.8
Wyoming	1,133,302	1,207,982	7.9	6.3
Total	14,433,285	19,191 716,	100.0	100.0

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Census.

[1] Less than one-tenth of 1 per cent.

TABLE 691.—*Irrigation, United States summary, 1910 and 1920*

Item	Census of—	
	1910	1920
Number of all farms	1,776,046	1,916,391
Approximate land area of States included ..acres	1,224,963,360	1,223,989,120
All land in farms in States included ..do	416,462,547	505,440,954
Improved land in farms in States included ..do	186,786,227	214,689,819
Number of farms irrigated	162,723	231,541
Area irrigated ..acres	14,433,285	19,191,716
Area enterprises were capable of irrigating ..do	20,285,403	26,020,477
Area included in enterprises ..do	32,245,464	35,890,821
Per cent irrigated:		
Number of all farms	9.2	12.1
Approximate land area	1.2	1.6
Land in farms	3.5	3.8
Improved land in farms	7.7	8.9
Excess of area enterprises were capable of irrigating over area irrigated ..acres	5,852,118	6,828,761
Excess of area included in enterprises over area irrigated ..do	17,812,179	16,699,105
Area of irrigated land reported as available for settlement ..do	(1)	2,257,981
Capital invested	$321,454,008	$697,057,328
Average per acre enterprises were capable of irrigating	$15.85	$26.81
Estimated final cost of existing enterprises	$437,948,825	$819,778,005
Average per acre included in enterprises	$13.58	$22.84
Average cost of operation and maintenance per acre	[2] $1.07	$2.43
Irrigation works:		
Number of enterprises	56,858	63,298
Number of main ditches	46,077	51,621
Length of main ditches ..miles	88,927	103,177
Capacity of main ditches ..second-feet	618,097	631,079
Number of lateral ditches	36,513	57,553
Length of lateral ditches ..miles	30,003	56,687
Number of reservoirs	6,956	7,538
Capacity of reservoirs ..acre feet	12,602,924	21,246,436
Number of flowing wells	5,071	4,606
Capacity of flowing wells ..gallons per minute	1,345,676	935,057
Number of pumped wells	15,971	32,094
Capacity of pumped wells ..gallons per minute	7,248,699	16,896,549
Number of pumping plants	15,803	29,458
Engine capacity ..horsepower	361,480	748,971
Pump capacity ..gallons per minute	19,355,864	36,275,005
Average lift ..feet		41

Division of Crop and Livestock Estimates. Compiled from reports of the Bureau of the Censur.

[1] Not reported in 1910.

[2] Does not include cost of operation and maintenance for rice growing districts in Gulf States; consequently figures for 1909 and 1919 are not comparable.

TABLE 692.—*Irrigated acreage harvested for specified groups of crops, by States, 1919*

State	Grains including kafir and rice	Forage and silage	Potatoes and sweet potatoes	Other vegetables	Sugar beets	Seeds (clover, timothy, alfalfa, etc.)	Dry beans and peas	Cotton	Other field crops
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Arizona	85,332	135,421	1,011	3,930	.....	4,217	1,295	101,080	.....
California	585,709	882,466	35,556	74,899	55,720	2,319	149,883	83,903	3,558
Colorado	462,879	1,222,396	50,631	9,298	137,329	5,949	35,468	.....	.....
Idaho	395,228	678,364	32,044	.....	32,270	24,306	19,593	.....	.....
Kansas	9,159	17,492	.....	.....	851	.....	.....	.....	.....
Montana	220,445	596,928	4,903	.....	7,686	3,330	13,092	.....	4,705
Nebraska	69,755	80,430	6,671	.....	42,959	.....	.....	.....	.....
Nevada	27,640	300,714	2,823	.....	.....	.....	.....	.....	.....
New Mexico	84,238	121,110	504	821	.....	2,583	9,236	7,527	.....
North Dakota	21,809	3,471	.....	.....	.....	.....	.....	.....	.....
Oregon	45,585	220,925	1,880	.....	.....	.....	.....	.....	.....
South Dakota	17,936	46,580	413	.....	1,052	1,040	.....	.....	.....
Texas	216,987	38,301	1,156	4,010	.....	.....	694	22,006	12,199
Utah	210,321	496,575	10,758	5,483	92,439	9,692	.....	.....	.....
Washington	70,713	202,437	8,186	.....	4,635	897	.....	.....	597
Wyoming	72,998	427,315	4,532	.....	2,714	2,386	.....	.....	.....

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

TABLE 693.—*Acreage and production of principal crops harvested from irrigated land, 1909 and 1919*

Crops	Acreage harvested				Production					Average yield, 1919		
	1909		1919			1909		1919				
	Acres	Per cent of total for States included	Acres	Per cent of total for States included	Unit	Quantity	Per cent of total for States included	Quantity	Per cent of total for States included	Unit	On irrigated land	On nonirrigated land
Cereals:												
Corn	133,560	0.5	263,312	1.2	Bushel	3,168,973	0.6	7,525,354	1.6	Bushel	28.6	21.8
Oats	739,632	7.4	325,523	2.7	do	27,213,262	9.8	9,361,125	2.9	do	28.8	26.5
Winter wheat	548,173	2.1	381,127	1.4	do	14,045,117	3.6	7,115,303	1.8	do	18.7	14.1
Spring wheat			877,411	5.0	do			17,679,328	12.2	do	20.1	7.6
Barley	239,928	5.4	280,287	6.9	do	6,955,841	7.2	7,202,430	9.8	do	25.7	17.3
Rye	5,986	2.9	19,014	.5	do	95,585	3.9	168,977	.6	do	8.9	7.4
Kafir, milo, etc	(1)		152,768	4.2	do	(1)		4,106,358	5.7	do	26.8	19.6
Rough rice [2]	(1)		892,761	99.7	do	(1)		35,032,275	99.9	do	39.2	4.1
Other grains and seeds:												
Clover and alfalfa seed [3]	31,948	28.1	39,431	25.0	do	164,610	39.9	161,587	48.7	do	4.1	1.4
Dry beans, navy, etc	17,798	9.1	177,752	24.8	do	314,271	8.8	2,862,567	34.0	do	16.1	10.3
Dry peas, Canada	18,422	20.2	51,464	33.0	do	254,219	32.0	637,560	38.0	do	12.4	10.0
Hay and forage:												
Timothy alone	202,763	18.8	140,607	16.5	Ton	349,920	23.8	178,112	18.7	Ton	1.27	1.09
Timothy and clover mixed	183,368	14.5	392,260	40.8	do	333,851	17.0	569,591	40.1	do	1.45	1.50
Clover alone	20,001	10.4	40,879	17.7	do	46,472	14.9	63,465	17.6	do	1.55	1.56
Alfalfa	2,216,628	50.1	3,151,675	42.2	do	6,524,498	58.3	8,430,766	51.6	do	2.68	1.94
Other tame grasses	219,035	14.1	254,313	15.9	do	335,977	16.4	316,803	15.2	do	1.25	1.32
Wild, salt, or prairie grasses	1,530,069	11.7	1,034,507	7.8	do	1,627,804	12.5	951,345	8.7	do	.92	.82
Small grains cut for hay	208,634	7.4	291,697	7.0	do	305,050	8.4	372,739	9.5	do	1.28	.92
Annual legumes cut for hay	(1)		19,851	9.8	do	(1)		28,334	11.4	do	1.43	1.20
Silage crops	(1)		56,424	9.2	do	(1)		388,830	13.3	do	6.89	4.54
Corn cut for forage	(1)		36,689	1.6	do	(1)		87,389	2.5	do	2.38	1.51
Kafir, sorghum, etc., for forage	(1)		51,981	1.2	do	(1)		108,035	1.5	do	2.04	1.68
Root crops for forage	(1)		2,631	9.4	do	(1)		19,543	6.5	do	7.43	11.11
Vegetables:												
Potatoes	148,712	21.2	154,194	23.0	Bushel	22,267,845	30.3	22,978,739	40.7	Bushel	149.0	64.9
Cantaloupes and muskmelons	(1)		20,874	60.3		(1)						
Tomatoes	(1)		20,649	41.6		(1)						
Orchard fruits:												
Grapes	(1)		[4] 73,675,084	46.7	Pound	(1)		1,131,279,429	54.4	Pound	15.4	11.3
Apples	(1)		[5] 9,085,326	35.2	Bushel	(1)		22,406,306	44.0	Bushel	2.5	1.7
Peaches	(1)		[5] 7,062,692	35.6	do	(1)		13,224,500	47.2	do	1.9	1.2
Pears	(1)		[5] 1,849,429	35.9	do	(1)		3,479,806	43.2	do	1.9	1.4

Plums and prunes	(1)		[5] 4,306,976	29.7	do	(1)		7,074,240	40.9	do	1.6	1.0
Cherries	(1)		[5] 607,907	22.5	do	(1)		578,354	29.0	do	.9	.6
Subtropical fruits:												
Oranges	(1)		[5] 8,711,152	84.1	Box	(1)		18,774,366	86.4	Box	2.2	1.8
Lemons	(1)		[5] 2,299,716	79.6	do	(1)		5,776,149	88.1	do	2.5	1.3
Miscellaneous:												
Sugar beets grown for sugar	174,071	68.0	377,655	81.0	Ton	2,074,301	70.5	3,567,522	82.8	Ton	9.45	8.38
Cotton	(1)		214,576	1.5	Bale	(1)		113,862	2.8	Bale	.53	.28

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

[1] Not reported separately in 1909.
[2] The totals given include small amounts grown without irrigation.
[3] Not including red-clover seed.
[4] Number of vines of bearing age.
[5] Number of trees of bearing age.

TABLE 694.—*Fruits grown under irrigation, by States, 1919*

State, number of vines or trees, and production	Grapes [1]	Apples [2]	Peaches [2]	Pears [2]	Plums and prunes [2]	Cherries [2]	Apricots [2]	Oranges [3]	Lemons [3]	Grapefruit [3]	Figs [1]
Arizona:											
Number of vines or trees of bearing age	14,072	30,749	32,880					32,196			
Production	139,690	54,643	49,942					48,764			
California:											
Number of vines or trees of bearing age	73,217,234	804,683	5,662,259	1,017,060	3,841,678	284,569	1,630,763	8,678,956	2,299,716	193,819	246,884
Production	1,128,175,200	1,335,057	10,318,362	1,783,951	6,542,548	326,449	2,608,136	18,725,602	5,776,149	393,923	10,074,552
Colorado:											
Number of vines or trees of bearing age	35,688	879,087	238,370	97,783	26,582	194,365					
Production	173,669	1,842,018	460,404	210,944	19,264	101,271					
Idaho:											
Number of vines or trees of bearing age	10,809	852,307	71,890	20,290	273,303	31,136					
Production	104,156	1,211,790	138,442	15,455	291,495	19,769					
Montana:											
Number trees of bearing age		761,904				47,600					
Production		477,796				9,595					
New Mexico:											
Number of vines or trees of bearing age	176,520	321,233	56,464	21,681	9,351	8,204					
Production	630,440	487,878	93,140	26,007	11,123	5,876					
Oregon:											
Number of vines or trees of bearing age	8,525	177,789	25,953	115,520	21,664	6,656					
Production	110,395	402,912	50,692	141,258	36,930	7,803					
Utah:											
Number of vines or trees of bearing age	93,344	594,168	519,350	46,261	55,925	94,612					
Production	535,807	756,624	854,342	65,861	44,112	107,238					
Washington:											
Number of vines or trees of bearing age	118,892	4,633,119	455,526	530,834	75,084						
Production	1,410,072	15,823,446	1,259,176	1,236,330	127,042						

Division of Crop and Livestock Estimates. Compiled from reports of Bureau of the Census.

[1] Production of grapes and figs reported in pounds.

[2] Production of apples, peaches, pears, plums and prunes, cherries, and apricots reported in bushels.

[3] Production of oranges, lemons, and grapefruit reported in boxes.

TABLE 695.—*Index numbers of the mass of crop production*

[Average of 1910–1914=100]

Year and period	Production index		Year and period	Production index	
	Total	Per capita		Total	Per capita
1890	55	84	1912	110	109
1891	70	104	1913	95	95
1892	62	91	1914	107	104
1893	61	87	1915	116	109
1894	62	87	1916	100	93
1895	71	99	1917	108	100
1896	77	104	1918	107	98
1897	75	100	1919	108	98
1898	85	112	1920	117	104
1899	82	105	1921	100	88
1900	81	102	1922	110	96
1901	74	91	1923	110	94
1902	91	110	1924	113	95
1903	84	100			
1904	92	106	1890–1894	62.0	90.6
1905	94	107	1895–1899	78.0	104.0
1906	99	110	1900–1904	84.5	101.8
1907	89	97	1905–1909	94.0	102.8
1908	94	101	1910–1914	100.0	100.0
1909	94	99	1915–1919	108.0	99.6
1910	97	101	1920–1924	110.0	95.4
1911	91	91			

Division of Crop and Livestock Estimates. Production of wheat, corn, oats, barley, rye, buckwheat, potatoes, hay, tobacco, and cotton, each crop each year multiplied by constant price and divided by average aggregate of base years.

TABLE 696.—*Crops: Index numbers, condition of growing crops, 1910–1924*

Year	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Year	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1
1910			93.5	97.2	99.6	99.3	1918	102.9	101.6	98.9	94.1	96.6	97.6
1911	97.2	89.3	85.4	84.8	86.7	90.6	1919	104.7	102.3	97.8	98.8	98.7	99.8
1912	99.1	98.8	100.3	104.1	110.0	107.7	1920	94.8	99.7	105.4	107.0	106.9	106.9
1913	98.9	98.2	95.5	89.9	90.3	93.3	1921	93.2	96.4	93.0	92.9	91.1	91.7
1914	102.2	101.5	98.0	97.9	99.4	102.3	1922	99.2	97.9	101.2	98.8	98.7	96.7
1915	102.3	102.3	103.9	105.5	106.9	108.0	1923	95.3	96.4	97.4	98.3	98.4	96.1
1916	97.7	101.6	97.4	94.6	94.5	95.1	1924	92.7	94.0	96.1	96.0	96.5	98.1
1917	94.2	97.8	99.8	102.5	102.4	102.0							

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10-year moving average of condition, weighted by States according to crop values in 1919.

TABLE 697.—*Crops: Index numbers of all crop yields, 1912–1924*

State and division	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Maine	102.0	101.6	118.4	86.8	116.2	99.7	99.6	105.9	89.6	95.4	84.0	120.8	121.8
New Hampshire	119.0	89.2	113.8	84.5	121.8	110.3	105.7	104.7	104.2	93.8	104.5	107.8	109.4
Vermont	118.0	97.7	102.7	97.6	118.8	110.3	97.0	104.1	104.0	87.0	98.4	107.4	108.5
Massachusetts	107.0	95.9	116.3	96.5	109.9	105.0	97.7	102.6	107.1	92.6	92.9	108.5	101.3
Rhode Island	98.0	101.4	113.4	92.3	92.4	114.3	103.4	100.6	97.9	95.3	88.5	114.6	106.3
Connecticut	103.0	95.9	111.7	101.7	110.5	107.3	97.8	100.0	103.6	102.4	91.8	107.1	96.5
New York	105.0	90.8	110.7	100.4	107.7	107.8	102.4	106.9	110.5	83.9	108.7	103.7	109.4
New Jersey	106.0	101.2	104.9	107.1	107.2	102.5	100.0	96.7	120.8	91.7	117.5	88.2	111.5
Pennsylvania	110.0	98.0	105.5	100.8	106.0	100.8	101.6	104.9	109.3	94.0	104.9	92.3	102.5
N. Atlantic	106.8	95.5	109.3	98.9	108.9	104.6	101.2	104.8	107.9	90.3	104.1	100.3	107.3
Delaware	112.0	97.1	109.3	99.1	100.6	104.1	91.1	90.8	111.2	87.8	107.4	104.5	99.4
Maryland	108.0	93.3	112.9	99.6	106.4	106.0	99.9	98.2	112.0	90.2	104.6	102.3	93.9
Virginia	101.0	106.6	89.9	114.5	112.7	108.2	105.1	101.8	109.2	85.6	105.4	104.1	94.8
West Virginia	123.0	93.3	94.7	113.0	110.4	103.1	99.1	102.4	109.1	91.0	101.4	103.9	101.2
North Carolina	102.0	103.5	108.1	103.3	95.0	97.3	105.9	92.3	106.6	85.0	93.4	107.9	82.2
South Carolina	102.0	105.9	103.7	92.3	83.3	102.0	98.3	94.3	99.1	74.0	68.4	89.9	72.3
Georgia	98.0	103.9	111.2	92.0	91.5	97.2	96.8	85.1	87.9	73.3	66.8	59.7	95.5
Florida	106	111.1	112.0	100.5	95.4	94.5	98.8	92.3	96.5	90.5	110.2	100.6	102.0
S. Atlantic	103.6	103.5	105.1	99.6	102.9	100.7	100.3	93.1	100.4	80.8	84.4	90.6	88.4
Ohio	105.0	97.2	100.1	111.9	89.2	111.1	101.9	104.7	106.7	88.7	97.3	104.7	89.7
Indiana	102.0	95.4	92.7	113.0	92.4	108.8	100.8	96.2	105.7	88.3	97.7	103.2	91.3
Illinois	110.0	80.3	85.3	118.5	95.7	120.0	111.0	96.6	101.2	94.1	102.5	107.1	98.4
Michigan	101.0	93.6	111.4	99.6	93.3	97.8	90.0	99.8	109.0	85.3	107.4	104.5	100.2
Wisconsin	108.0	109.7	106.3	103.4	103.8	103.4	113.5	107.3	112.3	89.4	110.5	92.6	103.3
E. N. Central	106.1	92.8	96.9	110.6	94.7	110.0	106.0	100.6	106.2	89.8	102.4	103.3	97.6
Minnesota	123.0	114.6	94.7	116.1	79.2	110.8	123.2	88.6	96.9	84.5	98.4	97.3	118.8
Iowa	128.0	102.4	104.9	103.3	107.2	110.8	103.8	107.4	112.6	98.8	110.2	100.5	93.2
Missouri	105.0	71.1	84.6	108.8	78.8	124.0	84.4	105.7	114.2	101.8	101.3	107.8	100.0
North Dakota	142.0	98.2	99.2	137.3	72.5	64.9	108.1	69.2	91.1	82.3	127.0	81.3	135.5
South Dakota	115.0	81.8	93.6	137.2	88.8	115.1	138.9	88.7	104.0	87.0	103.1	101.9	98.6
Nebraska	92.0	78.9	102.9	125.4	113.9	102.7	78.0	114.5	137.3	104.4	89.1	109.4	102.2
Kansas	117.0	61.4	124.2	124.9	81.7	92.2	82.2	110.8	129.1	102.0	100.8	87.7	118.6
W. N. Central	117.3	88.6	101.9	118.2	90.6	104.6	101.1	100.2	113.0	95.6	103.3	99.1	106.6
Kentucky	104.0	82.9	101.9	108.0	102.5	108.9	100.5	95.0	106.2	93.2	100.4	100.5	94.5
Tennessee	102.0	88.1	98.5	103.7	101.0	105.1	95.5	95.6	104.9	96.6	92.3	86.1	92.2
Alabama	106.0	101.0	110.1	91.8	64.3	90.2	101.1	82.1	86.9	82.0	92.7	76.7	101.6
Mississippi	98.0	98.6	103.1	98.3	67.4	108.0	102.2	92.5	89.8	86.4	95.5	66.1	93.2
Louisiana	100.0	101.5	103.7	96.2	102.1	94.6	85.3	87.4	97.2	94.6	96.7	84.8	72.5
Texas	122.0	108.2	103.7	102.6	96.5	73.9	65.4	124.2	113.5	92.4	86.4	97.1	98.9
Oklahoma	99.0	61.7	105.6	122.2	79.2	86.8	66.3	138.7	139.6	104.9	76.7	74.5	113.4
Arkansas	99.0	94.5	96.9	103.5	92.4	116.0	75.6	98.0	106.7	91.7	92.2	66.4	94.9
S. Central	105.8	92.3	103.1	103.8	88.0	93.0	83.6	105.5	107.4	92.9	89.9	82.8	97.6
Montana	98.0	93.9	90.2	106.7	85.9	55.3	66.9	40.4	82.6	84.5	100.1	103.9	101.7
Wyoming	103.0	91.9	97.9	99.4	86.9	88.3	104.7	65.1	113.2	86.5	94.3	94.4	87.4
Colorado	98.0	88.8	106.6	99.2	91.9	102.9	96.3	90.1	105.1	98.7	87.2	93.5	89.1
New Mexico	91.0	83.6	110.0	100.3	86.0	84.6	96.2	104.3	107.2	95.6	59.4	87.7	97.1
Arizona	112.0	116.0	97.9	94.0	109.0	99.5	94.0	112.0	96.8	110.5	93.9	109.8	102.8
Utah	105.0	92.2	100.2	94.5	88.4	108.7	94.0	78.2	102.7	107.7	99.2	105.9	87.8
Nevada	126.0	104.7	118.6	97.4	94.0	106.2	92.2	88.1	90.5	99.7	108.2	103.5	82.5
Idaho	108.0	101.6	95.4	97.9	88.8	90.7	89.0	81.5	98.2	98.2	94.7	105.3	79.4
Washington	105.0	101.0	101.4	104.3	105.0	83.1	74.8	94.4	92.5	108.0	79.3	118.4	68.4
Oregon	117.0	104.5	95.0	100.4	107.0	82.4	80.2	98.0	102.9	103.9	87.5	111.6	76.5
California	106.0	88.4	109.9	103.8	101.7	103.2	88.5	99.4	96.3	95.2	105.4	107.7	90.9
Western	102.9	95.1	102.6	102.1	97.7	91.2	85.3	88.5	96.9	98.3	95.5	100.8	86.2
United States	107.7	93.3	102.3	108.0	95.1	102.0	97.6	99.8	106.9	91.7	96.7	96.1	98.1

Division of Crop and Livestock Estimates. Index numbers of individual crops relative to a 10-year moving average yield, weighted by States, according to crop values in 1919.

TABLE 698.—*Crops: Average weight in pounds per measured bushel of wheat, oats, and barley, United States, 1902–1924*

Year	Weight per measured bushel[1]			Year	Weight per measured bushel[1]		
	Wheat	Oats	Barley		Wheat	Oats	Barley
	Pounds	*Pounds*	*Pounds*		*Pounds*	*Pounds*	*Pounds*
1902	57.3	31.0		1914	58.0	31.5	46.2
1903	57.4	29.7		1915	57.9	33.0	47.4
1904	55.5	31.5		1916	57.1	31.2	45.2
1905	57.5	32.7					
1906	58.3	32.0		1917	58.5	33.4	46.6
				1918	58.8	33.2	46.9
1907	58.2	29.4		1919	56.3	31.1	45.2
1908	58.3	29.8		1920	57.4	33.1	46.0
1909	57.9	32.7		1921	57.0	28.3	44.4
1910	58.5	32.7	46.9				
1911	57.8	31.1	46.0	1922	57.7	32.0	46.2
				1923	57.4	32.1	45.3
1912	58.3	33.0	46.8	1924	59.0	33.4	47.0
1913	58.7	32.1	46.5				

Division of Crop and Livestock Estimates. As reported by crop reporters on Nov. 1.

[1] Standard weights: Wheat, 60 lbs.; oats, 32 lbs.; barley, 48 lbs.

TABLE 699.—*Crops: Value per acre of 10 crops combined, 1866–1924*

Year	Value per acre	Year	Value per acre	Year	Value per acre	Year	Value per acre
1866	$14.17	1881	$13.10	1896	$7.94	1911	$15.36
1867	15.09	1882	12.93	1897	9.07	1912	16.09
1868	14.17	1883	10.93	1898	9.00	1913	16.49
1869	14.67	1884	9.95	1899	9.13	1914	16.44
1870	15.40	1885	9.72	1900	10.31	1915	17.18
1871	15.74	1886	9.41	1901	11.42	1916	22.58
1872	14.86	1887	10.14	1902	12.07	1917	33.27
1873	14.19	1888	10.30	1903	12.62	1918	33.73
1874	13.25	1889	8.90	1904	13.26	1919	35.74
1875	12.20	1890	11.03	1905	13.28	1920	23.26
1876	10.80	1891	11.76	1906	13.46	1921	14.45
1877	12.00	1892	10.10	1907	14.74	1922	19.23
1878	16.37	1893	9.50	1908	15.32	1923	21.52
1879	13.26	1894	9.06	1909	16.00	1924	23.86
1880	13.01	1895	8.12	1910	15.53		

Division of Crop and Livestock Estimates. Corn, wheat, oats, barley, rye, buckwheat, potatoes, all hay, tobacco, and cotton, which comprise nearly 90 per cent of the area in all field crops, the average value of which closely approximates the value per acre of the aggregate of all crops.

TABLE 700.—*Crops: Value of 22 crops and of all crops, with rank*

State	Value[1] all crops, 1919 census	Ratio value 22 crops to all crops in census 1919	Value 22 crops			Value all crops			Rank, 1924	
			1919 census	1923	1924	1918–1922 average	1923	1924	22 crops	All crops
	1,000 dols.	*P. ct.*	*1,000 dolls.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*		
Me.	100,152	92	91,982	50,358	43,770	64,323	54,737	47,576	36	37
N. H.	23,510	79	18,479	16,185	15,651	23,103	20,487	19,811	45	45
Vt.	48,000	77	36,835	33,120	35,179	47,639	43,013	45,687	38	39
Mass.	53,701	68	36,601	38,562	32,328	54,335	56,709	47,541	40	38
R. I.	5,340	69	3,680	3,099	3,078	5,181	4,491	4,461	48	47
Conn.	44,473	81	36,006	40,255	32,508	48,263	49,698	40,133	39	41
N. Y.	417,047	77	321,598	244,500	238,310	376,145	317,532	309,493	14	13
N. J.	87,484	70	61,273	38,472	42,304	74,339	54,960	60,434	37	36
Pa.	409,969	86	350,991	221,935	245,751	340,507	258,064	285,757	13	15
Del.	23,059	72	16,516	12,339	14,157	19,974	17,138	19,662	46	46
Md.	110,166	80	88,066	56,615	59,273	88,620	70,769	74,091	34	35
Va.	292,824	85	247,463	161,272	162,644	225,854	189,732	191,846	25	25
W. Va.	96,537	81	78,143	62,612	61,032	95,004	77,299	75,348	33	34
N. C.	503,229	87	438,892	378,218	278,822	389,402	434,733	320,485	11	12
S. C.	437,122	82	360,025	205,947	144,917	293,460	251,155	176,728	26	26
Ga.	540,614	80	430,270	188,885	210,472	375,710	236,106	263,090	19	18
Fla.	80,257	62	49,521	43,896	51,277	81,405	70,800	82,705	35	33
Ohio	607,038	87	526,943	286,357	287,730	395,715	329,146	330,724	10	11
Ind.	497,230	90	449,079	232,529	250,086	334,589	258,366	277,873	12	16
Ill.	864,736	92	797,893	423,194	509,779	583,961	459,993	554,108	2	2
Mich.	404,015	82	329,651	196,781	220,313	290,454	239,977	268,674	18	17
Wis.	445,345	81	360,404	216,075	235,108	357,902	266,759	290,257	15	14
Minn.	506,020	89	450,327	266,741	363,858	380,585	299,709	408,829	6	7
Iowa.	590,391	92	820,126	443,170	488,645	576,309	481,707	531,136	3	3
Mo.	559,048	89	496,261	285,730	312,405	369,675	321,045	351,017	9	9
N. D.	301,783	92	278,315	148,099	319,714	267,289	160,977	347,515	8	10
S. D.	311,007	93	288,376	179,953	222,192	258,086	193,498	238,916	17	21
Neb.	519,730	95	491,338	270,389	351,290	338,896	284,620	369,779	7	6
Kan.	588,923	91	536,408	258,584	413,071	406,919	284,158	453,924	4	4
Ky.	347,339	89	310,224	212,511	206,847	291,765	238,770	232,412	20	22
Tenn.	318,285	83	263,797	169,704	191,176	247,847	204,462	230,333	23	23
Ala.	304,349	81	246,271	177,043	197,635	256,977	218,572	243,994	22	19
Miss.	336,207	83	278,539	157,634	185,110	255,294	189,920	223,024	24	24
La.	206,182	71	147,290	115,476	112,639	177,262	162,642	158,646	29	27
Tex.	1,071,542	83	885,955	886,050	763,667	773,878	1,067,530	920,081	1	1
Okla.	550,085	87	479,314	239,288	372,303	322,749	275,044	427,984	5	5
Ark.	340,813	83	283,175	165,560	200,558	254,157	199,470	241,636	21	20
Mont.	69,975	86	60,058	86,461	124,238	98,197	100,536	144,463	27	28
Wyo.	30,271	88	26,528	26,713	25,606	39,443	30,356	29,098	44	44
Colo.	181,065	76	137,660	102,205	97,522	141,950	134,480	128,318	30	30
N. Mex.	40,620	77	31,093	20,078	29,679	39,853	26,075	38,544	43	42
Ariz.	42,481	84	35,478	29,068	29,867	35,105	34,605	35,556	42	43
Utah.	58,067	70	40,901	25,726	31,521	44,259	36,751	45,030	41	40
Nev.	13,980	96	13,439	9,045	8,980	12,622	9,422	9,333	47	48
Idaho.	126,495	88	111,940	71,710	74,674	97,826	81,480	84,857	31	32
Wash.	227,212	82	185,667	123,763	113,008	177,056	150,930	137,815	28	29
Ore.	131,885	75	99,095	71,171	63,673	113,372	94,895	84,897	32	31
Calif.	589,757	54	315,091	229,389	228,797	460,562	424,794	423,698	16	6
United States.	14,755,365	84.3	12,442,977	7,922,467	8,703,144	11,033,908	9,468,128	10,326,769	------	------

Division of Crop and Livestock Estimates. Estimated total value of 22 crops—corn, wheat, oats, barley, rye, buckwheat, flaxseed, rice, potatoes, sweet potatoes, all hay, tobacco, lint cotton, beans, broomcorn grain sorghums, hops, oranges, cloverseed, peanuts, cranberries, and apples—in the United States, by States in 1919 (census), 1923, and 1924; the value of all crops in 1919 (census); and the value of all crops in 1923 and 1924, based upon ratio of the 22 crops to all crops in census year. The slight differences in the total value of crops in the United States between Tables 700 and 702 are due to different methods of estimating. In Table 700, where each State is shown separately, a more detailed method is used than is practicable in Table 702.

[1] Does not include nursery or greenhouse products, or forest products of the farm.

TABLE 701.—*Farm products: Estimated value, principal products and groups of products, calendar years 1920–1924*

[Million dollars—i. e., 000,000 omitted]

Product	1920	1921	1922	1923	1924, preliminary
CROPS [1]					
Cereals:					
Barley	144	73	96	113	155
Corn	2,009	1,639	2,226	2,538	2,898
Grain sorghums	87	62	87	93	109
Oats	763	356	475	554	799
Rice	62	36	39	37	47
Rye	88	51	70	38	61
Wheat	1,514	840	856	743	1,131
Other	28	20	22	22	28
Total cereals	4,695	3,077	3,871	4,138	5,220
Cotton:					
Lint	1,156	672	1,147	1,470	1,506
Seed	170	103	139	187	195
Total cotton	1,326	775	1,286	1,657	1,701
Flax, fiber and seed	22	13	23	37	72
Fruits:					
Apples	301	194	218	238	223
Grapes	226	115	99	71	74
Oranges	65	51	63	65	64
Peaches	104	70	85	80	79
Pears	33	19	29	30	30
Strawberries	37	43	44	44	39
Other	136	112	127	114	117
Total fruits	902	604	665	642	626
Hay and forage	2,052	1,343	1,529	1,619	1,733
Legume seeds:					
Beans, dry edible	30	31	52	61	57
Cowpeas	24	18	34	41	36
Peanuts	40	31	35	42	36
Soybeans	6	6	12	19	22
Other			9	9	9
Total legume seed	100	86	142	172	160
Seeds for planting (clover, etc.)	60	43	49	46	48
Sugar crops (including sirup, but no sugar except maple):					
Maple sirup and sugar	13	6	8	8	9
Sorgo sirup	53	29	26	28	26
Sugar beets for sugar	99	49	41	63	53
Sugarcane and sirup	76	63	59	54	43
Total sugar crop	241	147	134	153	131
Tobacco	288	213	288	311	256
Vegetables:					
Potatoes	530	439	335	392	349
Sweet potatoes	151	109	107	118	106
Other	220	186	240	280	258
Farm garden crops	295	328	329	379	305
Total vegetables	1,196	1,062	1,011	1,169	1,018
Farm forest products	562	271	305	318	311
Other crops	134	125	127	139	128
Total crops	11,578	7,759	9,430	10,401	11,404
ANIMAL PRODUCTS					
Animal raised:					
Cattle	1,317	933	954	988	944
Horses	214	193	152	130	124
Mules	65	50	43	37	34
Sheep	136	95	126	145	148
Swine	1,525	1,018	1,235	1,133	1,009
Other	8	5	6	7	7
Total animals raised	3,265	2,294	2,516	2,440	2,267

[1] Based mostly on weighted prices and hence differing from previously published numbers, which were based mostly on Dec. 1 prices.

TABLE 701.—*Farm products: Estimated value, principal products and groups of products, calendar years 1920–1924*—Continued

[Million dollars—i. e., 000,000 omitted]

Product	1920	1921	1922	1923	1924, preliminary
ANIMAL PRODUCTS—continued					
Bee products	19	12	12	12	12
Dairy products:					
Milk sold [2]	976	796	735	950	937
Milk consumed on farms [2]	831	694	640	801	777
Total whole milk at sales price [3]	1,807	1,490	1,375	1,751	1,714
Butter made	366	242	221	246	237
Cheese made	2	1	1	1	1
Cream sold [3]	108	65	62	90	71
Butter fat sold	374	322	331	415	394
Buttermilk	13	5	5	6	7
Whey	(4)	(4)	(4)	(4)	(4)
Skim milk	215	92	102	143	162
Total dairy products	2,885	2,217	2,097	2,652	2,586
Poultry products:					
Eggs produced	730	556	513	597	525
Poultry raised	445	421	405	441	469
Total poultry products	1,175	977	918	1,038	994
Wool	92	36	66	87	88
Other animal products	3	1	3	4	4
Total animal products	7,439	5,537	5,612	6,233	5,951

Division of Crop and Livestock Estimates.

[2] Includes milk equivalent of cream for household use.
[3] For cream powder and ice cream.
[4] Too small to be expressed.

TABLE 702.—*Farm products: Value of farm products, based on prices at the farm, 1909–1924*

[Million dollars—i. e., 000,000 omitted]

Year	Crops [1]	Animal products [1, 2]	Total (estimated) value, excluding crops fed to livestock [3]	Year	Crops [1]	Animal products [1, 2]	Total (estimated) value, excluding crops fed to livestock [3]
1909	$5,483	$3,398	$6,472	1917	$14,277	$6,539	$13,949
1910	6,211	3,743	7,192	1918	14,814	8,082	16,504
1911	6,495	3,485	6,992	1919	16,569	8,275	17,684
1912	6,799	3,778	7,467	1920	11,578	7,439	14,545
1913	6,717	4,099	7,886	1921	7,759	5,537	10,220
1914	7,268	4,249	8,165	1922	9,430	5,612	10,192
1915	7,957	4,303	8,638	1923	10,401	6,233	12,344
1916	10,305	4,862	10,359	1924	11,404	5,951	12,404

Division of Crop and Livestock Estimates.

[1] Weighted prices used for nearly all crops and animal products, and hence the numbers of this table differ from those previously published, which were based mostly on Dec. 1 prices.

[2] Values of animals raised, which are included in these totals, are subject to revision. The value of whole milk, buttermilk, whey, and skim milk fed to livestock duplicates to some extent the value of animals raised.

[3] Estimates of the values of crops fed to livestock have been made by multiplying the value of the following crops by the percentages given: Barley, 75; corn, 85; grain sorghums, 90; oats, 80; rye, 20; wheat, 6; hay, 85; forage, 100; potatoes, 10; and sweet potatoes, 15.

TABLE 703.—*Plow lands: Value per acre, by States, 1920–1924*

State	Average of poor plow lands					Average of good plow lands					Average of all plow lands				
	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924
Maine	$30	$25	$22	$22	$22	$56	$50	$47	$48	$50	$42	$36	$35	$36	$37
New Hampshire	24	24	25	24	23	64	63	64	58	59	42	41	41	40	40
Vermont	30	29	27	24	24	69	67	63	56	55	48	47	45	40	40
Massachusetts	40	40	39	39	39	103	98	105	106	106	72	69	69	70	69
Rhode Island	50	50	50	51	52	105	105	105	106	110	85	85	86	87	88
Connecticut	35	34	32	32	33	100	90	90	88	88	60	58	58	57	58
New York	39	40	38	35	33	84	84	83	80	75	64	65	62	59	54
New Jersey	50	55	48	49	47	104	125	109	109	105	80	92	84	83	82
Pennsylvania	40	39	33	35	32	86	81	73	73	68	66	62	54	54	53
Delaware	44	38	31	28	30	86	.72	67	70	68	66	55	50	51	50
Maryland	46	31	31	32	33	82	70	67	67	70	60	51	49	50	52
Virginia	34	32	27	31	32	73	70	60	64	65	53	50	43	47	48
West Virginia	32	35	27	28	27	75	70	62	67	66	51	48	42	45	44
North Carolina	42	36	33	35	35	87	76	67	70	75	63	55	49	52	54
South Carolina	41	32	23	21	22	82	68	46	45	48	61	50	35	35	38
Georgia	30	23	18	17	16	63	50	38	36	34	46	36	28	26	24
Florida	23	25	21	20	20	53	55	56	43	46	36	40	37	31	33
Ohio	69	60	52	52	51	132	110	100	100	96	105	88	78	78	75
Indiana	80	71	56	54	51	150	137	108	105	101	119	109	85	82	78
Illinois	115	105	91	86	81	213	195	160	158	148	170	157	131	126	120
Michigan	41	41	39	36	35	80	83	77	74	73	64	65	60	57	56
Wisconsin	66	65	58	60	57	125	122	110	108	105	100	98	87	86	82
Minnesota	73	74	67	59	55	120	121	102	96	89	100	101	87	80	75
Iowa	157	145	119	115	107	257	258	193	181	169	219	200	163	153	143
Missouri	60	58	44	45	44	110	106	84	85	83	87	83	65	66	65
North Dakota	31	30	25	24	22	49	49	44	40	37	43	42	37	33	31
South Dakota	67	66	52	43	41	108	102	80	73	64	90	85	72	58	54
Nebraska	85	80	72	65	64	150	140	123	116	113	125	115	101	96	90
Kansas	50	50	43	41	38	90	90	77	74	69	70	70	60	58	54
Kentucky	42	33	28	27	26	95	75	67	66	63	70	53	47	46	43
Tennessee	40	35	28	30	30	90	81	68	70	70	60	55	47	50	50
Alabama	20	17	14	16	16	43	38	32	34	35	30	25	23	26	26
Mississippi	23	16	16	17	17	49	36	34	36	36	35	26	25	26	26
Louisiana	34	24	21	24	25	65	50	42	45	46	50	38	31	34	35
Texas	36	33	29	28	29	72	70	60	57	59	56	52	47	44	45
Oklahoma	30	29	26	24	23	63	63	58	52	52	47	46	41	37	37
Arkansas	26	24	20	21	20	65	54	46	47	45	45	38	33	34	33
Montana	21	19	15	14	13	48	41	35	31	30	35	30	23	22	21
Wyoming	34	25	23	21	15	70	60	54	48	38	53	44	37	35	27
Colorado	40	35	35	30	29	88	86	84	75	72	66	67	61	56	52
New Mexico	30	30	23	21	23	60	60	57	53	56	45	45	41	37	39
Arizona	90	75	70	70	75	180	140	130	132	140	130	120	115	116	120
Utah	60	50	42	42	40	135	140	125	122	119	103	100	90	88	86
Nevada	46	45	40	30	42	110	90	80	80	85	80	75	70	65	73
Idaho	60	58	50	46	42	135	128	110	93	88	105	99	85	76	68
Washington	68	63	52	50	49	150	140	120	110	108	115	105	90	88	86
Oregon	60	60	55	52	50	130	135	110	106	104	100	103	90	84	82
California	70	75	69	53	51	175	200	193	166	166	130	135	128	113	112
United States	61	57	47	45	43	113	106	89	85	82	90	84	70	67	64

Division of Crop and Livestock Estimates. From reports of crop reporters on Mar. 1 on average values in their localities.

FARM LABOR

TABLE 704.—*Wages: Male farm labor, by classes, United States, 1866–1923.*

Year	By the month		Day labor at harvest		Day labor not harvest		Year	By the month		Day labor at harvest		Day labor not harvest	
	With board	Without board	With board	Without board	With board	Without board		With board	Without board	With board	Without board	With board	Without board
1866	$10.09	$15.50	$1.04	$1.34	$0.64	$0.90	1909	$20.01	$27.48	$1.43	$1.71	$1.03	$1.29
1869	9.97	15.50	1.06	1.35	.63	.87	1910	19.21	27.50	1.45	1.82	1.06	1.38
1875	11.16	17.10	1.18	1.49	.68	.94	1911	20.18	28.77	1.49	1.85	1.09	1.42
1879	10.86	16.79	1.04	1.35	.61	.84	1912	20.81	29.58	1.54	1.87	1.14	1.47
1880	11.70	17.53	1.12	1.44	.64	.89	1913	21.38	30.31	1.57	1.94	1.16	1.50
1881	12.32	18.52	1.16	1.49	.67	.92	Av. 1909–1913	20.32	28.72	1.50	1.84	1.10	1.41
1882	12.88	19.11	1.20	1.54	.70	.97							
1885	13.08	19.22	1.17	1.49	.71	.96	1914	21.05	29.88	1.55	1.91	1.13	1.45
1888	13.29	19.67	1.09	1.40	.72	.98	1915	21.26	30.15	1.56	1.92	1.13	1.47
1890	13.29	19.45	1.08	1.38	.72	.97	1916	23.25	32.83	1.69	2.07	1.26	1.62
							1917	28.87	40.43	2.08	2.54	1.56	2.02
1892	13.48	20.02	1.09	1.39	.73	.98	1918	34.92	48.80	2.65	3.22	2.07	2.63
1893	13.85	19.97	1.07	1.30	.72	.92	1919	39.82	56.29	3.15	3.83	2.45	3.12
1894	12.70	18.57	.97	1.18	.65	.84	1920	46.89	64.95	3.60	4.36	2.86	3.59
1895	12.75	18.74	.96	1.19	.65	.85							
1898	13.29	19.16	1.04	1.29	.71	.94	Av. 1914–1920	30.87	43.33	2.33	2.84	1.78	2.27
1899	13.90	19.97	1.10	1.35	.75	.99	1921	30.14	43.32	2.24	2.79	1.68	2.18
1902	15.51	22.12	1.23	1.51	.83	1.09	1922	26.17	41.79	2.20	2.72	1.65	2.15
1906	18.73	26.19	1.45	1.76	1.03	1.32	1923	33.18	46.91	2.45	3.03	1.93	2.47

Division of Crop and Livestock Estimates. From reports of crop reporters for average wages for the year in their localities.

TABLE 705.—*Wages: Male farm labor, by States, quarterly, Oct., 1922–Oct., 1924*

PER DAY, WITH BOARD

State and division	1922	1923				1924 [1]			
	Oct.	Jan.	Apr.	July	Oct.[1]	Jan.	Apr.	July	Oct.
Maine	$2.10	$2.15	$2.15	$2.56	$2.80	$2.45	$2.40	$2.54	$2.53
New Hampshire	2.25	2.25	2.00	2.50	2.78	2.65	2.65	2.54	2.65
Vermont	2.00	1.90	2.25	2.90	2.54	2.40	2.45	2.61	2.48
Massachusetts	2.00	2.20	2.60	3.00	2.99	2.70	2.68	2.71	2.98
Rhode Island	1.80	2.25	2.50	------	2.90	2.80	2.75	3.08	2.90
Connecticut	2.10	2.10	2.15	3.00	2.50	2.50	2.40	2.80	2.93
New York	2.40	2.20	2.45	3.21	3.25	2.70	2.85	2.90	3.05
New Jersey	2.00	2.20	2.00	2.61	2.85	2.70	2.65	2.70	2.75
Pennsylvania	2.00	2.05	2.15	2.32	2.85	2.50	2.50	2.45	2.55
North Atlantic	2.15	2.13	2.27	2.72	2.97	2.60	2.65	2.69	2.80
Delaware	------	------	1.75	------	2.72	2.25	2.10	2.15	2.30
Maryland	1.30	1.40	1.45	1.70	2.25	2.00	1.90	2.00	2.05
Virginia	1.30	1.20	1.28	1.51	1.73	1.60	1.60	1.62	1.65
West Virginia	1.75	1.55	1.75	1.89	2.00	1.85	1.85	1.90	1.85
North Carolina	1.15	1.20	1.30	1.54	1.43	1.25	1.45	1.55	1.46
South Carolina	.75	.75	.74	.89	1.00	1.00	1.00	1.05	1.05
Georgia	.75	.75	.83	.96	.93	.90	.94	1.05	1.00
Florida	1.20	1.00	1.00	1.22	1.25	1.15	1.15	1.25	1.30
South Atlantic	1.09	1.06	1.14	1.32	1.39	1.28	1.33	1.41	1.38
Ohio	2.00	1.90	2.00	2.29	2.68	2.40	2.40	2.34	2.37
Indiana	1.65	1.70	1.80	1.99	2.45	2.25	2.10	2.15	2.22
Illinois	2.00	1.80	1.80	2.27	2.50	2.30	2.35	2.35	2.35
Michigan	2.10	1.85	2.00	2.56	2.82	2.60	2.55	2.50	2.50
Wisconsin	2.00	1.80	2.00	2.54	2.65	2.10	2.20	2.30	2.50
East North Central	1.95	1.81	1.91	2.30	2.61	2.33	2.33	2.33	2.38
Minnesota	2.20	1.75	2.05	2.33	2.80	2.10	2.11	2.25	2.80
Iowa	2.00	1.95	2.10	2.45	2.60	2.40	2.30	2.40	2.50
Missouri	1.40	1.25	1.40	1.58	1.70	1.60	1.55	1.70	1.70
North Dakota	2.60	1.75	2.15	2.22	3.60	1.95	2.00	2.00	4.00
South Dakota	2.25	1.80	2.07	2.62	3.05	2.50	2.30	2.35	3.05
Nebraska	2.05	1.85	1.80	2.57	2.60	2.35	2.30	2.30	2.40
Kansas	2.00	1.70	1.75	2.01	2.40	2.10	2.00	2.40	2.40
West North Central	1.94	1.67	1.83	2.14	2.49	2.08	2.02	2.16	2.48
Kentucky	1.20	1.10	1.15	1.46	1.65	1.40	1.40	1.45	1.50
Tennessee	1.00	1.00	1.10	1.14	1.30	1.20	1.22	1.25	1.25
Alabama	.85	.90	.94	1.00	1.10	1.10	1.05	1.15	1.20
Mississippi	.90	.95	1.00	1.12	1.10	1.10	1.15	1.20	1.15
Louisiana	1.00	1.00	.92	1.12	1.25	1.10	1.11	1.25	1.20
Texas	1.20	1.15	1.20	1.42	1.65	1.40	1.40	1.70	1.60
Oklahoma	1.25	1.20	1.35	1.66	1.60	1.50	1.35	1.80	1.75
Arkansas	1.05	1.01	1.03	1.19	1.20	1.15	1.20	1.25	1.26
South Central	1.07	1.05	1.10	1.26	1.36	1.24	1.24	1.38	1.36
Montana	2.75	2.05	2.30	2.41	3.40	2.70	2.50	2.60	3.25
Wyoming	1.90	1.95	2.20	2.62	2.75	2.40	2.40	2.35	2.35
Colorado	1.95	1.75	1.80	2.28	2.40	2.40	2.12	2.20	2.30
New Mexico	1.40	1.30	1.30	1.42	1.50	1.50	1.50	1.50	1.70
Arizona	1.50	1.80	2.25	------	1.75	1.75	2.03	1.80	2.03
Utah	2.15	1.90	1.95	2.00	2.62	2.30	2.40	2.60	2.50
Nevada	------	2.00	------	3.00	2.81	2.60	2.47	2.70	2.50
Idaho	2.50	2.05	2.05	2.72	2.95	2.60	2.37	2.50	2.60
Washington	2.35	2.10	2.30	2.80	3.66	2.80	2.53	2.47	2.36
Oregon	2.50	2.10	2.25	2.60	3.30	2.50	2.49	2.50	2.50
California	2.60	2.45	2.50	3.12	2.90	2.65	2.40	2.40	2.40
Far Western	2.33	2.08	2.19	2.60	2.91	2.52	2.34	2.36	2.41
United States	1.57	1.47	1.57	1.84	2.04	1.81	1.79	1.88	1.94

[1] Includes piecework.

TABLE 705.—*Wages: Male farm labor, by States, quarterly, Oct., 1922–Oct., 1924*—Continued

PER DAY, WITHOUT BOARD

State and division	1922	1923				1924 [1]			
	Oct.	Jan.	Apr.	July	Oct.	Jan.	Apr.	July	Oct.
Maine	$2.75	$2.80	$2.80	$3.12	$3.47	$3.10	$3.11	$3.16	$3.12
New Hampshire	3.00	3.00	3.00	3.89	3.71	3.30	3.40	3.60	3.48
Vermont	2.60	2.50	2.75	3.20	3.33	3.15	3.20	3.22	3.17
Massachusetts	3.00	3.20	3.60	4.00	3.70	3.80	3.65	3.79	3.72
Rhode Island	2.75	3.00	3.50	.....	3.77	3.75	3.65	3.95	3.70
Connecticut	3.10	3.60	2.85	4.17	3.71	3.55	3.55	3.50	3.73
New York	3.10	2.85	3.25	4.07	4.10	3.60	3.65	3.75	3.75
New Jersey	2.70	3.00	2.75	3.34	3.90	3.70	3.65	3.65	3.70
Pennsylvania	2.65	2.70	2.90	3.21	3.60	3.30	3.30	3.20	3.40
North Atlantic	2.86	2.82	3.04	3.58	3.81	3.48	3.40	3.51	3.57
Delaware	.....	.....	2.25	.....	3.15	2.75	2.75	2.80	3.00
Maryland	1.90	1.90	2.00	2.30	3.00	2.70	2.50	2.65	2.75
Virginia	1.65	1.60	1.75	2.01	2.18	2.05	2.05	2.12	2.20
West Virginia	2.30	2.00	2.50	2.52	2.50	2.65	2.50	2.50	2.50
North Carolina	1.55	1.55	1.70	1.97	1.75	1.80	1.88	1.98	1.85
South Carolina	1.00	1.00	.99	1.21	1.25	1.25	1.35	1.35	1.35
Georgia	1.00	1.03	1.08	1.27	1.20	1.20	1.22	1.30	1.30
Florida	1.70	1.50	1.60	1.82	1.60	1.70	1.65	1.65	1.70
South Atlantic	1.45	1.40	1.53	1.75	1.76	1.74	1.75	1.81	1.81
Ohio	2.60	2.50	2.60	3.05	3.33	3.15	3.09	3.07	3.08
Indiana	2.15	2.25	2.40	2.63	3.14	3.00	2.75	2.80	2.87
Illinois	2.55	2.40	2.40	2.94	3.25	3.10	3.10	3.00	3.10
Michigan	2.80	2.50	2.65	3.38	3.67	3.40	3.30	3.25	3.25
Wisconsin	2.60	2.50	2.80	3.42	3.30	2.80	2.90	3.05	3.10
East North Central	2.54	2.43	2.55	3.01	3.33	3.09	3.04	3.05	3.08
Minnesota	3.00	2.45	2.70	3.24	3.50	2.90	2.89	3.05	3.50
Iowa	2.55	2.55	2.75	3.11	3.55	3.00	3.00	3.05	3.10
Missouri	1.90	1.75	1.85	2.18	2.20	2.00	2.05	2.20	2.15
North Dakota	3.40	2.30	3.00	3.12	4.40	2.80	2.85	3.00	5.00
South Dakota	3.10	2.50	2.88	3.37	4.00	3.30	3.30	3.35	4.00
Nebraska	2.70	2.55	2.55	3.29	3.30	3.15	3.05	3.00	3.00
Kansas	2.70	2.40	2.40	2.85	3.30	2.80	2.70	3.00	3.10
West North Central	2.59	2.29	2.47	2.90	3.20	2.73	2.72	2.85	3.13
Kentucky	1.65	1.55	1.55	1.99	2.20	1.90	1.85	1.90	2.00
Tennessee	1.35	1.35	1.45	1.56	1.68	1.55	1.60	1.60	1.60
Alabama	1.20	1.25	1.26	1.51	1.40	1.40	1.35	1.50	1.45
Mississippi	1.25	1.25	1.35	1.51	1.50	1.45	1.50	1.55	1.50
Louisiana	1.35	1.35	1.30	1.46	1.57	1.50	1.43	1.55	1.55
Texas	1.60	1.55	1.65	1.86	2.10	1.80	1.80	2.15	2.30
Oklahoma	1.70	1.65	1.80	1.97	2.05	2.10	1.80	2.20	2.25
Arkansas	1.45	1.40	1.40	1.68	1.60	1.60	1.55	1.65	1.68
South Central	1.46	1.43	1.48	1.68	1.77	1.65	1.61	1.77	1.80
Montana	3.50	2.80	2.90	3.38	4.20	3.80	3.40	3.50	3.80
Wyoming	2.50	2.60	2.85	3.62	3.65	3.20	3.25	3.00	3.15
Colorado	2.70	2.40	2.50	3.14	3.10	3.05	2.89	2.95	3.30
New Mexico	2.00	1.80	1.80	2.00	2.20	2.00	2.00	2.00	2.25
Arizona	2.00	2.75	3.15	.....	2.50	2.50	2.42	2.25	2.57
Utah	2.70	2.45	2.55	2.50	3.26	3.00	3.01	3.20	3.50
Nevada	.....	2.75	.....	4.00	3.25	3.00	3.42	3.50	3.50
Idaho	3.30	2.75	2.70	3.72	3.45	3.40	3.15	3.20	3.35
Washington	3.15	2.90	3.00	3.70	4.38	3.60	3.47	3.28	3.17
Oregon	3.40	2.70	3.00	3.45	4.00	3.50	3.31	3.50	3.25
California	3.30	3.30	3.40	4.00	3.80	3.60	3.35	3.40	3.40
Far Western	3.06	2.81	2.93	3.47	3.67	3.36	3.19	3.19	3.27
United States	2.08	1.98	2.11	2.45	2.61	2.41	2.37	2.45	2.52

TABLE 705.—*Wages: Male farm labor, by States, quarterly, Oct., 1922–Oct., 1924*—Continued

PER MONTH, WITH BOARD

State and division	1922	1923				1924			
	Oct.	Jan.	Apr.	July	Oct.	Jan.	Apr.	July	Oct.
Maine	$38.00	$38.00	$37.00	$46.67	$44.00	$43.00	$43.00	$45.00	$43.00
New Hampshire	32.00	35.00	33.00	60.00	49.00	45.00	46.00	47.00	47.00
Vermont	33.00	33.00	40.00	44.64	42.00	42.00	44.00	46.00	45.00
Massachusetts	40.00	40.00	54.00	47.50	54.00	51.00	51.00	48.00	48.00
Rhode Island	40.00	41.00	42.50	.....	53.00	50.00	47.00	54.00	51.00
Connecticut	40.00	41.00	46.00	58.33	54.00	48.00	50.00	55.00	53.00
New York	40.00	38.00	45.00	58.71	49.00	42.50	48.50	49.00	48.00
New Jersey	38.00	38.00	42.00	49.14	52.00	45.00	46.00	48.00	48.00
Pennsylvania	34.00	34.00	36.00	58.38	45.00	38.00	39.50	39.40	39.85
North Atlantic	37.05	36.54	41.02	47.66	47.54	42.54	45.20	45.96	45.44
Delaware	.....	.....	35.00	.....	32.60	31.00	33.00	34.00	34.65
Maryland	26.00	25.50	27.60	30.00	32.40	32.40	34.00	33.90	33.25
Virginia	24.50	24.50	26.00	28.46	30.00	28.00	30.00	30.00	30.00
West Virginia	35.00	33.50	36.00	34.80	40.00	36.00	36.00	42.50	36.50
North Carolina	22.00	22.00	25.70	27.29	28.00	27.00	27.20	30.00	29.00
South Carolina	15.50	16.00	16.00	19.60	20.00	20.00	21.00	20.00	20.00
Georgia	14.80	14.70	16.25	18.84	16.60	17.50	18.80	19.90	19.20
Florida	25.00	21.00	21.00	21.83	24.00	23.00	22.00	25.00	24.00
South Atlantic	21.37	21.06	23.04	25.01	25.32	24.60	25.50	26.93	25.97
Ohio	32.50	31.50	34.60	38.70	39.00	37.00	37.00	37.00	37.00
Indiana	30.20	31.50	33.00	36.64	36.60	35.00	37.00	36.00	35.00
Illinois	35.00	33.00	37.50	41.91	41.00	38.00	42.00	42.00	40.00
Michigan	34.50	31.00	36.00	43.05	43.00	38.50	43.00	40.00	40.00
Wisconsin	38.00	35.00	44.60	47.12	46.00	37.70	45.60	45.70	45.60
East North Central	33.92	32.34	37.14	41.23	41.00	37.30	40.82	40.15	39.43
Minnesota	37.00	30.00	39.00	43.83	43.00	32.00	39.00	41.00	43.00
Iowa	36.30	35.50	42.00	46.24	44.00	39.50	45.90	45.80	44.20
Missouri	29.30	27.00	30.00	31.87	32.00	31.00	32.00	32.00	33.00
North Dakota	41.00	28.50	39.60	43.60	45.90	29.30	39.50	41.00	50.00
South Dakota	39.50	32.00	43.00	48.45	45.00	35.20	43.00	42.00	45.25
Nebraska	34.50	32.30	36.00	42.23	40.00	37.00	40.00	40.00	39.00
Kansas	33.00	30.50	32.90	33.64	36.00	32.00	33.00	35.90	37.00
West North Central	34.41	30.69	36.22	39.43	39.51	33.71	38.14	38.79	40.16
Kentucky	25.70	25.50	25.50	28.48	31.20	27.00	28.50	28.50	28.25
Tennessee	21.50	21.50	23.00	25.13	26.00	23.60	25.00	25.00	25.00
Alabama	16.00	17.00	18.50	19.49	21.00	20.00	21.00	22.00	22.00
Mississippi	18.00	18.10	19.50	20.73	20.00	20.75	20.80	22.50	21.85
Louisiana	20.50	19.90	19.00	20.85	21.20	24.30	22.40	22.00	23.75
Texas	23.80	23.75	24.30	27.35	28.00	26.00	27.00	30.00	31.00
Oklahoma	21.50	23.90	27.00	25.71	27.60	25.20	25.00	28.60	30.00
Arkansas	20.20	20.20	21.90	24.98	23.80	22.40	23.50	24.00	23.21
South Central	21.46	21.46	22.49	24.47	24.92	23.55	24.24	25.42	25.76
Montana	42.00	37.50	46.50	47.56	54.00	47.00	47.00	49.90	51.80
Wyoming	39.60	36.00	41.00	47.50	50.00	42.00	42.00	45.00	48.00
Colorado	33.70	32.40	33.50	39.72	40.60	33.25	37.00	41.00	40.80
New Mexico	33.00	31.80	33.50	31.33	36.00	32.60	33.00	33.00	36.00
Arizona	40.00	45.00	50.00	.....	45.00	50.00	42.60	47.20	50.00
Utah	45.00	41.50	40.00	40.00	54.00	51.40	51.00	51.00	52.00
Nevada	.....	50.00	.....	45.00	61.00	52.20	58.00	59.00	55.00
Idaho	50.00	42.00	43.00	53.12	56.00	46.70	51.00	51.00	51.00
Washington	47.50	43.40	45.00	52.00	60.60	45.40	49.50	48.00	47.70
Oregon	45.00	39.50	43.00	58.75	55.00	46.00	48.00	48.00	46.00
California	52.00	51.50	55.00	70.96	62.00	58.00	58.00	57.00	57.00
Far Western	45.38	42.78	45.55	53.35	55.42	48.54	49.86	49.98	50.22
United States	28.97	27.81	30.98	34.38	34.86	31.71	33.71	34.44	34.38

TABLE 705.—*Wages: Male farm labor, by States, quarterly, Oct., 1922–Oct., 1924*—Continued

PER MONTH, WITHOUT BOARD

State and division	1922	1923				1924			
	Oct.	Jan.	Apr.	July	Oct.	Jan.	Apr.	July	Oct.
Maine	$51.00	$54.00	$53.00	$66.00	$67.00	$62.00	$61.00	$65.00	$62.00
New Hampshire	56.00	60.00	55.00	85.00	74.00	70.00	72.00	73.00	71.00
Vermont	46.00	47.00	55.00	62.00	59.00	62.00	64.00	64.00	66.00
Massachusetts	65.00	62.00	77.00	77.50	78.00	82.00	81.00	80.00	79.00
Rhode Island	60.00	65.00	75.00	.....	77.00	75.00	72.00	77.00	77.00
Connecticut	65.00	61.00	70.00	81.67	76.00	74.00	75.00	77.00	76.00
New York	58.00	54.00	64.00	77.95	66.00	61.00	69.00	67.50	67.50
New Jersey	60.00	59.00	63.00	76.86	74.00	70.00	71.00	72.00	70.00
Pennsylvania	49.00	52.00	55.00	56.76	62.00	58.00	59.00	58.35	58.90
North Atlantic	54.65	54.39	60.41	67.03	66.96	63.38	66.66	66.41	66.13
Delaware	.....	.....	55.00	.....	50.70	46.00	50.80	53.00	51.00
Maryland	41.00	39.00	43.50	43.33	48.40	48.00	49.80	49.90	49.90
Virginia	34.60	35.10	37.20	39.72	43.00	40.00	41.00	41.00	42.00
West Virginia	50.00	48.00	52.50	47.50	55.00	52.50	52.00	52.00	53.25
North Carolina	32.00	32.00	37.00	37.67	37.00	37.00	38.50	42.00	42.00
South Carolina	22.50	22.50	22.80	27.46	26.00	26.00	28.00	29.00	30.00
Georgia	21.70	21.70	24.00	26.51	24.80	26.40	26.30	27.25	27.50
Florida	38.00	34.50	34.00	37.00	36.70	38.00	34.00	37.00	38.00
South Atlantic	31.10	30.71	33.69	35.10	35.61	35.32	35.96	37.32	37.85
Ohio	45.50	45.00	48.00	53.47	55.00	52.00	52.00	52.00	52.00
Indiana	43.50	45.00	47.50	50.92	50.10	48.00	50.00	48.00	48.00
Illinois	45.60	45.00	50.00	54.88	53.00	50.00	56.00	55.00	53.00
Michigan	50.00	44.50	53.50	58.34	61.00	56.50	58.60	57.00	57.00
Wisconsin	52.50	51.00	62.50	66.27	63.50	55.00	61.10	62.50	62.60
East North Central	47.02	45.84	51.81	56.30	56.12	52.07	55.39	54.76	54.25
Minnesota	52.50	44.00	51.00	62.78	59.00	50.00	55.00	53.00	60.00
Iowa	50.30	49.00	55.50	58.98	57.00	51.30	57.30	57.15	56.20
Missouri	39.30	37.90	41.50	44.12	43.00	42.00	42.00	43.00	43.00
North Dakota	59.00	43.00	53.00	59.92	62.30	48.30	55.80	59.00	69.00
South Dakota	59.00	49.50	62.50	67.14	63.00	51.30	60.00	59.00	68.50
Nebraska	49.80	48.50	53.50	61.08	54.00	52.00	54.00	52.00	53.00
Kansas	49.50	44.60	48.00	49.68	51.00	47.00	48.00	50.00	51.00
West North Central	48.78	44.33	50.12	55.31	53.54	48.01	51.54	51.65	54.35
Kentucky	34.70	35.40	36.50	39.99	42.00	38.50	41.00	39.50	39.50
Tennessee	30.50	30.50	32.60	35.70	36.00	32.60	34.50	35.00	35.00
Alabama	24.00	25.50	26.50	27.59	31.00	29.00	30.00	32.00	30.00
Mississippi	26.00	25.50	28.00	29.06	29.50	30.25	30.00	31.50	31.00
Louisiana	30.00	29.00	28.50	32.46	34.55	37.80	31.73	33.25	33.50
Texas	34.40	34.25	36.00	39.22	40.00	38.00	40.00	44.00	44.00
Oklahoma	37.20	36.00	41.70	37.45	40.35	38.00	37.00	38.00	42.00
Arkansas	29.00	29.80	32.10	33.61	34.25	32.00	34.00	35.00	34.44
South Central	30.96	31.03	32.92	35.01	35.95	34.44	34.94	36.34	36.33
Montana	65.00	52.50	64.00	71.67	75.00	68.00	68.00	68.00	72.40
Wyoming	59.00	60.00	68.00	70.00	75.00	67.00	65.00	69.00	62.00
Colorado	51.50	50.50	54.00	59.25	60.60	56.50	58.00	61.00	60.30
New Mexico	50.00	47.00	48.50	44.17	56.00	48.00	47.00	50.00	50.00
Arizona	58.00	70.00	75.00	.....	65.00	65.00	66.00	65.50	66.20
Utah	62.00	59.50	55.00	60.00	71.00	71.40	72.00	73.00	73.00
Nevada	.....	65.00	.....	75.00	80.00	63.75	90.00	86.00	75.00
Idaho	70.00	60.20	65.00	75.71	77.00	65.80	72.00	69.00	72.00
Washington	70.00	65.00	68.00	77.00	82.70	68.70	72.40	68.90	68.50
Oregon	65.00	52.50	60.00	84.50	71.00	68.00	72.00	65.00	64.00
California	77.00	76.50	80.00	93.33	87.00	83.00	82.00	83.00	83.00
Far Western	66.81	62.71	66.82	74.00	77.19	70.63	72.34	71.79	71.68
United States	41.58	40.30	44.47	48.14	48.70	45.81	47.62	48.15	48.52

Division of Crop and Livestock Estimates. Wages reported being paid about 1st of month.

TABLE 706.—*Farm labor: Supply and demand, 1918–1924*

Division	Farm labor supply, per cent of normal						
	1918	1919	1920	1921	1922	1923	1924
North Atlantic	62.5	82.8	62.3	92.1	99.2	73.3	79.8
South Atlantic	73.4	81.9	72.5	94.3	97.3	83.0	77.3
East North Central	74.7	86.6	68.4	95.1	101.4	76.5	78.1
West North Central	74.1	85.6	77.8	96.6	101.1	89.1	92.8
South Central	74.0	83.2	72.8	94.3	97.1	86.7	83.2
Far Western	76.8	90.0	82.1	102.3	107.0	91.3	96.9
United States	72.9	84.4	72.4	95.2	99.5	83.6	83.4

Division	Farm labor demand, per cent of normal						
	1918	1919	1920	1921	1922	1923	1924
North Atlantic	98.5	101.0	107.8	92.7	94.8	95.2	90.2
South Atlantic	104.2	103.9	107.4	86.6	88.4	94.2	92.6
East North Central	99.4	101.2	106.6	91.2	91.0	95.4	87.6
West North Central	99.8	100.9	103.4	89.1	89.3	95.5	90.9
South Central	102.9	101.3	104.2	83.0	86.6	93.9	90.9
Far Western	99.3	102.4	101.5	89.0	89.9	94.0	88.5
United States	101.4	101.8	105.3	87.5	89.3	94.6	90.4

Division	Supply as a percentage of demand						
	1918	1919	1920	1921	1922	1923	1924
North Atlantic	63.4	81.9	57.8	99.4	104.6	77.0	88.5
South Atlantic	70.4	78.8	67.5	108.9	110.1	88.1	83.5
East North Central	75.2	85.6	64.2	104.3	111.4	80.2	89.2
West North Central	74.2	84.8	75.2	108.4	113.2	93.3	102.1
South Central	71.9	82.1	69.9	113.6	112.1	92.3	91.5
Far Western	77.3	87.9	80.9	114.9	119.0	97.1	109.5
United States	71.9	82.9	68.8	108.8	111.4	88.4	92.3

Division of Crop and Livestock Estimates. Based upon reports of crop reporters of Apr. 1.

TABLE 707.—*Farmers, farm and other agricultural laborers, 1920*

Geographic division and State	Farmers						Farm laborers						Other agricultural workers						Total groups
	General farmers	Dairy farmers	Gardeners, etc.	Stock raisers	Other not specified	Total farmers	Farm laborers (excluding turpentine)	Dairy farm laborers	Farm foreman, etc.	Garden laborers, etc.	Stock herders, etc.	Total farm laborers	Ditchers	Threshers, etc.	Apiarists	Poultry raisers	Poultry yard laborers	Total other agricultural workers	
Maine	38,431	1,256	730	116	19	40,552	18,520	394	811	664	74	20,463	-------	55	8	163	26	252	61,267
New Hampshire	14,656	928	292	63	3	15,942	7,851	507	509	325	70	9,262	-------	7	8	197	35	247	25,451
Vermont	19,154	5,957	205	48	3	25,367	12,855	2,635	432	309	78	16,289	-------	18	25	68	13	124	41,780
Massachusetts	19,571	1,713	2,559	105	84	24,032	17,277	1,325	1,758	5,821	299	26,480	-------	15	10	694	205	924	51,436
Rhode Island	2,700	261	379	7	3	3,350	2,650	209	292	1,052	22	4,225	-------	2	1	75	21	99	7,674
Connecticut	15,920	1,672	877	29	16	18,514	13,023	1,271	1,000	2,397	57	17,748	-------	2	11	217	61	291	36,553
New England	110,432	11,787	5,042	368	128	127,757	72,156	6,341	4,802	10,568	600	94,467	-------	99	63	1,414	361	1,937	224,161
New York	135,633	33,851	10,516	430	149	180,579	88,805	15,072	4,416	14,128	574	122,995	20	584	228	1,215	448	2,495	306,069
New Jersey	19,905	1,386	6,174	124	83	27,672	19,294	1,665	1,177	7,163	220	29,519	8	182	15	807	215	1,227	58,418
Pennsylvania	162,755	7,315	6,214	362	53	176,699	84,021	3,321	3,928	7,026	400	98,697	16	509	43	567	201	1,336	276,732
Middle Atlantic	318,293	42,552	22,904	916	285	384,950	192,120	20,058	9,521	28,317	1,195	251,211	44	1,275	286	2,589	864	5,058	641,219
Ohio	228,389	4,596	8,965	1,016	21	242,987	101,078	2,089	4,553	5,341	379	113,440	271	1,350	44	388	126	2,179	358,606
Indiana	189,751	1,203	4,828	1,800	17	197,599	87,392	600	3,185	1,796	379	93,352	374	630	51	329	172	1,556	292,507
Illinois	220,865	4,564	7,492	3,052	42	236,015	126,497	2,766	4,158	5,561	1,140	140,122	505	731	89	451	214	1,990	378,127
Michigan	181,346	1,874	7,173	698	53	191,144	72,726	905	2,554	3,277	406	79,868	168	803	118	269	73	1,431	272,443
Wisconsin	161,751	22,245	2,570	1,252	38	187,856	90,265	9,189	2,550	1,482	740	104,166	77	277	162	122	40	678	292,700
E. N. Central	982,102	34,482	31,028	7,918	171	1,055,601	477,898	15,549	17,000	17,457	3,044	530,948	1,395	3,791	464	1,559	625	7,834	1,594,383
Minnesota	175,900	2,198	2,939	1,523	15	182,575	103,205	1,106	1,948	1,426	741	108,426	802	428	74	121	63	1,488	292,489
Iowa	209,205	826	3,201	3,204	13	216,449	109,897	432	2,995	1,310	1,417	107,051	1,934	337	101	208	249	2,729	326,229
Missouri	256,619	1,207	5,158	2,733	13	265,730	117,800	692	3,527	2,769	677	125,465	76	375	32	411	468	1,362	392,557
North Dakota	79,519	187	299	926	1	80,932	37,116	94	1,038	131	424	38,803	4	61	2	17	3	87	119,822
South Dakota	74,394	155	263	3,615	1	78,408	35,624	75	880	130	1,499	38,208	35	217	12	38	11	313	116,929
Nebraska	123,589	352	951	3,519	4	128,365	54,176	267	1,380	467	1,757	58,047	27	343	23	91	41	525	186,937
Kansas	163,091	914	2,628	2,699	6	169,338	57,977	458	1,771	957	937	62,080	52	930	20	217	146	1,354	232,772
W. N. Central	1,082,287	5,819	15,439	18,219	53	1,121,817	506,795	3,124	13,519	7,190	7,452	538,080	2,810	2,700	264	1,103	981	7,858	1,667,755

Delaware	8,904	15	1,177	4	.....	10,100	6,462	46	168	526	11	7,213	3	12	.....	50	4	69	17,382
Maryland	38,526	436	5,305	51	10	44,328	40,577	583	1,309	3,435	114	46,018	7	120	3	172	43	345	90,691
Dist. Columbia	115	18	154	4	7	298	199	50	31	322	4	606	.....	.....	2	5	2	9	913
Virginia	164,416	728	6,745	265	13	172,167	110,819	831	3,107	4,283	277	119,317	72	83	23	174	59	411	291,895
West Virginia	76,054	389	1,469	301	4	78,217	38,495	220	1,048	881	105	40,749	10	26	4	29	22	91	119,057
North Carolina	264,273	272	1,458	264	19	266,286	198,328	326	2,302	1,198	119	202,273	172	16	17	45	10	260	468,819
South Carolina	190,772	113	669	35	.....	191,589	223,445	175	1,084	1,528	59	226,891	63	16	1	14	4	98	418,578
Georgia	308,320	447	1,115	96	3	309,981	284,891	566	3,726	2,325	188	291,696	90	16	28	38	26	198	601,875
Florida	44,752	306	7,794	376	47	53,275	43,843	288	1,326	8,010	273	53,740	38	11	193	168	39	449	107,464
South Atlantic	1,096,132	2,724	26,886	1,396	103	1,126,241	947,059	3,085	14,701	22,508	1,150	988,503	455	360	271	695	209	1,980	2,116,674
Kentucky	257,950	531	3,381	342	7	262,211	124,411	409	2,358	1,617	316	129,311	12	40	15	82	43	192	391,714
Tennessee	242,536	564	2,714	439	8	246,261	144,211	630	2,471	1,462	180	148,954	32	24	17	87	108	268	395,483
Alabama	252,943	336	980	157	6	254,422	240,035	414	1,464	1,158	172	243,243	43	10	30	27	16	126	497,791
Mississippi	270,792	309	1,220	245	2	272,568	222,485	227	1,941	955	160	225,768	96	12	10	23	21	162	498,498
E. S. Central	1,024,221	1,740	8,295	1,183	23	1,035,462	731,142	1,680	8,434	5,192	828	747,276	183	86	72	219	188	748	1,783,486
Arkansas	232,167	322	1,717	540	2	234,748	163,913	185	1,967	889	301	167,255	80	18	14	56	34	202	402,205
Louisiana	134,021	439	2,563	267	384	137,674	135,965	450	2,324	2,033	242	141,014	180	35	14	30	25	284	278,972
Oklahoma	200,311	458	1,219	1,876	5	203,869	106,024	237	1,373	535	827	108,996	20	222	12	95	49	398	313,263
Texas	429,499	1,513	3,694	12,661	15	447,382	321,904	1,517	4,743	3,669	7,745	339,578	1	192	191	200	65	649	787,609
W. S. Central	995,998	2,732	9,193	15,344	406	1,023,673	727,806	2,389	10,407	7,126	9,115	756,843	281	467	231	381	173	1,533	1,782,049
Montana	54,224	375	613	4,089	6	59,307	17,833	234	939	240	3,020	22,266	.....	27	25	33	9	94	81,667
Idaho	40,345	305	998	1,974	1	43,623	19,280	155	843	367	2,589	23,234	2	135	78	45	18	298	67,155
Wyoming	13,609	74	85	2,615	1	16,384	6,223	44	537	51	2,212	9,067	11	9	41	7	2	70	25,521
Colorado	55,523	708	2,727	3,859	24	62,832	29,857	481	1,165	1,181	2,743	35,457	3	191	184	139	29	546	98,835
New Mexico	24,572	148	345	4,779	31	29,875	16,138	103	607	250	6,981	24,079	7	13	28	15	4	67	54,021
Arizona	10,975	168	711	2,710	1	14,565	16,274	159	484	200	3,195	20,312	8	41	53	69	7	178	35,055
Utah	22,834	199	707	1,282	3	25,025	14,860	120	461	299	2,122	17,862	14	22	68	86	4	194	43,081
Nevada	2,718	50	32	525	.....	3,325	3,335	32	319	26	1,326	5,038	1	15	17	34	3	70	8,433
Mountain	224,800	2,027	6,218	21,824	67	254,936	123,830	1,328	5,355	2,614	24,188	157,315	46	473	494	428	76	1,517	413,768
Washington	52,043	4,092	7,900	1,409	18	65,462	25,933	1,861	1,234	3,659	1,197	33,984	4	143	87	1,056	203	1,493	100,939
Oregon	39,728	3,086	4,621	3,651	7	51,093	16,949	1,194	1,308	1,980	2,702	27,053	56	104	71	440	83	775	78,951
California	78,544	7,772	32,873	5,431	105	124,725	80,707	6,789	5,943	30,419	5,295	129,152	105	208	590	4,211	836	5,950	259,827
Pacific	170,315	14,950	45,394	10,491	130	241,280	123,589	9,813	8,585	36,058	9,194	190,219	165	455	748	5,728	1,122	8,218	439,717
United States	6,004,580	118,813	169,399	77,559	1,366	6,371,717	3,905,395	63,367	92,324	137,010	56,725	4,254,862	5,379	9,646	2,893	14,116	4,599	36,633	10,663,212

Division of Statistical and Historical Research. Compiled from reports of Bureau of the Census.

PRICES OF ARTICLES BOUGHT BY FARMER

TABLE 708.—*Prices of articles bought by farmers, quarterly Jan., 1923–Jan., 1925*

Article	Unit	United States								
		1923				1924				1925
		Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15
Food:										
Bacon, smoked	Pound	$0.279	$0.270	$0.272	$0.272	$0.259	$0.247	$0.249	$0.289	$0.300
Beans, dry, edible	do	.104	.111	.109	.099	.096	.095	.093	.099	.102
Coffee	do	.317	.326	.332	.328	.337	.363	.368	.403	.466
Flour, wheat, 24 pounds	Sack	1.10	1.10	1.05	.99	1.00	1.00	1.04	1.17	1.34
Lard	Pound	.173	.173	.172	.179	.179	.171	.170	.201	.216
Rice	do	.09	.09	.089	.09	.092	.093	.095	.099	.102
Sugar	do	.088	.11	.112	.11	.107	.106	.091	.094	.089
Salmon, canned	16-ounce	.223	.225	.24	.233	.238	.237	.232	.242	.244
Tomatoes, canned	34-ounce	.189	.187	.188	.193	.191	.191	.192	.196	.200
Clothing:										
Boots, knee, rubber	Pair	4.28	4.33	4.28	4.35	4.32	4.37	4.37	4.41	4.38
Gingham, apron, domestic	Yard	.189	.203	.201	.205	.209	.208	.202	.207	.203
Overalls	Pair	1.62	1.73	1.77	1.81	1.87	1.88	1.83	1.85	1.77
Sheeting, 80 inches wide	Yard	.573	.609	.619	.619	.63	.63	.612	.624	.613
Shoes, work	Pair	3.48	3.50	3.43	3.63	3.64	3.52	3.39	3.52	3.56
Socks, work, cotton	do	.17	.174	.173	.182	.193	.187	.182	.191	.194
Suits, wool-serge, ready-made	Suit	25.83	25.95	26.12	26.95	27.35	26.98	26.18	26.76	27.04
Household articles:										
Blankets, cotton	Pair	2.74	2.64	2.69	2.79	2.94	2.84	2.85	3.00	3.03
Brooms, for sweeping	Each	.74	.82	.87	.90	.87	.85	.83	.84	.84
Dinner plates, plain	½ dozen	1.19	1.19	1.16	1.17	1.21	1.19	1.17	1.20	1.19
Fruit jars, Mason, 1-quart	1 dozen	1.11	1.10	1.08	1.04	1.08	1.09	1.05	1.03	1.05
Frying pan, cast iron, 10-inch	Each	.67	.70	.65	.66	.70	.72	.70	.72	.72
Kitchen chair, plain	do	1.59	1.59	1.67	1.60	1.71	1.68	1.75	1.80	1.82
Oil lamp, glass body	do	.82	.84	.80	.83	.85	.82	.83	.85	.86
Rugs, 9 by 12, tapestry	do	23.06	25.85	25.31	25.68	25.50	25.84	24.26	25.53	25.11
Rugs, 9 by 12, brussels	do	36.48	38.56	38.66	36.94	39.54	38.56	37.01	38.07	37.52
Washtubs, heavy galvanized	do	1.26	1.25	1.24	1.24	1.32	1.23	1.19	1.23	1.24
Building material:										
Bricks, common	1,000	20.18	20.36	20.43	20.79	21.76	20.94	21.44	21.37	21.60
Boards, rough, 1-inch, feet b. m	1,000	35.53	37.69	37.44	37.39	36.49	37.52	36.36	36.29	37.21
Flooring, clear, 1-inch tongue and groove, feet b. m	1,000	64.70	67.32	67.33	64.19	64.91	66.50	66.30	65.45	66.50
2-inch framing lumber, feet b. m	1,000	37.37	39.73	40.17	38.71	37.51	37.67	37.04	38.19	38.77
House paint, ready-mixed	Gallon	3.16	3.29	3.34	3.32	3.37	3.41	3.45	3.45	3.50
Lime, common, lump	100 pounds	1.71	1.79	1.75	1.76	1.86	1.67	1.75	1.72	1.68

Portland cement	96 pounds	1.05	1.00	1.06	1.02	1.02	.98	.96	.95	.96
Roofing, composition, 3-ply	108 square feet	3.03	3.01	3.02	3.00	2.97	2.99	2.91	2.95	2.95
Roofing, steel, galvanized, 2½-inch corrugated, 29 gauge	100 square feet	5.88	5.90	6.01	5.99	5.93	5.93	6.02	5.90	5.82
Fuel:										
Coal, hard (anthracite)	Ton	16.16	15.76	15.71	16.11	16.29	15.62	16.02	16.12	16.28
Coal, soft (bituminous)	do	10.70	10.30	9.69	9.51	9.50	9.43	8.91	8.84	8.99
Gasoline	Gallon	.233	.259	.247	.20	.199	.237	.221	.183	.187
Kerosene	do	.177	.181	.181	.169	.174	.179	.176	.170	.172
Machinery and equipment:										
Auto tires, fabric, 30 by 3½ inches	Each	10.77	10.85	10.91	10.44	10.27	9.87	9.36	9.14	9.04
Barbed wire, galvanized	100 pounds	4.87	5.05	5.26	5.19	5.19	5.19	5.18	5.18	5.07
Binder twine	Pound	.132	.137	.134	.135	.136	.139	.139	.140	.144
Centrifugal hand cream separator, 250-quart capacity	Each	79.10	80.61	81.91	84.06	85.31	83.52	83.00	83.04	84.63
Dairy milk cans, 10-gallon	do	4.85	4.82	4.96	4.85	5.00	4.93	4.79	4.85	4.87
Engines, gasoline, 3 horsepower	do	97.44	100.48	103.45	103.00	103.99	101.66	104.84	100.94	101.73
Grain binders, 7-foot	do	201.61	206.95	217.97	217.19	222.81	221.06	225.41	226.91	222.23
Harrows, disk, 7-foot, single	do	53.36	54.51	55.25	53.00	57.74	59.75	60.64	61.22	57.97
Hay rakes, 2-horse, sulky	do	40.67	39.88	44.75	43.34	44.91	45.09	47.16	46.88	46.05
Horse collars, leather	do	5.06	5.24	5.37	5.26	5.40	5.32	5.19	5.13	5.24
Mower, 5-foot	do	74.39	76.92	81.39	81.00	81.22	82.96	84.50	80.38	84.35
Nails, 8d wire	Pound	.058	.06	.062	.061	.062	.062	.061	.062	.060
Oil, machine, lubricating	Gallons	.69	.67	.69	.70	.71	.70	.64	.70	.70
Pitchforks, 3 tines	Each	1.14	1.18	1.21	1.21	1.23	1.23	1.26	1.27	1.28
Plow, 2-horse, walking	do	18.24	18.83	18.94	19.83	19.92	20.39	21.46	21.59	20.92
Plow, riding, horse-drawn, 2 bottom	do	85.10	89.54	91.79	89.47	95.00	97.41	96.07	99.22	101.11
Poultry netting, 5 by 150 feet	Bale	6.51	6.29	6.41	6.42	6.41	6.35	6.22	6.14	6.32
Rope, manila	Pound	.266	.275	.273	.268	.273	.273	.269	.274	.288
Wagons, double, complete	Each	123.26	129.99	134.42	134.00	135.68	134.60	134.82	137.88	133.78
Fertilizer:										
Acid phosphate, 16 per cent	Ton	20.10	21.12	21.31	20.95	21.00	18.99	19.48	21.32	21.41
Kainit	do	18.70	18.35	17.87	16.26	17.08	14.88	15.28	18.82	17.61
Limestone, ground	do	4.77	5.38	5.62	4.50	5.88	5.61	4.60	3.80	4.55
Muriate of potash	do	48.03	48.66	49.41	50.95	52.71	46.96	47.51	49.51	51.17
Nitrate of soda	100 pounds	2.62	3.53	3.76	4.09	3.53	3.36	3.52	3.47	3.56
Feeds:										
Bran	do	1.75	1.95	1.85	1.84	1.83	1.81	1.73	1.83	2.04
Corn meal	do	2.27	2.29	2.58	2.60	2.44	2.49	2.70	3.14	3.27
Cottonseed meal	do	2.81	2.79	2.70	2.72	2.81	2.64	2.64	2.72	2.67
Linseed meal	do	3.10	2.99	2.92	2.98	2.93	2.83	2.82	2.98	2.96
Middlings	do	1.96	2.17	2.12	2.08	2.04	2.00	1.94	2.09	2.31
Rock salt, for stock	do	1.34	1.29	1.35	1.27	1.27	1.23	1.26	1.23	1.26

Division of Crop and Livestock Estimates. Averages of local prices reported quarterly.

TABLE 709.—*Food, per capita consumption: Average quantity of specified articles for one year*

Article	Unit	Per capita consumption					
		North Atlantic States	South Atlantic States	North Central States	South Central States	Western States	United States
Meats:							
Beef, fresh, steak	Pound	11.02	12.43	14.06	14.46	17.26	13.49
Beef, fresh, roast	do	11.92	8.12	13.12	9.20	16.54	12.22
Beef, fresh, stew	do	10.64	5.37	9.33	6.30	10.91	9.12
Beef, fresh, other	do	2.76	1.57	4.62	1.48	3.41	3.16
Beef, salt, corned	do	2.94	.25	.52	.06	1.22	1.24
Beef, salt, dried	do	.36	.29	.25	.06	.17	.24
Total beef	do	39.64	28.03	41.90	31.56	49.51	39.47
Veal	do	3.36	1.88	3.67	2.04	4.13	3.31
Pork, fresh	do	6.38	10.45	10.40	9.26	5.46	8.27
Pork, salt, bacon	do	2.64	4.00	3.65	4.02	3.89	3.47
Pork, salt, ham and shoulder	do	5.36	7.47	2.71	3.62	2.30	4.06
Pork, salt, side, dry	do	.70	4.18	.65	4.90	.43	1.53
Pork, salt, side, pickled	do	.58	1.69	.12	.76	.13	.51
Total pork	do	15.66	27.79	17.53	22.56	12.21	17.84
Mutton chops	do	1.48	.24	.40	.06	2.65	1.02
Mutton, roast	do	2.62	.25	.40	.16	2.02	1.27
Mutton, stew	do	2.26	.16	.83	.10	1.93	1.24
Mutton, other	do	.04	.02	.02		.04	.02
Total mutton	do	6.40	.67	1.65	.32	6.64	3.55
Poultry, hens	do	5.02	5.84	4.65	4.56	4.04	4.78
Poultry, other	do	.58	.57	.54	.50	1.04	.63
Total poultry	do	5.60	6.41	5.19	5.06	5.08	5.41
Sausage	do	2.28	4.27	4.19	4.02	2.70	3.37
Liver	do	1.92	1.84	1.90	1.68	1.59	1.82
Kidney	do	.20	.08	.21	.08	.07	.16
Other meat, not canned	do	.92	.90	1.44	.86	1.39	1.14
Beef, canned	do	.10	.29	.04	.12	.04	.10
Pork, canned	do	.04	.14	.04	.14	.09	.06
Total canned meat	do	.14	.43	.08	.26	.13	.16
Ham, cooked	do	1.58	1.02	2.10	.96	.98	1.51
Tongue, cooked	do	.04	.04	.04	.01	.02	.02
Other meat, cooked	do	2.64	2.20	3.12	1.46	1.15	2.37
Total cooked meat	do	4.26	3.26	5.26	2.43	2.15	3.90
Total, all meat	do	80.35	75.56	85.02	71.47	85.60	80.13
Sea food:							
Fish, fresh	do	9.78	6.12	4.25	2.98	7.35	6.41
Fish, salt	do	1.32	1.33	.65	.28	.74	.90
Fish, canned, salmon	do	1.98	1.71	1.85	1.80	1.37	1.80
Fish, canned, other	do	.34	.20	.27	.22	.37	.29
Total fish	do	13.42	9.36	7.02	5.28	9.83	9.40
Oysters	Quart [1]	.42	1.04	.27	1.00	.22	.47
Other sea food	Pound	.36	.25	.02	.86	.48	.31
Total sea food	do [1]	14.62	11.69	7.58	8.14	10.75	10.65
Milk and milk products:							
Milk, not skimmed	Quart	84.88	30.39	69.10	36.54	75.11	66.72
Milk, skimmed	do	.28	.12	.50	.68	.59	.41
Milk, condensed or evaporated	Pound	10.32	13.12	10.77	14.34	19.72	12.69
Buttermilk	Quart	1.06	17.71	3.83	20.45	5.80	7.98
Cream	do	.22	.10	.48	.08	.48	.31
Ice cream	do	1.40	1.24	1.40	.74	1.26	1.27
Butter	Pound	15.28	12.82	10.62	13.24	18.72	13.78
Cheese, ordinary American	do	2.48	2.55	2.36	2.12	2.83	2.45
Cheese, other	do	.59	.12	.90	.14	.59	.56
Total cheese	do	2.96	2.67	3.25	2.26	3.42	3.00

[1] Oysters weigh 2 pounds a quart (Center Market, Washington, D. C.)

TABLE 709.—*Food, per capita consumption: Average quantity of specified articles for one year*—Continued

Article	Unit	Per capita consumption					
		North Atlantic States	South Atlantic States	North Central States	South Central States	Western States	United States
Oleo	Pound	2.12	1.31	6.81	2.48	1.35	3.41
Other butter substitutes	do	.98	.45	1.54	.48	.26	.92
Vegetable, cooking, and table oils	do	.62	.18	.33	.98	1.50	.65
Lard	do	6.10	10.10	9.52	7.34	4.30	7.47
Lard, compound	do	1.34	6.31	1.58	7.22	1.65	2.71
Lard substitutes	do	1.08	2.00	1.04	4.44	4.37	2.08
Total lard and lard substitutes	do	8.52	18.41	12.14	19.00	10.32	12.26
Eggs	Dozen	13.90	11.90	10.75	11.76	14.59	12.49
Grain products:							
Flour, wheat	Pound	42.06	70.73	51.73	70.38	52.02	53.08
Flour, rye	do	1.32	.39	2.75	.34	1.52	1.57
Flour, other	do	5.44	10.98	7.81	5.18	10.17	7.53
Corn meal	do	6.02	34.45	9.46	35.96	8.24	14.16
Total flour and meal	do	54.84	116.55	71.75	111.86	71.95	76.34
Hominy or grits	do	.20	8.06	.56	5.20	.48	1.84
Cornstarch	do	1.21	.45	.88	.32	1.24	.92
Breakfast foods:							
Wheat	do	1.48	.53	1.12	.74	2.13	1.27
Corn	do	1.31	1.14	1.21	1.12	1.04	1.20
Oats	do	8.94	5.67	8.33	7.22	8.70	8.08
Other	do	.16	.10	.10	.04	.37	.14
Total breakfast foods	do	11.92	7.44	10.76	9.12	12.24	10.69
Bread, wheat	do	104.54	46.39	81.71	69.84	73.28	81.16
Bread, rye	do	12.80	5.08	6.40	.56	1.48	6.63
Bread, other	do	1.46	.22	1.15	.14	1.26	1.02
Total bread	do	118.80	51.69	89.26	70.54	76.02	88.81
Rolls and buns	do	5.44	1.84	5.35	1.14	1.54	3.86
Crackers	do	3.68	1.78	3.46	2.40	3.04	3.12
Cakes and cookies	do	3.84	2.24	3.46	2.02	2.96	3.16
Total rolls, etc	do	12.96	5.86	12.27	5.56	7.54	10.14
Total bread, rolls, etc	do	131.76	57.55	101.53	76.10	83.56	98.95
Macaroni, spaghetti, and noodles	do	4.72	2.43	3.77	4.90	5.02	4.20
Rice	do	6.32	9.37	5.31	9.34	5.50	6.55
Total all cereal products and foods	do	211.00	201.85	194.56	216.84	179.90	199.49
Pies	do	1.50	.43	.73	.18	.52	.82
Tapioca and sago	do	.42	.10	.27	.06	.48	.31
Sugar	do	28.94	27.86	31.71	27.54	33.39	30.10
Molasses, sirup, and honey	do	4.68	8.82	6.21	13.34	6.28	6.86
Candy	do	2.40	2.29	2.06	2.08	1.93	2.16
Chocolate	do	.12	.22	.17	.16	.61	.22
Fruits, fresh:							
Apples	Peck	3.28	3.06	4.08	2.92	3.39	3.47
Peaches	do	.38	.88	.33	.80	.83	.53
Bananas	Dozen	2.26	1.43	2.19	2.20	1.78	2.04
Lemons	do	.54	.73	.67	1.00	1.04	.73
Oranges	do	1.12	1.65	1.21	1.62	1.48	1.33
Grapes	Pound	2.58	2.30	4.00	2.04	4.89	3.31
Berries	Quart	2.10	2.65	2.31	2.70	3.59	2.53
Cantaloupe	Each	.50	1.67	1.04	1.68	2.04	1.18
Watermelon	do	.12	.98	.27	1.00	.35	.41
Other	Pound	3.70	4.73	5.12	5.36	15.98	6.39
Fruits, dried:							
Apples	Pound	.10	.59	.10	.82	.09	.24
Prunes	do	2.66	1.55	2.23	1.38	1.85	2.10
Raisins	do	1.88	.88	2.31	1.28	2.39	1.90
Peaches	do	.14	.63	.31	1.26	.11	.37
Other	do	.24	.14	.50	.44	.24	.33
Total fruit, dried	do	5.02	3.79	5.45	5.18	4.68	4.94

TABLE 709.—*Food, per capita consumption: Average quantity of specified articles for one year*—Continued

Article	Unit	Per capita consumption					
		North Atlantic States	South Atlantic States	North Central States	South Central States	Western States	United States
Fruits, canned:							
Peaches	Pound	0.74	1.27	0.69	1.30	0.70	0.84
Pineapple	do	.28	.39	.44	.46	.85	.45
Other	do	.38	.31	.38	.40	.50	.39
Total fruit, canned	do	1.40	1.97	1.51	2.16	2.05	1.68
Jellies, preserves, marmalades, etc	do	1.12	1.06	1.02	1.52	.98	1.10
Peanut butter	do	.56	.47	.81	.84	1.02	.73
Vegetables, fresh:							
Potatoes	do	155.58	95.41	170.71	98.40	146.76	144.73
Potatoes, sweet, and yams	do	3.68	36.04	3.71	34.12	3.63	10.92
Cabbage	do	12.84	11.61	14.79	11.06	11.67	12.88
Spinach and kale	Peck	.46	.47	.40	.34	.54	.43
Peas	do	.22	.35	.23	.68	.39	.33
Beans, string	do	.76	1.45	1.06	1.38	.74	1.00
Tomatoes	Pound	18.74	21.82	23.33	20.12	17.35	20.40
Onions	do	14.34	11.59	12.92	15.78	12.43	13.37
Corn	Dozen	1.36	1.73	1.25	1.34	1.30	1.35
Lettuce	Head	4.12	2.76	6.25	5.08	9.52	5.59
Celery	Bunch	1.56	1.18	2.00	1.04	2.26	1.69
Beets	Pound	3.20	2.88	4.67	3.46	4.57	3.86
Carrots	do	5.12	.98	4.85	1.60	8.24	4.63
Turnips	do	4.20	5.02	3.48	4.98	3.43	4.02
Sauerkraut	do	.76	.57	1.17	.44	.33	.76
Asparagus	Bunch	.24	.08	.33	.04	.76	.31
Other	do	3.96	8.82	4.96	6.62	6.83	5.59
Vegetables, dried:							
Beans	Pound	4.68	5.25	5.35	4.98	3.43	4.78
Peas	do	.52	1.53	.38	1.92	.17	.69
Other	do	1.78	3.04	1.04	4.64	2.70	2.16
Total vegetables, dried	do	6.98	9.82	6.77	11.54	6.30	7.63
Vegetables, canned:							
Beans, baked	do	1.70	1.51	1.23	.82	.89	1.31
Peas	do	1.90	1.39	2.46	1.64	1.91	1.98
Corn	do	1.64	1.65	2.62	2.14	2.26	2.10
Tomatoes	do	2.88	3.96	2.21	6.14	2.57	3.10
Asparagus	do	.04	.06	.06	.06	.11	.06
Other	do	.26	.45	.69	.64	.41	.49
Total vegetables, canned, not including baked beans	do	6.72	7.51	8.04	10.62	7.26	7.73
Gelatin	do	.18	.10	.33	.18	.28	.22
Canned soup	do	1.68	.55	.75	.68	.74	.98
Tea	do	2.54	.88	.92	.56	1.13	1.37
Coffee	do	6.82	8.27	9.10	9.42	7.09	8.02
Coffee substitutes	do	.10	.16	.15	.08	.15	.12
Cocoa	do	1.32	.51	.88	.72	.85	.94
Nuts	do	.56	.59	1.06	.68	1.39	.86
Other foods	do	.28	.10	.27	.20	.26	.24
Lunches	Number	12.02	6.78	13.10	11.58	12.78	11.78

Division of Statistical and Historical Research, compiled from Bureau of Labor Statistics bulletin 357.

In 1918–19 the United States Department of Labor, through the Bureau of Labor Statistics, working in cooperation with the National War Labor Board, made an investigation into the cost of living in industrial centers in the United States. This investigation covered white families in 92 cities or localities in 42 States, the cities varying in size from New York to small country towns of a few thousand population.

In the selection of families to be included in the inquiry the requirements to be met were, that—1. The family must be that of a wage earner or salaried worker, but not of a person in business for himself. The families taken should represent proportionally the wage earners and the low or medium salaried families of the locality. 2. The family must have as a minimum a husband and wife and at least one child who is not a boarder or lodger. 3. The family must have kept house in the locality for the entire year covered. 4. At least 75 per cent of the family income must come from the principal breadwinner or others who contribute all earnings to the family fund. 5. All items of income and expenditure of members other than those living as lodgers must be obtainable. 6. The family may not have boarders nor over three lodgers, either outsiders or children living as such. (Does not refer to or include relatives, servants, nurses, etc., temporarily in the home, who were furnished board free.) 7. The family must have no subrental other than furnished rooms for lodgers. 8. Slum or charity families or non-English speaking families who have been less than five years in the United States should not be taken.

FARM EQUIPMENT

TABLE 710.—*Farm equipment manufactured and sold in the United States, 1920–1923*

Year	Manufactured		Sold in the United States		Sold for export	
	Number	Value	Number	Value	Number	Value
Planting machinery:						
1920	472,248	$20,097,000	498,853	$21,612,000	16,822	$1,458,000
1921	310,855	8,441,000	209,572	5,870,000	9,689	466,000
1922	189,230	4,214,000	192,415	5,241,000	8,613	449,000
1923		9,588,000		9,251,000		855,000
Plows and listers:						
1920	1,361,578	43,222,000	1,215,979	37,699,000	221,077	7,200,000
1921	566,209	13,007,000	407,760	9,071,000	102,262	2,648,000
1922	441,800	9,680,000	455,836	11,215,000	58,133	1,401,000
1923		24,252,000		20,086,000		4,673,000
Tillage implements:						
1920		22,919,000		20,636,000		1,665,000
1921		10,456,000		7,488,000		980,000
1922		4,777,000		5,472,000		325,000
1923		11,483,000		10,435,000		727,000
Cultivators:						
1920	580,179	15,186,000	589,830	17,296,000	45,863	670,000
1921	447,627	8,265,000	368,365	6,545,000	41,939	282,000
1922	259,535	4,272,000	305,773	5,571,000	12,723	226,000
1923		13,347,000		13,086,000		500,000
Haying machinery:						
1920	411,556	24,703,000	338,112	19,667,000	94,011	6,230,000
1921	219,429	10,230,000	139,412	6,776,000	39,968	1,807,000
1922	154,367	7,625,000	189,567	8,831,000	14,320	734,000
1923		15,503,000		14,018,000		2,085,000
Harvesting machinery:						
1920	232,177	41,015,000	168,829	30,626,000	41,334	7,339,000
1921	119,111	18,028,000	60,667	8,977,000	23,933	5,840,000
1922	80,565	11,822,000	80,337	11,242,000	16,512	2,747,000
1923		26,278,000		17,033,000		10,792,000
Machines for preparing crops for market or use:						
1920	196,772	35,612,000	159,918	34,749,000	30,220	3,010,000
1921	87,938	21,436,000	64,459	15,032,000	9,670	1,988,000
1922	172,258	18,294,000	146,938	19,873,000	39,024	3,487,000
1923		30,761,000		22,918,000		5,838,000
Tractors:						
Gas—						
1920	203,207	193,563,000	162,988	161,896,000	29,143	30,850,000
1921	73,198	50,295,000	(1)	(1)	(1)	(1)
1922	99,692	52,178,000	101,192	52,440,000	10,232	6,458,000
1923	134,610					
Steam—						
1920	1,766	4,661,000	1,461	3,903,000	121	370,000
1921	1,168	2,874,000	724	1,737,000	72	188,000
1922	396	1,065,000	519	1,421,000	56	223,000
1923	620					
Horse-drawn vehicles:						
1920	449,095	42,423,000	430,459	40,929,000	3,810	339,000
1921	92,816	8,861,000	(1)	(1)	(1)	(1)
1922	143,548	11,953,000	158,207	13,410,000	2,028	116,000
1923		24,333,000		22,936,000		1,041,000
Barn and barnyard equipment:[2]						
1921		430,000		437,000		
1922		4,536,000		4,306,000		3,000
1923		9,910,000		9,636,000		100,000
Miscellaneous:						
1920		93,544,000		82,429,000		7,495,000
1921		175,738,000		(1)		(1)
1922		79,224,000		83,886,000		5,494,000
1923		105,463,000		95,006,000		8,056,000
Grand total:						
1920		536,945,000		471,442,000		66,626,000
1921		328,041,000		(1)		(1)
1922		209,640,000		222,908,000		21,663,000
1923						

Division of Statistical and Historical Research. Figures for 1920, Bureau of Public Roads. Figures for 1921–1923, Bureau of the Census.

[1] The sales statistics for 1921 relate exclusively to complete machines and were compiled almost wholly from returns made by 427 establishments classified in the "agricultural implements" industry. No sales data were collected for that year from establishments manufacturing gas tractors, horse-drawn vehicles, barn equipment, and miscellaneous farm equipment.

[2] Figures for 1921 relate to barn equipment only. No data for 1920.

TABLE 711.—*Bankruptcy among farmers: Cases concluded in fiscal years ended June 30, 1921–1924*

State	1921			1922			1923			1924		
	Total	Farmers		Total	Farmers		Total	Farmers		Total	Farmers	
		Number	Per cent of all cases		Number	Per cent of all cases		Number	Per cent of all cases		Number	Per cent of all cases
Maine	420	62	14.8	431	51	11.8	658	94	14.3	904	136	15.0
New Hampshire	53	3	5.7	123	7	5.7	76	12	15.8	130	6	4.6
Vermont	85	14	16.5	166	21	12.7	100	20	20.0	101	27	26.7
Massachusetts	728	9	1.2	901	10	1.1	1,592	5	.3	1,476	11	.7
Rhode Island	50	1	2.0	72	1	1.4	166			123	1	.8
Connecticut	138	2	1.5	201	2	1.0	399	15	3.8	660	15	2.3
New York	2,039	61	3.0	2,076	38	1.8	3,128	96	3.1	3,633	105	2.9
New Jersey	297	5	1.7	277	4	1.4	502	4	.8	535	14	2.6
Pennsylvania	421	25	5.9	571	35	6.1	1,165	48	4.1	1,218	52	4.3
Ohio	460	23	5.0	680	64	9.4	1,279	156	12.2	1,531	209	13.7
Indiana	124	16	12.9	245	59	24.1	333	84	25.2	403	101	25.1
Illinois	697	11	1.6	1,012	81	8.0	1,714	192	11.2	1,923	194	10.1
Michigan	220	1	.5	434	11	2.5	909	27	3.0	814	44	5.4
Wisconsin	232	11	4.7	364	32	8.8	696	110	15.8	914	136	14.9
Minnesota	480	57	11.9	651	189	29.0	1,023	291	28.5	1,452	430	29.6
Iowa	275	75	27.3	704	368	52.3	935	489	52.3	1,317	663	50.3
Missouri	301	22	7.3	403	61	15.1	560	105	18.8	1,106	238	21.5
North Dakota	146	93	63.7	302	237	78.5	749	615	82.1	1,047	782	74.7
South Dakota	76	24	31.6	78	38	52.1	232	148	63.8	373	236	63.3
Nebraska	86	8	9.3	184	60	32.6	259	132	51.0	515	172	33.4
Kansas	211	45	21.3	328	113	34.5	588	225	38.3	737	264	35.8
Delaware	20			35	3	8.6	29	2	6.9	46	6	13.0
Maryland	84	5	6.0	159	17	10.7	170	37	21.8	307	42	13.7
Dist. Columbia	35			35			59			72	0	
Virginia	516	24	4.7	726	40	5.5	1,320	87	6.6	1,167	84	7.2
West Virginia	220	10	4.6	268	12	4.5	328	7	2.1	348	11	3.2
North Carolina	63	2	3.2	154	13	8.4	215	16	7.4	319	36	11.3
South Carolina	58	4	6.9	115	1	.9	246	24	9.8	416	36	8.7
Georgia	1,063	241	22.7	2,344	588	25.1	2,918	772	26.5	3,386	848	25.0
Florida	111	11	9.9	145	4	2.8	348	14	4.0	365	22	6.0
Kentucky	188	21	11.2	222	43	19.4	587	88	15.0	606	104	17.2
Tennessee	724	24	3.3	1,133	46	4.1	1,600	118	7.4	1,669	112	6.7
Alabama	1,419	43	3.0	2,461	100	4.1	1,977	181	9.2	2,125	218	10.3
Mississippi	239	12	5.0	265	12	4.5	462	33	7.1	582	49	8.4
Arkansas	163	17	10.4	266	72	27.1	454	76	16.7	560	104	18.6
Louisiana	114	12	10.5	219	32	14.6	423	129	30.5	488	171	35.0
Oklahoma	128	13	10.2	240	38	15.8	551	81	14.7	956	138	14.4
Texas	383	82	21.4	628	122	19.4	1,208	253	20.9	1,523	375	24.6
Montana	226	82	36.3	363	215	59.2	611	366	59.9	855	551	64.4
Idaho	80	19	23.8	169	79	46.8	292	160	54.8	414	231	55.8
Wyoming	24	8	33.3	42	12	28.6	56	14	25.0	102	36	35.3
Colorado	212	48	22.6	249	77	30.9	366	118	32.2	341	128	37.5
New Mexico	20	2	10.0	37	3	8.1	17	3	17.7	144	28	19.4
Arizona	21	1	4.8	40	9	22.5	105	37	35.2	82	31	37.8
Utah	151	17	11.3	177	22	12.4	235	32	13.6	302	35	11.6
Nevada	11			21	2	9.5	2			5	0	
Washington	261	29	11.1	377	49	13.0	727	131	18.0	874	213	24.4
Oregon	407	11	2.7	370	33	8.9	717	110	15.3	799	91	11.4
California	682	57	8.4	1,004	110	11.0	1,150	183	15.9	1,760	236	13.4
United States	15,162	1,363	9.0	22,462	3,236	14.4	34,236	5,940	17.4	41,524	7,772	18.7

Division of Agricultural Finance. Compiled from annual reports of the Attorney General.

FARMERS' INCOMES

TABLE 712.—*Farmers' incomes: Returns from farming, 1922 and 1923*

	North Atlantic		South Atlantic		East North Central		West North Central		South Central		Western		United States	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
Number of reports	648	1,800	803	2,131	1,274	3,305	1,395	3,817	1,282	3,320	692	1,720	6,094	16,183
Size of farms—acres	148	143	206	215	145	152	339	334	212	373	498	649	252	300
Value of farm real estate	$8,748	$9,200	$9,565	$9,810	$13,986	$15,070	$19,940	$21,820	$9,027	$10,300	$17,672	$17,490	$13,586	$14,530
Value of farm personalty (Jan. 1)	3,043	3,020	1,857	1,760	2,563	2,730	3,661	3,810	2,153	2,140	3,955	4,490	2,844	2,960
Receipts:														
Crop sales	981	810	886	1,010	506	600	681	640	888	1,070	1,286	1,210	816	850
Sales of livestock	352	370	347	360	754	820	1,148	1,330	410	420	617	960	660	760
Sales of livestock products	1,193	1,390	245	270	621	710	379	430	167	220	382	620	454	550
Miscellaneous other sales	92	120	54	60	39	70	24	80	32	50	37	80	42	80
Total	2,618	2,690	1,532	1,700	1,920	2,200	2,235	2,480	1,497	1,760	2,322	2,870	1,972	2,240
Cash outlay:														
Hired labor	524	470	309	340	245	270	280	300	284	280	522	610	331	350
Livestock bought	153	170	161	160	228	240	321	390	138	150	188	250	204	240
Feed bought	467	490	86	100	176	190	178	220	90	110	159	220	175	210
Fertilizer	151	130	178	210	41	40	6	10	52	50	9	10	57	60
Seed	59	60	38	40	40	50	39	40	28	30	54	50	43	40
Taxes (farm property)	146	160	91	110	210	220	211	240	111	140	270	270	174	190
Machinery and tools	143	140	82	70	122	120	152	120	81	70	177	140	123	110
Miscellaneous other	215	180	85	80	149	160	198	170	92	100	181	250	150	150
Total	1,858	1,800	1,030	1,110	1,211	1,290	1,385	1,490	866	930	1,510	1,830	1,257	1,350
Receipts less expenses	760	890	502	590	709	910	850	990	631	830	812	1,040	715	890
Increase in inventory	98	180	121	150	219	120	385	120	104	60	174	270	202	130
Net result	858	1,070	623	740	928	1,030	1,235	1,110	735	890	986	1,310	917	1,020
Interest paid	(1)	90	(1)	100	(1)	180	(1)	380	(1)	170	(1)	390	(1)	230
Spent for farm improvements	(1)	150	(1)	120	(1)	140	(1)	170	(1)	110	(1)	140	(1)	140
Non-cash, estimated items:														
Value of food and fuel produced and used on the farm [2]	273	260	362	310	276	260	287	260	301	260	269	250	294	265
Value of family labor, including owner [2]	$50	970	504	670	759	890	854	930	477	680	919	1,020	716	870
Change in value of real estate during year (— shows decrease)	−16	+22	+78	+52	−103	−105	−27	−211	+9	+17	−303	−69	−52	−66

Division of Farm Management. Computed from reports of individual farms operated by their owners.

[1] Not reported for 1922.

[2] Averages for farms reporting.

TABLE 713.—*Farmers' incomes: Returns to labor and to capital, 1922 and 1923*

Item	North Atlantic		South Atlantic		East North Central		West North Central		South Central		Western		United States	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
	Dolls.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
Net results as given	858	1,070	623	740	928	1,030	1,235	1,110	735	890	986	1,310	917	1,020
Add food and fuel [1]	273	260	362	310	276	260	287	260	301	260	269	250	294	265
Total farm returns	1,131	1,330	985	1,050	1,204	1,290	1,522	1,370	1,036	1,150	1,255	1,560	1,211	1,285
Less unpaid labor [2]	850	970	504	670	759	890	854	930	477	680	919	1,020	716	870
Return to capital	281	360	481	380	445	400	668	440	559	470	336	540	495	415
Return to capital, per cent [3]	2.4	2.9	4.2	3.3	2.7	2.2	2.8	1.7	5.0	3.8	1.6	2.5	3.0	2.3
Interest, assuming rate of 6 per cent [4]	707	730	685	740	993	1,070	1,416	1,540	671	750	1,298	1,320	986	1,050
Return to all unpaid labor	424	600	300	310	241	220	106	−170	365	400	−43	240	225	235
Return to operator (prorated) [5]	334	470	226	197	156	159	70	−115	295	245	−37	205	158	154
Return to operator (family labor at hired labor rates) [6]	244	390	176	66	13	−27	−182	−472	273	134	−170	94	9	−71

Division of Farm Management. Computed from reports of owner operators (6,094 in 1922 and 16,183 in 1923) and other information. In computing this table certain arbitrary assumptions are explicitly or implicitly made.

[1] Averages of estimates made by 4,728 farmers for 1922; by 15,025 farmers for 1923.
[2] Averages of estimates made by 5,248 farmers for 1922; by 11,832 farmers for 1923.
[3] Based on the reported value of farm property Jan. 1.
[4] Many recall paying much more than 6 per cent.
[5] Assumes that all unpaid family labor shared the reduced amount according to the amount of its claim established: (1) For the operator as 12 times the monthly wages of hired help without board, and (2) for the rest of the family the difference between operator's labor so figured and the reported value of unpaid labor.
[6] The assumption is that the operator bears all the burden of failure to earn common hired labor wages, and attributes such wages to his family before computing his remainder or wages.

TABLE 714.—*Wheat: Cost of production, by yield groups, 1923*

YIELD GROUP	Number of reports	Average acreage in wheat per farm	Average yield per acre	Gross cost per acre: Prepare and plant	Harvest [1]	Market	Miscellaneous [2] labor	Fertilizer and manure	Seed	Land rent	Miscellaneous [3] costs	Total	Credit per acre (straw)	Net cost: Per acre	Net cost: Per bushel	Value of wheat: Per acre	Value of wheat: Per bushel
Bushels per acre																	
All States:		*Acres*	*Bu.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
3 and under	69	123	2	3.36	3.00	0.76	0.20	0.67	1.31	3.36	2.00	14.66	0.67	13.99	7.00	2.52	0.98
4 to 6	387	97	5	3.10	2.94	.72	.15	1.00	1.30	3.30	1.75	14.26	.67	13.59	2.72	5.19	.97
7 to 9	709	83	8	3.35	3.26	.79	.16	1.20	1.42	3.57	1.84	15.59	.83	14.76	1.85	7.89	.97
10 to 12	1,525	59	11	3.51	3.69	1.04	.24	1.89	1.52	4.33	2.09	18.31	1.20	17.11	1.56	11.04	1.02
13 to 15	1,187	50	15	3.87	4.18	1.17	.24	2.23	1.58	5.25	2.28	20.80	1.55	19.25	1.28	14.44	.99
16 to 18	833	47	17	4.23	4.52	1.31	.22	2.78	1.72	6.17	2.47	23.42	2.00	21.42	1.26	17.11	1.00
19 to 21	1,191	45	20	4.16	5.05	1.51	.27	3.36	1.83	7.18	2.76	26.12	2.36	23.76	1.19	19.80	.99
22 to 24	435	42	23	5.02	5.11	1.43	.25	3.99	1.91	8.25	2.80	28.76	2.77	25.99	1.13	22.57	.99
25 to 27	568	47	25	5.03	5.51	1.67	.39	4.10	1.92	9.19	2.93	30.74	3.11	27.63	1.11	24.94	.98
28 to 31	458	50	30	5.36	6.08	1.90	.66	3.74	1.98	10.36	3.25	33.33	2.88	30.45	1.02	29.15	.99
31 and over	357	41	38	5.15	7.21	1.88	1.30	3.52	2.03	10.91	3.83	35.83	3.41	32.42	.85	34.83	.93
Winter-wheat belt: [4]																	
3 and under	22	177	2	3.04	3.14	1.06	.16	.21	1.13	3.27	1.51	13.52	.30	13.22	6.61	2.28	.79
4 to 6	100	141	5	2.87	3.29	.62	.05	.61	1.16	3.21	1.56	13.39	.29	13.10	2.62	4.43	.83
7 to 9	164	96	8	2.98	3.43	.59	.12	.55	1.29	3.49	1.51	13.96	.45	13.51	1.69	7.02	.87
10 to 12	393	82	11	3.06	3.71	.85	.27	1.18	1.24	3.92	1.98	16.21	.80	15.41	1.40	10.00	.91
13 to 15	306	71	14	3.28	4.15	.96	.12	1.08	1.28	4.52	1.86	17.25	.83	16.42	1.17	13.20	.92
16 to 18	176	75	17	3.50	4.54	1.02	.25	1.07	1.33	5.01	2.05	18.77	.68	18.09	1.06	15.69	.92
19 to 21	152	65	20	3.68	5.28	1.18	.20	1.48	1.34	5.31	2.39	20.86	.71	20.15	1.01	18.43	.92
22 to 24	37	45	23	3.50	5.03	1.24	.08	1.46	1.31	5.76	1.79	20.11	.84	19.27	.84	21.65	.95
25 to 27	33	44	25	3.80	5.89	1.34	.30	2.55	1.38	6.78	2.78	24.82	.88	23.94	.96	23.38	.92
28 and over	19	37	34	4.52	7.03	1.60	.17	.93	1.88	5.81	2.95	24.89	1.12	23.77	.70	26.89	.82
Spring-wheat belt: [5]																	
3 and under	17	190	2	3.13	2.47	.39	.05	.13	1.26	2.30	2.52	12.25	.08	12.17	6.08	1.99	.91
4 to 6	123	130	5	3.25	2.62	.57	.18	.22	1.31	2.50	1.86	12.51	.33	12.18	2.44	4.41	.85
7 to 9	235	134	8	3.15	2.95	.71	.12	.25	1.36	2.56	1.92	13.02	.30	12.72	1.59	7.07	.67
10 to 12	270	111	11	3.12	3.33	.85	.21	.44	1.43	3.16	2.04	14.58	.33	14.25	1.30	9.54	.92
13 to 15	110	90	14	3.40	3.74	1.01	.14	.55	1.48	3.60	2.29	16.21	.32	15.89	1.14	12.91	.91
16 to 18	34	68	17	3.77	4.01	1.63	.09	.48	1.47	3.46	1.91	16.82	.56	16.26	.96	15.92	.94
19 to 21	27	47	20	4.21	4.79	1.61	.51	1.33	1.59	4.14	3.18	21.36	.77	20.59	1.03	18.09	.94
22 and over	9	51	30	3.09	4.26	1.92	.09	.75	1.53	7.69	1.23	20.56	.64	19.92	.66	21.50	.80

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Threshing is included under harvesting.
[2] Includes miscellaneous labor, irrigating and water, spraying and spray material.
[3] Includes sacks and twine, crop insurance, use of implements, use of storage buildings, and overhead.
[4] "Winter Wheat Belt" as used here includes Kansas, Nebraska, Missouri and Oklahoma.
[5] "Spring Wheat Belt" as used here includes western Minnesota, North Dakota, northern South Dakota and eastern Montana.

TABLE 715.—*Wheat: Cost of production, by States, 1923*

State	Number of reports	Average acreage in wheat per farm	Average yield per acre	Gross cost per acre										Credit per acre (straw)	Net cost		Value of wheat	
				Prepare and plant	Harvest and thresh	Market	Miscellaneous labor [1]	Commercial fertilizer	Manure	Seed	Land rent	Miscellaneous costs [2]	Total		Per acre	Per bushel	Per acre	Per bushel
		Acres	*Bushels*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
New York	174	12	25	6.90	6.21	1.82	0.17	2.82	4.18	2.63	7.13	3.66	35.52	5.26	30.26	1.21	27.39	1.13
New Jersey	48	11	24	5.91	7.07	1.71	.17	5.02	3.62	2.53	6.75	2.94	35.72	6.50	29.22	1.22	26.83	1.11
Pennsylvania	408	15	22	6.48	5.84	2.03	.19	3.21	3.91	2.27	5.63	3.72	34.31	6.05	27.26	1.24	22.83	1.06
Maryland	112	38	20	5.49	5.20	1.41	.14	4.10	1.98	1.94	6.45	3.31	30.02	4.49	25.53	1.28	20.30	.99
Virginia	259	23	15	4.79	4.48	1.39	.24	2.98	1.50	1.85	5.14	2.79	25.16	2.70	22.46	1.50	17.70	1.14
West Virginia	121	15	15	5.12	4.92	2.10	.35	2.09	1.52	2.26	5.53	2.40	26.89	3.29	23.60	1.57	17.16	1.16
North Carolina	183	12	13	4.91	4.36	1.44	.21	2.99	1.93	1.84	5.35	2.36	25.39	2.07	23.32	1.79	17.55	1.34
South Carolina	56	9	13	3.19	4.44	1.34	.35	2.81	1.12	1.87	5.91	2.44	23.47	1.79	21.68	1.67	20.24	1.58
Georgia	221	8	10	2.95	3.91	1.26	.18	2.48	1.26	1.77	4.81	2.05	20.67	1.45	19.22	1.92	15.54	1.49
Ohio	616	20	21	4.64	5.29	1.38	.14	2.74	1.61	2.16	6.05	2.74	26.75	3.01	23.74	1.13	21.51	1.01
Indiana	533	28	20	4.18	4.30	1.14	.19	2.86	1.51	1.81	6.07	2.42	23.98	2.02	21.96	1.10	18.93	.97
Illinois	411	43	20	3.54	4.21	1.03	.13	.47	.88	1.58	6.65	1.91	20.40	1.24	19.16	.96	18.66	.94
Michigan	339	16	20	5.95	4.84	1.55	.16	1.53	2.85	2.03	5.38	2.51	26.80	3.14	23.66	1.18	19.75	.98
Wisconsin	129	8	17	4.29	3.95	1.62	.20	.21	2.61	2.07	6.24	2.52	23.71	2.85	20.86	1.23	16.98	.99
Minnesota	300	35	15	3.52	3.84	1.11	.24	.06	.90	1.81	4.88	2.27	18.63	.78	17.85	1.19	13.70	.96
Iowa	194	21	19	3.00	4.13	1.29	.17	.08	.61	1.74	7.51	2.37	20.80	1.15	19.65	1.03	16.87	.88
Missouri	395	35	15	3.72	3.96	1.13	.15	1.11	1.12	1.85	4.81	2.02	19.87	1.21	18.66	1.24	14.13	.96
North Dakota	411	147	9	3.25	3.11	.68	.16	.01	.25	1.34	2.49	1.69	12.98	.32	12.66	1.41	7.68	.90
South Dakota	318	77	12	2.50	3.32	1.02	.21	------	.32	1.36	3.21	2.03	13.97	.40	13.57	1.13	9.43	.80
Nebraska	316	61	18	2.96	3.90	.86	.26	.01	.54	1.25	5.07	2.11	16.96	.41	16.55	1.27	11.08	.85
Kansas	545	124	13	3.24	4.17	.84	.15	.07	.59	1.22	4.10	1.80	16.18	.49	15.69	1.21	11.36	.89
Kentucky	139	25	15	3.66	4.67	1.52	.24	1.81	.84	1.65	5.57	2.37	22.33	1.76	20.57	1.37	16.47	1.13
Tennessee	193	21	13	4.01	3.66	1.17	.13	1.63	1.28	1.52	5.19	2.22	20.86	1.60	19.26	1.48	14.62	1.16
Texas	148	90	12	2.87	4.08	1.03	.43	------	.13	1.13	4.20	2.13	16.00	.65	15.35	1.28	12.10	.98
Oklahoma	207	100	12	2.75	4.05	.87	.19	.03	.54	1.11	3.13	1.42	14.09	.56	13.53	1.13	10.80	.89
Arkansas	47	12	12	3.75	5.02	1.59	.33	1.07	1.74	1.32	4.32	2.20	21.34	2.03	19.31	1.61	13.63	1.11
Montana	283	135	16	4.71	4.03	1.84	.57	.02	.32	1.10	3.33	2.40	18.32	.84	17.48	1.09	13.78	.88
Wyoming	86	52	18	4.01	3.79	2.14	1.02	------	.82	1.30	3.50	2.07	18.65	1.06	17.59	.98	15.22	.81
Colorado	122	62	21	3.82	5.22	1.60	2.24	.02	1.01	1.37	5.17	3.03	23.48	.91	22.57	1.07	18.54	.85
New Mexico	27	104	17	3.31	3.16	1.86	1.96	.03	.72	1.06	3.86	2.11	18.07	1.62	16.45	.97	18.67	.96
Utah	71	25	32	5.69	7.24	2.08	3.23	.23	3.45	1.84	13.05	3.50	40.31	2.21	38.10	1.19	28.68	.92
Idaho	113	92	28	4.71	5.94	1.77	1.67	.04	.88	1.44	9.72	3.64	29.81	.69	29.12	1.04	22.26	.79
Washington	165	227	28	4.74	6.36	1.08	.61	.07	.65	1.40	9.08	3.80	28.39	1.33	27.06	.97	22.64	.82

Oregon	75	180	24	4.87	4.69	1.87	.56	.09	.53	1.68	10.07	3.26	27.62	.68	26.94	1.12	22.75	.92
California	49	162	22	4.14	5.01	1.35	.80	.01	.60	1.69	8.06	3.23	24.89	.83	24.06	1.09	22.87	1.05
Thirty-nine states[4]	7,852	57	17	4.14	4.47	1.28	.31	1.25	1.33	1.69	5.99	2.42	22.88	1.86	21.02	1.24	16.64	.99

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Includes miscellaneous labor, irrigating and water, spraying and spray material.
[2] Sacks and twine, crop insurance, use of implements, use of storage buildings, and overhead.
[3] Includes 38 records from the following States in which there were not enough reports to show State averages: Maine, Delaware, Alabama, and Arizona.

TABLE 716.—*Corn: Cost of production, by yield groups, 1928*

Yield group (bushels per acre)	Number of reports	Average acreage in corn per farm	Average yield per acre	Gross cost per acre										Credit per acre (stover and fodder)	Net cost		Value of corn	
				Prepare and plant	Cultivate	Harvest	Market	Miscellaneous labor[1]	Fertilizer and manure	Seed	Land rent	Miscellaneous costs[2]	Total		Per acre	Per bushel	Per acre	Per bushel
		Acres	*Bushels*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*	*Dols.*
All States:																		
7 and under	166	27	5	3.31	3.16	1.42	1.02	0.07	1.67	0.35	3.46	1.82	16.28	1.03	15.25	3.05	5.13	0.92
8 to 17	1,283	36	13	3.57	3.28	1.88	1.48	.13	2.28	.42	3.87	2.19	19.08	1.65	17.43	1.34	12.47	.96
18 to 27	2,201	37	22	3.93	3.15	2.53	1.95	.12	2.66	.43	4.85	2.11	21.76	2.00	19.76	.90	19.50	.88
28 to 37	2,450	41	32	4.82	3.16	3.50	2.25	.16	3.41	.42	5.36	2.40	24.98	2.49	22.49	.70	24.68	.77
38 to 47	2,423	43	41	4.53	3.17	4.32	2.34	.15	3.93	.42	6.46	2.29	27.61	2.71	24.90	.61	39.07	.74
48 to 57	1,538	38	51	5.05	3.44	5.38	2.76	.17	5.32	.46	7.44	2.64	32.68	3.44	29.24	.57	37.43	.74
58 to 67	624	35	61	5.53	3.54	6.46	2.92	.13	6.95	.50	8.16	2.92	37.11	4.21	32.90	.54	45.82	.76
68 to 77	214	19	72	6.22	4.33	7.64	3.37	.17	10.26	.60	8.20	3.44	44.23	6.26	37.97	.53	59.69	.83
78 and over	124	17	88	7.47	4.58	7.93	3.98	.27	11.70	.69	8.15	4.16	48.93	6.65	42.28	.48	72.30	.86
Corn belt:[3]																		
7 and under	52	38	13	3.23	2.46	2.28	1.39	.09	1.36	.37	3.79	1.38	16.35	1.19	15.16	1.17	9.25	.72
8 to 17	258	49	23	3.40	2.48	2.51	1.64	.06	1.71	.32	4.70	1.79	18.61	1.20	17.41	.76	15.67	.68
18 to 27	631	56	32	3.59	2.60	2.92	1.81	.11	2.09	.34	5.73	1.80	20.99	1.42	19.57	.61	21.53	.67
28 to 37	1,011	59	41	3.84	2.69	3.40	1.92	.08	2.41	.36	6.99	1.94	23.63	1.38	22.25	.54	26.59	.64
38 to 57	708	54	51	4.04	2.78	4.07	2.25	.11	2.60	.41	7.91	2.18	26.35	1.56	24.79	.49	32.66	.64
58 to 67	284	50	61	4.40	2.71	4.73	2.45	.06	3.75	.46	8.67	2.68	29.91	2.16	27.75	.45	39.11	.65
68 to 77	58	30	71	5.14	3.26	5.63	2.64	.16	4.62	.43	9.43	2.38	33.69	3.45	30.24	.43	47.89	.67
78 and over	14	30	87	8.36	2.96	6.71	2.34	------	8.92	.64	6.56	2.93	39.42	2.41	37.01	.43	55.39	.65

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Includes miscellaneous labor, irrigating and water, seed treatment, and material.
[2] Includes sacks and twine, crop insurance, use of implements, use of storage buildings, and overhead.
[3] "Corn Belt" as used here includes Indiana, Illinois, Iowa, western Ohio, southeast corner of South Dakota, eastern Nebraska, northeast corner of Kansas, and the northern three-fourths of Missouri.

TABLE 719.—*Oats: Cost of production, by States, 1923*

State	Number of reports	Average acreage in oats per farm	Average yield per acre	Gross cost per acre										Credit per acre (straw)	Net cost		Value of oats	
				Preparing and planting	Harvesting and threshing	Marketing	Miscellaneous labor [1]	Commercial fertilizer	Manure	Seed	Land rent	Miscellaneous costs [2]	Total		Per acre	Per bushel	Per acre	Per bushel
		Acres	*Bushels*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Maine	48	11	48	7.26	8.78	2.49	0.65	3.38	5.82	3.83	7.91	4.87	44.79	5.59	39.20	0.82	32.84	0.69
Vermont	38	11	45	6.99	8.08	2.43	.20	3.11	8.93	2.93	6.27	4.99	43.83	7.16	36.67	.81	29.48	.65
New York	297	12	40	6.59	6.24	1.92	.21	2.20	1.98	2.03	5.98	3.47	30.62	5.39	25.23	.63	22.89	.58
New Jersey	43	10	31	5.43	5.56	1.58	.17	2.19	.23	1.75	5.56	1.80	24.27	4.23	20.04	.65	18.12	.58
Pennsylvania	430	14	34	6.20	5.35	1.94	.19	2.09	1.07	1.74	5.11	3.38	27.07	4.87	22.20	.65	19.16	.56
Maryland	44	8	35	5.01	4.82	1.59	.06	2.98	1.07	1.39	5.56	2.96	25.44	5.06	20.38	.58	18.61	.53
Virginia	135	10	38	4.56	4.21	1.46	.21	2.13	1.26	1.46	4.75	2.31	22.35	2.73	19.62	.70	18.00	.68
West Virginia	94	6	27	5.40	4.81	2.42	.32	1.89	1.44	1.55	5.70	2.40	25.93	3.62	22.31	.83	17.16	.67
North Carolina	152	9	27	4.46	4.17	1.44	.13	2.81	1.11	1.74	5.70	2.08	23.64	2.36	21.28	.79	20.68	.77
South Carolina	92	22	29	3.03	4.63	1.48	.26	2.49	.26	1.79	5.92	2.30	22.16	2.37	19.79	.68	23.36	.81
Georgia	307	18	23	2.78	3.76	1.42	.17	1.77	.46	1.67	4.42	1.92	18.37	1.84	16.53	.72	19.13	.82
Ohio	451	13	39	4.29	5.04	1.42	.15	1.22	.51	1.74	5.67	2.84	22.88	2.93	19.95	.51	17.96	.47
Indiana	418	23	33	2.91	3.84	1.14	.13	.56	.62	1.19	5.70	1.99	18.08	2.04	16.04	.49	13.15	.40
Illinois	494	36	39	2.16	3.77	1.00	.19	.16	.32	1.23	6.73	2.04	17.60	1.72	15.88	.41	16.12	.41
Michigan	416	15	39	5.28	4.96	1.74	.16	.69	1.31	1.24	5.20	2.39	22.97	3.29	19.68	.50	17.88	.46
Wisconsin	448	23	39	4.31	4.88	2.11	.30	.17	1.51	1.53	6.27	2.44	23.52	3.53	19.99	.51	17.64	.45
Minnesota	513	37	41	3.38	4.34	1.48	.20	.04	.75	1.26	4.63	2.39	18.47	3.33	17.14	.42	15.10	.37
Iowa	522	38	40	1.95	3.82	1.24	.15	.01	.42	1.32	7.60	2.23	18.74	1.51	17.23	.43	15.12	.38
Missouri	368	19	27	2.75	3.77	1.19	.13	.34	.60	1.31	4.30	1.87	16.26	1.42	14.84	.55	12.89	.44
North Dakota	393	50	26	3.23	2.91	.95	.14	------	.17	.82	2.25	1.71	12.18	.63	11.55	.44	7.90	.32
South Dakota	392	47	37	2.38	3.90	1.78	.39	.03	.56	.95	3.43	2.29	15.71	.70	15.01	.41	11.97	.34
Nebraska	366	32	36	2.20	4.04	1.22	.27	.01	.40	1.03	4.84	1.98	15.99	1.09	14.90	.41	13.25	.37
Kansas	420	23	31	2.58	4.52	1.14	.08	.04	.39	1.35	3.92	1.43	15.45	.88	14.57	.47	14.29	.47
Kentucky	95	13	22	3.29	4.25	1.76	.45	1.08	.41	1.13	4.97	2.20	19.52	1.62	17.90	.81	13.93	.62
Tennessee	130	10	23	3.55	3.65	1.37	.14	.96	.95	1.28	4.88	3.05	18.83	1.62	17.21	.75	15.51	.67
Alabama	79	11	21	2.92	3.58	1.05	.14	1.14	.42	1.64	4.16	1.45	16.50	1.45	15.05	.72	17.40	.82
Mississippi	43	20	21	3.46	3.67	1.31	.10	.80	.15	1.55	4.67	2.30	18.01	1.26	16.75	.80	16.73	.80
Texas	209	34	33	2.83	4.52	1.35	.33	.02	.23	1.17	4.40	2.20	17.05	1.21	15.84	.48	16.99	.50
Oklahoma	191	30	23	2.64	3.96	1.03	.10	.03	.31	1.30	3.07	1.32	13.81	.69	13.12	.57	12.41	.53
Arkansas	118	13	25	3.57	4.73	1.37	------	.68	.71	1.47	4.49	1.91	18.93	2.06	16.87	.67	16.51	.66

Montana	213	32	32	4.57	4.11	2.06	.22	.02	.23	.91	2.84	2.17	17.44	1.00	16.44	.51	13.09	.40
Wyoming	86	39	37	3.97	4.17	2.67	1.09	------	.86	1.21	3.18	2.28	19.43	1.09	17.74	.48	19.13	.49
Colorado	95	25	40	3.93	5.58	2.03	1.69	.02	.78	1.49	5.59	3.00	24.11	1.43	22.68	.57	20.80	.51
New Mexico	26	68	30	3.54	4.76	1.91	2.24	.02	.63	1.31	4.36	2.48	21.25	2.43	18.82	.63	20.21	.63
Utah	50	16	50	5.70	7.78	2.51	3.20	.10	3.78	1.91	10.75	4.24	39.95	2.84	37.11	.71	31.63	.64
Idaho	76	21	50	4.72	6.80	1.87	2.28	.04	.82	1.53	7.16	3.85	29.07	1.00	28.07	.56	23.23	.47
Washington	74	26	58	5.35	7.35	1.94	.65	.19	1.85	1.65	8.48	5.03	32.49	3.00	29.49	.51	29.37	.51
Oregon	56	23	48	5.01	5.52	2.26	.55	.06	1.39	1.73	6.78	3.94	27.27	1.30	25.97	.54	26.01	.53
California	25	65	35	4.04	5.36	1.37	.27	.02	.26	1.81	5.09	3.12	21.34	1.50	19.84	.57	24.30	.69
Forty-five states[3]	8,481	26	35	3.64	4.47	1.47	.28	.67	.80	1.38	5.18	2.34	20.23	2.15	18.08	.52	16.38	.49

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Includes miscellaneous labor, spraying, and spraying material.
[2] Sacks and twine, crop insurance, use of implements, use of storage buildings, and overhead.
[3] Includes 45 records from the following States in which there were not enough reports to show State averages: New Hampshire, Massachusetts, Connecticut, Florida, Louisiana, and Arizona.

TABLE 720.—*Wheat, corn, and oats: Comparative production costs in 1922 and 1923*

Crops and geographical divisions [1]	Number of reports		Net cost per acre		Net cost per bushel		Yield per acre (bushels)		Value of product per bushel	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
			Dollars	*Dollars*	*Dollars*	*Dollars*			*Dollars*	*Dollars*
Wheat:										
North Atlantic	168	642	28.42	28.43	1.35	1.24	21	23	1.22	1.09
South Atlantic	355	961	22.45	22.42	1.60	1.60	14	14	1.30	1.27
East North Central	551	2,028	21.98	22.12	1.17	1.11	18	20	1.09	.98
West North Central	748	2,479	15.42	16.17	1.03	1.24	15	13	.95	.90
South Central	310	745	17.23	17.16	1.44	1.32	12	13	1.20	1.04
Western	285	997	22.90	23.95	1.09	1.09	21	22	1.05	.87
United States	2,417	7,852	19.68	21.02	1.23	1.24	16	17	1.11	.99
Corn:										
North Atlantic	256	815	43.09	40.73	.83	.87	52	47	.85	.95
South Atlantic	557	1,655	25.01	25.57	.83	.85	30	30	.90	1.03
East North Central	669	2,714	25.83	26.77	.56	.61	46	44	.65	.72
West North Central	881	3,312	17.89	18.81	.53	.54	34	35	.57	.63
South Central	881	2,285	19.38	21.18	.75	.88	26	24	.84	.98
Western	119	457	20.14	19.02	.67	.66	30	29	.78	.73
United States	3,363	11,238	23.01	23.75	.66	.68	35	35	.73	.81
Oats:										
North Atlantic	260	877	25.80	24.89	.68	.67	38	37	.58	.58
South Atlantic	326	834	18.82	19.14	.72	.74	26	26	.70	.76
East North Central	578	2,227	17.08	18.21	.47	.48	36	38	.43	.44
West North Central	835	2,974	14.37	15.31	.44	.45	33	34	.37	.38
South Central	388	865	15.65	15.84	.65	.63	24	25	.60	.61
Western	214	704	21.59	22.74	.58	.55	37	41	.61	.49
United States	2,601	8,481	17.40	18.08	.53	.52	33	35	.48	.49

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] North Atlantic includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania; South Atlantic includes Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; East North Central includes Ohio, Indiana, Illinois, Michigan, and Wisconsin; West North Central includes Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South Central includes Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas; Western includes Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, and California.

TABLE 721.—*Potatoes: Cost of production, by yield groups, 1923*

Yield group (bushels per acre)	Number of reports	Average acreage in potatoes per farm	Yield per acre	Gross cost per acre										Credit per acre (culls)	Net cost		Value of potatoes	
				Prepare and plant	Cultivate	Harvest	Market	Miscellaneous labor [1]	Fertilizer and manure	Seed	Land rent	Miscellaneous costs [2]	Total		Per acre	Per bushel	Per acre	Per bushel
Northeastern group of States: [3]		*Acres*	*Bushels*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
37 and under	7	4	23	11.31	6.79	9.71	6.75	4.21	7.60	9.00	3.17	3.54	62.08	.....	62.08	2.70	24.06	1.04
38 to 62	24	4	51	9.25	5.88	10.68	6.78	2.81	19.30	10.35	6.14	3.60	74.79	.....	74.79	1.47	54.92	1.08
63 to 87	33	8	76	10.74	4.96	9.98	7.31	2.81	16.36	10.58	7.55	4.70	74.99	0.13	74.86	.98	77.02	1.02
88 to 112	85	4	100	11.51	6.07	11.34	7.50	2.33	16.96	12.36	6.49	4.85	79.41	.33	79.08	.79	100.83	1.01
113 to 137	65	7	125	11.43	6.01	12.62	9.18	3.87	17.93	12.12	7.31	4.60	85.07	.27	84.80	.68	125.22	1.00
138 to 162	94	5	150	12.54	6.63	14.73	11.80	4.84	23.21	14.33	8.60	6.18	102.26	.50	101.76	.68	151.81	1.02
163 to 187	26	10	176	12.69	7.35	17.01	11.01	4.02	23.25	14.24	10.22	9.99	109.78	.92	108.86	.62	175.53	1.00
188 to 212	98	13	200	12.59	6.97	15.87	13.72	6.27	29.25	15.76	8.38	6.34	115.15	.14	115.01	.58	201.37	1.00
213 to 237	28	15	225	12.45	8.92	17.68	15.38	7.76	33.61	19.46	15.93	10.59	141.78	1.16	140.62	.62	242.68	1.08
238 to 262	48	9	250	13.70	8.56	17.28	16.56	7.26	33.82	17.72	11.96	12.64	139.50	1.35	138.15	.55	261.02	1.05
263 to 287	13	10	274	14.08	8.38	19.31	18.02	7.37	45.78	16.69	11.28	12.28	153.19	.38	152.81	.56	281.12	1.03
288 to 312	35	7	300	15.64	7.27	19.75	18.17	6.29	37.62	16.69	11.05	9.57	142.05	1.24	140.81	.47	310.42	1.04
313 and over	16	8	370	12.91	8.27	22.72	17.25	8.44	41.73	19.91	12.42	9.98	153.63	.12	153.51	.41	331.95	.94
North Central group of States: [4]																		
37 and under	26	5	27	5.70	2.76	6.61	5.62	1.73	7.04	4.87	3.42	1.98	39.73	.08	39.65	1.47	13.27	.48
38 to 62	86	8	53	6.03	3.71	7.92	4.24	2.37	4.08	5.05	4.28	3.22	40.90	.27	40.63	.77	23.40	.44
63 to 87	160	8	77	6.21	3.01	7.19	5.23	2.27	4.55	5.52	4.53	3.17	41.48	.37	41.11	.53	36.77	.48
88 to 112	261	7	99	6.76	3.62	8.18	6.84	2.34	5.77	6.12	4.97	3.46	48.06	.30	47.76	.48	41.56	.42
113 to 137	119	7	125	7.61	4.07	9.33	7.78	2.19	7.55	6.44	6.28	3.45	54.70	.63	54.07	.43	61.54	.50
138 to 162	155	7	150	7.87	4.06	9.64	8.75	2.90	7.24	6.63	5.97	4.71	57.77	.28	57.49	.38	70.09	.47
163 to 187	43	6	174	7.30	4.38	11.49	9.40	3.24	7.65	5.77	6.84	4.00	60.07	.58	59.49	.34	70.07	.42
188 to 212	64	7	200	9.07	5.45	12.96	9.79	4.58	9.23	6.67	7.23	5.97	70.95	.34	70.61	.35	92.83	.47
213 and over	35	4	291	10.57	5.66	16.19	12.20	6.49	12.29	9.32	5.84	4.05	82.61	.72	81.89	.28	119.33	.49

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Includes miscellaneous labor, irrigating and water, spraying, and spray material.
[2] Includes sacks and twine, crop insurance, use of implements, use of storage buildings, and overhead.
[3] Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, and Pennsylvania.
[4] Michigan, Wisconsin, Minnesota, North and South Dakota.

TABLE 722.—*Potatoes: Cost of production, 1923*

State groups	Number of reports	Average acreage in potatoes per farm	Average yield per acre	Gross cost per acre										Credit per acre (culls)	Net cost		Value of potatoes	
				Prepare and plant	Cultivate	Harvest	Market	Miscellaneous labor [1]	Fertilizer and manure	Seed	Land rent	Miscellaneous costs [2]	Total		Per acre	Per bushel	Per acre	Per bushel
		Acres	*Bushels*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Northeastern [3]	574	8	170	12.40	6.88	14.83	11.97	4.73	25.13	14.05	9.03	6.97	105.99	0.49	105.50	0.62	172.34	1.02
Eastern [4]	231	5	116	9.36	5.04	10.16	9.28	2.06	16.65	12.42	10.76	5.29	81.02	.56	80.46	.69	131.94	1.15
Southeastern [5]	112	6	97	7.68	4.16	6.85	6.56	1.52	18.87	15.98	7.39	6.91	75.83	.17	75.66	.78	161.89	1.64
Central [6]	407	6	101	6.67	3.78	8.14	6.37	1.88	5.27	10.01	7.41	3.00	52.56	.08	52.48	.52	80.12	.81
North Central [7]	964	7	116	7.22	3.86	9.06	7.32	2.65	6.43	6.13	5.40	3.64	51.71	.37	51.34	.44	52.76	.47
West South Central [8]	85	5	82	6.53	3.66	6.53	5.73	1.32	7.89	12.84	6.37	4.07	54.94	.18	54.76	.67	103.29	1.32
Western [9]	321	13	149	8.73	4.27	13.03	10.27	2.97	4.78	8.62	8.42	8.64	69.73	.90	68.83	.46	97.07	.70

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Includes miscellaneous labor, irrigating and water, spraying, and spray material.
[2] Sacks and twine, crop insurance, use of implements, use of storage buildings, and overhead.
[3] Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, and Pennsylvania.
[4] Maryland, Virginia, West Virginia, North Carolina, Kentucky, and Tennessee.
[5] South Carolina, Georgia, Florida, Alabama, and Mississippi.
[6] Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, and Nebraska.
[7] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[8] Louisiana, Texas, Oklahoma, and Arkansas.
[9] Montana, Wyoming, Colorado, Utah, Idaho, Washington, Oregon, and California.

TABLE 723.—*Cotton: Cost of production, by yield groups, 1923*

Yield group (pounds of lint per acre)	Number of reports	Average acres in cotton per farm	Average yield of lint per acre	Gross cost per acre										Credit per acre (cotton seed)	Net cost of lint		Value of lint	
				Prepare and plant	Cultivate	Harvest and market	Miscellaneous labor [1]	Fertilizer and manure	Seed	Ginning	Land rent	Miscellaneous costs [2]	Total		Per acre	Per pound	Per acre	Per pound
			Pounds	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
20 and under	32	56	14	3.69	5.25	2.11	0.79	2.94	1.14	0.23	3.52	1.52	21.09	0.74	20.35	1.45	4.28	0.30
21 to 60	249	69	44	3.84	5.24	3.98	.79	4.25	1.25	.59	4.33	2.69	26.96	2.10	24.86	.56	13.32	.30
61 to 100	451	55	89	3.91	5.73	5.57	.79	3.97	1.16	1.33	4.88	2.57	29.91	3.60	26.31	.30	26.55	.30
101 to 140	407	54	124	4.25	6.12	6.69	1.03	3.39	1.24	1.76	4.98	3.06	32.52	5.13	27.39	.22	36.48	.30
141 to 180	394	70	161	4.18	5.92	7.60	1.11	3.55	1.22	1.99	5.09	2.74	34.30	6.79	27.51	.17	47.73	.30
181 to 220	279	51	200	4.37	6.20	8.74	1.36	4.48	1.18	2.23	6.99	3.31	38.77	7.64	31.13	.16	60.59	.30
221 to 260	257	63	245	4.71	6.59	9.85	1.56	5.94	1.40	2.77	7.68	3.33	42.33	9.71	32.62	.13	72.60	.30
261 to 300	165	30	290	5.01	7.08	11.13	1.64	6.27	1.54	3.08	8.05	3.44	47.24	11.00	36.24	.12	87.77	.30
301 to 340	34	56	324	5.28	8.51	13.39	2.46	9.03	1.64	3.32	9.79	5.09	58.29	12.64	45.65	.14	95.34	.30
341 to 380	54	33	356	5.50	7.18	12.13	2.83	8.75	1.48	3.90	9.53	4.10	55.40	12.62	42.78	.12	107.14	.31
381 to 420	94	31	401	5.71	8.62	13.74	2.36	10.41	1.51	3.71	8.91	4.37	59.35	14.98	44.37	.11	124.22	.31
421 to 460	27	31	444	5.82	8.14	14.87	2.91	9.99	1.59	4.46	12.42	4.56	64.76	14.53	50.23	.11	132.63	.31
461 to 500	60	26	495	6.09	7.75	17.71	3.04	9.73	1.55	5.17	10.43	5.54	67.01	17.94	49.07	.10	150.42	.30
501 and over	16	27	618	6.34	7.51	28.28	2.79	13.86	1.44	6.92	10.79	5.07	83.00	26.17	56.83	.09	197.45	.32

Cost of Production Division. From returns to mail inquiry sent to crop reporters.

[1] Includes miscellaneous labor, irrigating and water, dusting, and dusting material.
[2] Includes picking sacks and sheets, crop insurance, use of implements, use of storage buildings, and overhead.

TABLE 724.—*Farmers' Grain-marketing associations: Number and membership, 1924, and amount of business, 1923*

MARKETING ASSOCIATIONS

Geographic division and State	Associations, 1924		Estimated membership, 1924		Estimated business, 1923	
	Number	Per cent	Number of members	Per cent	Dollars	Per cent
					Thousand	
Maine	1	(1)	127	0.1	40	(1)
New Hampshire	1	(1)	120	(1)	135	(1)
Massachusetts	1	(1)	32	(1)	21	(1)
New England	3	0.1	279	.1	196	(1)
New York	5	.2	1,080	.2	2,325	0.4
Pennsylvania	4	.1	484	.1	460	.1
Middle Atlantic	9	.3	1,564	.3	2,785	.5
Ohio	197	6.1	31,323	6.4	31,126	5.5
Indiana	130	4.0	22,673	4.6	15,996	2.9
Illinois	408	12.7	45,878	9.3	77,546	13.8
Michigan	90	2.8	19,046	3.9	15,219	2.7
Wisconsin	52	1.6	8,632	1.7	4,056	.7
East North Central	877	27.2	127,552	25.9	143,943	25.6
Minnesota	278	8.6	45,746	9.3	42,988	7.6
Iowa	347	10.8	44,416	9.0	72,870	13.0
Missouri	162	5.0	29,465	6.0	31,206	5.6
North Dakota	332	10.3	42,680	8.7	52,650	9.4
South Dakota	221	6.9	29,180	5.9	31,360	5.5
Nebraska	346	10.8	44,049	8.9	60,296	10.7
Kansas	321	10.0	53,126	10.8	56,135	10.0
West North Central	2,007	62.4	288,662	58.6	347,505	61.8
Maryland	2	.1	760	.2	600	.1
Virginia	1	(1)	127	(1)	163	(1)
South Atlantic	3	.1	887	.2	763	.1
Kentucky	1	(1)	71	(1)	173	(1)
Tennessee	1	(1)	65	(1)	10	(1)
East South Central	2	.1	136		183	(1)
Arkansas	1	(1)	60		40	(1)
Oklahoma	90	2.8	23,656	4.8	16,227	2.9
Texas	17	.5	5,652	1.2	3,624	.7
West South Central	108	3.3	29,368	6.0	19,891	3.6
Montana	66	2.1	15,484	3.1	15,179	2.7
Idaho	12	.4	1,752	.4	1,668	.3
Wyoming	8	.3	744	.2	736	.2
Colorado	43	1.3	11,118	2.3	9,150	1.6
New Mexico	8	.3	392	.1		
Arizona	1	(1)				
Utah	3	.1	381	.1	96	(1)
Nevada	1	(1)	127	(1)	163	(1)
Mountain	142	4.5	29,998	6.1	26,992	4.8
Washington	42	1.3	6,010	1.2	9,855	1.8
Oregon	9	.3	3,696	.7	3,392	.6
California	14	.4	4,210	.9	6,564	1.2
Pacific	65	2.0	13,916	2.8	19,811	3.6
United States	3,216	100	492,362	100	562,069	100

Division of Agricultural Cooperation.

[1] Less than one-tenth of 1 per cent.

TABLE 725.—*Fruit and vegetable associations: Number of associations and estimated membership, 1923*

Geographic division and State	Total number of associations	Associations reporting number of members	Number of members reported	Average number of members	Estimated member ship	Per cent
Maine	32	5	139	28	896	0.5
Vermont	1			[1] 156	156	.1
Massachusetts	7	2	396	198	1,386	.8
Connecticut	2			[1] 156	312	.2
New England	42	7	535		2,750	1.6
New York	89	62	6,365	103	9,167	5.0
New Jersey	7	3	98	33	231	.1
Pennsylvania	13	10	761	76	988	.5
Middle Atlantic	109	75	7,224		10,386	5.6
Ohio	16	10	863	86	1,376	.7
Indiana	6	3	107	36	288	.2
Illinois	17	3	191	64	1,088	.6
Michigan	55	35	5,148	147	8,085	4.4
Wisconsin	23	6	946	158	3,634	2.0
East North Central	119	57	7,255		14,471	7.9
Minnesota	78	35	3,508	100	7,800	4.3
Iowa	5	2	270	135	675	.4
Missouri	29	16	4,884	293	8,497	4.6
North Dakota	24	10	546	55	1,320	.7
South Dakota	10	3	194	65	650	.4
Nebraska	4	2	453	226	904	.5
Kansas	3	3	140	47	141	.1
West North Central	153	71	9,795		19,987	11.0
Delaware	2	1	75	75	150	.1
Maryland	4	3	1,003	334	1,336	.7
Virginia	10	5	6,426	1,285	12,850	7.0
West Virginia	7	4	109	27	189	.1
North Carolina	12	8	564	70	840	.5
South Carolina	9	6	430	72	648	.4
Georgia	8	3	977	326	2,608	1.4
Florida	82	54	4,524	84	6,888	3.8
South Atlantic	134	84	14,108		25,509	14.0
Kentucky	6	4	948	237	1,422	.8
Tennessee	42	14	2,097	150	6,300	3.4
Alabama	25	13	1,851	142	3,550	1.9
Mississippi	16	2	50	25	400	.2
East South Central	89	33	4,946		11,672	6.3
Arkansas	90	37	2,709	73	6,570	3.6
Louisiana	24	5	861	172	4,128	2.3
Oklahoma	12	4	222	56	672	.4
Texas	54	21	1,089	52	2,808	.5
West South Central	180	67	4,881		14,178	7.8
Montana	6	3	325	108	648	.4
Idaho	20	7	2,444	349	6,980	3.8
Wyoming	3	2	110	55	165	.1
Colorado	38	9	834	93	3,534	1.9
New Mexico	2	2	78	39	78	(2)
Arizona	5	3	245	82	410	.2
Utah	10	4	312	78	780	.4
Mountain	84	30	4,348		12,595	6.8
Washington	50	28	3,901	139	6,950	3.8
Oregon	26	14	5,951	425	11,050	6.0
California	246	163	35,385	217	53,382	29.2
Pacific	322	205	45,237		71,382	39.0
United States	[3] 1,232	629	98,329	156	[4] 182,930	100

Division of Agricultural Cooperation.

[1] Average for the United States.
[2] Less than one-tenth of 1 per cent.
[3] Number reporting to the Department of Agriculture.
[4] Total of estimates for the various States.

TABLE 726.—*Livestock marketing associations: Number and membership, 1924, and amount of business, 1923*

Geographic division and State	Associations 1924		Estimated membership 1924		Estimated business 1923	
	Number	Per cent	Number of members	Per cent	Dollars	Per cent
					Thousands	
Vermont	1	0.1	37	(1)	[2] 108	0.1
New England	1	.1	37	(1)	108	.1
New York	1	.1	[2] 191	0.1	[2] 108	.1
Pennsylvania	1	.1	[2] 191	.1	[2] 108	.1
Middle Atlantic	2	.2	382	.2	216	.2
Ohio	66	4.2	29,304	10.0	15,273	9.4
Indiana	92	5.9	25,852	8.8	11,884	7.3
Illinois	145	9.3	29,870	10.1	15,994	9.8
Michigan	82	5.3	17,466	5.9	8,402	5.1
Wisconsin	139	9.0	28,217	9.6	11,159	6.8
East North Central	524	33.7	130,709	44.4	62,712	38.4
Minnesota	302	19.5	51,038	17.3	28,406	17.4
Iowa	334	21.6	46,092	15.7	42,295	26.0
Missouri	102	6.6	18,870	6.4	7,575	4.6
North Dakota	62	4.0	5,580	1.9	2,094	1.3
South Dakota	88	5.7	17,424	5.9	5,656	3.5
Nebraska	29	1.9	4,698	1.6	3,591	2.2
Kansas	24	1.5	7,608	2.6	2,228	1.4
West North Central	941	60.8	151,310	51.4	91,848	56.4
Virginia	12	.8	2,064	.7	1,295	.8
West Virginia	1	.1	115	(1)	[2] 108	.1
Georgia	1	.1	[2] 191	.1	[2] 108	.1
South Atlantic	14	1.0	2,370	.8	1,511	1.0
Kentucky	8	.5	1,400	.5	1,080	.6
Tennessee	12	.8	2,208	.7	1,295	.8
Alabama	10	.6	1,910	.6	1,079	.6
East South Central	30	1.9	5,518	1.8	3,454	2.0
Arkansas	1	.1	[2] 191	.1	[2] 108	.1
Oklahoma	1	.1	[2] 191	.1	[2] 108	.1
Texas	3	.2	573	.2	324	.2
West South Central	5	.4	955	.4	540	.4
Montana	13	.8	1,092	.4	1,403	.8
Colorado	8	.5	752	.3	264	.1
Arizona	1	.1	[2] 191	.1	[2] 108	.1
Utah	1	.1	335	.1	[2] 108	.1
Nevada	2	.1	52	(1)	216	.1
Mountain	25	1.6	2,422	.9	2,099	1.2
Oregon	2	.1	118	(1)	84	.1
California	3	.2	450	.1	324	.2
Pacific	5	.3	568	.1	408	.3
United States	[3] 1,547	100	[4] 1,294,271	100	[5] 1,162,896	100

Division of Agricultural Cooperation.

[1] Less than one-tenth of 1 per cent.
[2] Average for the United States.
[3] Number reporting to the Department of Agriculture.
[4] Total of the estimates for the various States.
[5] Not including $200,000,000 by cooperative agencies in 19 livestock terminal markets.

TABLE 727.—*Farmers' business associations manufacturing and marketing cheese: Number of associations, estimated membership, 1924, and estimated business, 1923*

Geographic division and State	Associations, 1924		Estimated membership, 1924		Estimated business, 1923	
	Number	Per cent	Number of members	Per cent	Dollars	Per cent
					Thousands	
Maine	1	0.2	60	0.4	25	0.1
New England	1	.2	60	.4	25	.1
New York	33	8.0	1,221	7.4	825	4.9
Pennsylvania	3	.7	102	.6	66	.4
Middle Atlantic	36	8.7	1,323	8.0	891	5.3
Ohio	4	1.0	92	.6	4	(3)
Illinois	5	1.2	110	.7	170	1.0
Michigan	10	2.4	700	4.2	360	2.2
Wisconsin	285	69.0	10,260	62.3	11,685	70.0
East North Central	304	73.6	11,162	67.8	12,219	73.2
Minnesota	21	5.1	735	4.5	756	4.5
Missouri	1	.2	49	.3	42	.3
Kansas	1	.3	400	2.4	18	.1
West North Central	23	5.6	1,184	7.2	816	4.9
Virginia	1	.2	28	.2	7	(3)
North Carolina	4	1.0	292	1.8	36	.2
Georgia	1	.3	14	.1	25	.1
South Atlantic	6	1.5	334	2.1	68	.3
Tennessee	2	.5	48	.3	10	.1
East South Central	2	.5	48	.3	10	.1
Idaho	2	.5	156	.9	74	.5
Utah	3	.7	276	1.7	93	.6
Mountain	5	1.2	422	2.6	167	1.1
Washington	3	.7	1,092	6.6	126	.8
Oregon	33	8.0	825	5.0	2,376	14.2
Pacific	36	8.7	1,917	11.6	2,502	15.0
United States	[1] 413	100	[2] 16,490	100	[2] 16,698	100

Division of Agricultural Cooperation.

[1] Number reporting to the Department of Agriculture.
[2] Total of the estimates for the various States.
[3] Less than one-tenth of 1 per cent.

TABLE 728.—*Farmers' business associations, by kinds of business, as reported to March, 1924*

State and geographic division	Selling associations											Buying associations			Grand total
	Cotton and cotton products	Dairy products	Forage crops	Fruits and vegetables	Grain	Livestock	Nuts	Poultry and poultry products	Tobacco	Wool	Miscellaneous	Total	Merchandise, farmers' stores	Miscellaneous	Total	
Maine		8		32	1					2	12	55	21	8	29	84
New Hampshire		4			1					1	2	8	2	6	8	16
Vermont		42		1		1					11	55		5	5	60
Massachusetts		16		7	1				2	1	4	31		16	16	47
Rhode Island		2									1	3	1	3	4	7
Connecticut		8		2		1		1	2			14		28	28	42
New England		80		42	3	2		1	4	4	30	166	24	66	90	256
New York		78	2	89	3	2		2	1	31	20	228	8	41	49	277
New Jersey											3	10	2	10	12	22
Pennsylvania		59		13	4	2		1	5	6	34	124	8	100	108	232
Middle Atlantic		137	2	109	7	4		3	6	37	57	362	18	151	169	531
Ohio		41		16	196	74			3	7	16	353	11	16	27	380
Indiana		23		8	126	95		1		6	11	270	12	19	31	301
Illinois		19		17	397	154		2		1	20	610	22	8	30	640
Michigan		89		55	83	82		1			77	387	15	18	33	420
Wisconsin		538		23	50	144		1	3		58	817	49	13	62	879
East North Central		710		119	852	549		5	6	14	182	2,437	109	74	183	2,620
Minnesota		548		78	268	300		3		12	25	1,235	86	9	95	1,330
Iowa		228		5	345	334		2		6	17	937	84	18	102	1,039
Missouri	3	13	1	29	153	107		1		1	125	433	35	7	42	475
North Dakota		17		24	326	64				1	4	436	22	1	23	459
South Dakota		28		10	215	93				1	3	350	23	3	26	376
Nebraska		12		4	337	30		1			4	388	86	3	89	477
Kansas		6		3	309	25				2	6	351	68	4	72	423
West North Central	3	852	1	153	1,953	953		7		23	185	4,130	404	45	449	4,579
Delaware		1		2							3	6		5	5	11
Maryland		2		4	2				1		2	11	1	5	6	17
District of Columbia		1										1				1
Virginia		11	1	10	1	14	1	1		2	11	52	17	22	39	91

West Virginia				7		1		1		10	5	24		7	7	31
North Carolina	6	6		12	2				2		9	37	8	8	16	53
South Carolina	4		1	9							1	15		1	1	16
Georgia	14	1		8		1	4		1		17	46	3	2	5	51
Florida		1		82		1		1			4	89	2	1	3	92
South Atlantic	24	23	2	134	5	17	5	3	4	12	52	281	31	51	82	363
Kentucky		6		6		10		5	2	3	8	40	11	7	18	58
Tennessee	3	18	1	42	1	13	1	2	2	5	23	111	3	1	4	115
Alabama	12	4	1	25		10	1	1			16	70		5	5	75
Mississippi	3	3		16				2			26	50				50
East South Central	18	31	2	89	1	33	2	10	4	8	73	271	14	13	27	298
Arkansas	8			90	2	1		2		1	7	111	11	3	14	125
Louisiana	1	1		24	5				1		5	37	1	1	2	39
Oklahoma	8	2		12	89	2	1				12	126	16	2	18	144
Texas	43	7	2	54	17	4	2	8		2	31	170	10	4	14	184
West South Central	60	10	2	180	113	7	3	10	1	3	55	444	38	10	48	492
Montana		5		6	60	13				2	7	93	10	3	13	106
Idaho		9	1	20	13					1	9	53	6	2	8	61
Wyoming		1		3	8					1	3	16	2	1	3	19
Colorado		8		38	42	10				3	7	108	6		6	114
New Mexico		1	2	2	7					1	5	18				18
Arizona	2	1	1	5	1	1		1			8	20	1	2	3	23
Utah		9		10	3	1		5		1	7	36	4	2	6	42
Nevada					1	2					1	4				4
Mountain	2	34	4	84	135	27		6		9	47	348	29	10	39	387
Washington		24		50	42			2		1	7	126	39	4	43	169
Oregon		42	1	26	9	2	1	1		2	9	93	4	2	6	99
California		23	6	246	14	4	40	8		2	12	355	7	4	11	366
Pacific		89	7	322	65	6	41	11		5	28	574	50	10	60	634
United States	107	1,966	20	1,232	3,134	1,598	51	56	25	115	709	9,013	717	430	1,147	10,160

Division of Agricultural Cooperation.

TABLE 729.—*Active farmers' business associations reporting date of organization, 1863–1923*

Year	Grain	Fruit and vegetables	Creameries and cheese factories	Livestock	Total	Year	Grain	Fruit and vegetables	Creameries and cheese factories	Livestock	Total
1863			1		1	1900	11	5	39		55
1870			1		1	1901	7	9	32	1	49
1873			3		3	1902	26	5	28	1	60
1878		1			1	1903	42	2	28		72
1879			1		1	1904	55	1	32		88
1880			1		1	1905	78	7	27	1	113
1881						1906	72	8	39	3	122
1882			2		2	1907	76	5	31	2	114
1883			5		5	1908	93	14	39	1	147
1884			2		2	1909	93	18	42	2	155
1885			3		3	1910	73	15	46	8	142
1886		1	2		3	1911	86	12	54	13	165
1887	2		6		8	1912	127	15	75	14	231
1888	3		11		14	1913	100	23	57	12	192
1889	3		14		17	1914	145	28	81	30	284
1890	2	1	16	1	20	1915	198	26	72	48	344
1891	3	1	18		22	1916	216	33	80	49	378
1892	6	1	22		29	1917	198	14	87	46	345
1893	4	7	18		29	1918	229	33	72	61	395
1894	3	1	31		35	1919	383	42	82	111	618
1895	4	3	27		34	1920	314	84	78	109	585
1896	5	2	40		47	1921	117	103	61	142	423
1897	5	5	34	1	45	1922	56	73	34	90	253
1898	5	4	41		50	1923	23	11	15	28	77
1899	7	3	21		31						

Division of Agricultural Cooperation.

TABLE 730.—*Farmers' business associations: Number of associations, membership, and estimated amount of business, by geographic divisions and by class of products, 1915 and 1923*

BY GEOGRAPHIC DIVISIONS

	Associations				Membership				Estimated business			
	1915		1923		1915		1923		1915		1923	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Amount	Per cent	Amount	Per cent
									Thousands		*Thousands*	
New England	157	2.9	256	2.5	20,952	3.2			$6,974	1.0	$68,200	3.1
Middle Atlantic	210	3.9	531	5.2	63,971	9.8			56,096	8.8	275,000	12.5
East North Central	973	17.9	2,620	25.8	107,331	16.5			90,114	14.2	338,800	15.4
West North Central	2,577	47.5	4,579	45.1	254,425	39.1			286,535	45.1	635,800	28.9
South Atlantic	329	6.1	363	3.6	37,097	5.7			10,289	1.6	145,200	6.6
East South Central	215	3.9	298	2.9	35,834	5.5			7,170	1.2	189,200	8.6
West South Central	315	5.8	492	4.9	30,793	4.7			7,684	1.2	92,400	4.2
Mountain	232	4.3	387	3.8	34,731	5.4			20,486	3.2	41,800	1.9
Pacific	416	7.7	634	6.2	65,950	10.1			150,531	23.7	413,600	18.8
United States	5,424	100	10,160	100	651,084	100			635,839	100	2,200,000	100

TABLE 730.—*Farmers' business associations: Number of associations, membership, and estimated amount of business, by geographic divisions and by class of products, 1915 and 1923*—Continued

BY CLASS OF PRODUCTS

	Associations				Membership				Estimated business			
	1915		1923		1915		1923		1915		1923	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Amount	Per cent	Amount	Per cent
									Thousands		*Thousands*	
Dairy products	1,708	31.5	1,966	19.4	140,567	21.6	200,000	9.9	$89,062	14.0	$400,000	18.2
Grain	1,637	30.2	3,134	30.8	166,726	25.6	400,000	19.8	289,689	45.6	600,000	27.3
Fruits and vegetables	871	16.0	1,232	12.1	109,916	16.9	200,000	9.9	201,543	31.7	300,000	13.6
Merchandise (farmers' stores)	275	5.1	717	7.1	59,503	9.1	150,000	7.4	11,077	1.8	50,000	2.3
Cotton and cotton products	213	3.9	107	1.1	18,404	2.8	250,000	12.3	1,502	.2	100,000	4.5
Livestock	96	1.8	1,598	15.7	15,438	2.1	250,000	12.3	5,624	.9	1 250,000	11.3
Tobacco	43	.8	25	.2	17,849	2.7	290,000	14.3	6,450	1.0	150,000	6.8
All others	581	10.7	1,381	13.6	124,681	19.2	285,000	14.1	30,292	4.8	350,000	16.0
Total	5,424	100	10,160	100	651,084	100	2,025,000	100	635,839	100	2,200,000	100

Division of Agricultural Cooperation.

[1] Not including $200,000,000 by cooperative selling agencies in 19 livestock terminal markets.

TABLE 731.—*Farmers' business associations: Amount of business, 1913, 1914 1916, 1921, and 1922*

State and geographic division	1913		1914[1]		1916		1921		1922	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
		Thousands		*Thousands*		*Thousands*		*Thousands*		*Thousands*
Maine	26	$3,118	31	$3,847	4	$153	67	$8,718	25	$6,443
New Hampshire	5	121	5	121	----	----	11	1,049	6	712
Vermont	15	688	5	252	5	516	44	6,149	44	6,340
Massachusetts	18	1,922	17	811	1	78	36	6,058	18	4,093
Rhode Island	2	102	1	34	----	----	7	1,030	4	697
Connecticut	13	613	10	500	4	64	31	948	11	9,420
New England	79	6,564	69	5,565	14	811	196	23,952	108	27,705
New York	71	11,580	71	5,242	12	1,483	180	79,633	136	98,655
New Jersey	8	2,155	8	2,009	1	109	15	4,917	7	3,593
Pennsylvania	36	1,485	43	1,166	7	256	141	9,763	80	8,537
Middle Atlantic	115	15,220	122	8,517	20	1,848	336	94,313	223	110,785
Ohio	61	3,976	56	5,003	17	2,374	268	39,248	113	20,431
Indiana	49	3,438	44	2,052	9	919	192	20,859	79	7,549
Illinois	174	25,696	161	23,870	44	8,385	442	70,328	188	29,433
Michigan	82	5,077	75	5,877	22	2,556	339	39,083	197	26,124
Wisconsin	275	12,837	218	10,769	88	6,431	710	58,268	604	52,448
East North Central	641	51,024	554	47,571	180	20,665	1,951	227,786	1,181	135,985
Minnesota	648	40,120	529	32,345	189	15,282	1,048	138,936	769	74,678
Iowa	371	38,421	261	24,680	117	14,649	767	97,678	421	51,399
Missouri	45	2,023	51	2,407	6	283	323	96,612	154	60,705
North Dakota	162	20,122	145	16,908	83	12,383	329	36,621	91	9,317
South Dakota	108	10,856	112	12,813	67	9,822	274	32,734	118	11,516
Nebraska	122	14,378	160	20,063	75	14,399	379	62,605	144	25,426
Kansas	128	13,894	139	21,364	60	9,720	349	68,628	131	32,963
West North Central	1,584	139,820	1,397	130,580	597	76,538	3,469	533,814	1,828	255,993
Delaware	4	560	3	64	2	5	6	222	2	90
Maryland	7	1,488	8	288	1	1	12	4,320	7	2,250
Virginia	15	5,936	18	366	4	42	66	27,412	28	19,874
West Virginia	1	9	3	25	2	110	24	330	7	311
North Carolina	40	4,996	33	6,050	9	247	37	2,791	24	20,915
South Carolina	13	790	23	698	1	291	10	2,643	8	2,653
Georgia	19	2,028	18	2,022	1	60	27	2,187	8	806
Florida	29	1,983	33	2,340	3	250	48	10,757	51	11,339
South Atlantic	128	17,790	139	11,853	23	1,006	230	50,662	135	58,260

[1] Compiled from Department Bulletin No. 547.

TABLE 733.—*Freight tonnage originating on railways in the United States, 1899–1924*—Continued

[Thousand short tons—i. e., 000 omitted]

Commodity	Year ended June 30—					
	1905	1906	1907	1908	1909	1910
FARM PRODUCTS						
Animal products:	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
Animals, live—						
Horses and mules Cattle and calves Sheep and goats *Hogs*	10,612	11,089	11,728	11,541	11,699	11,502
Packing-house products—						
Fresh meats	1,617	1,814	1,953	2,081	2,132	2,274
Hides and leather	982	1,028	1,083	938	1,156	1,215
Other packing-house products	2,502	2,481	2,312	2,055	1,982	1,761
Total packing-house products	5,101	5,323	5,348	5,074	5,270	5,250
Eggs						
Butter and cheese						
Poultry	750	868	839	717	713	698
Wool	387	353	330	317	404	367
Other animals and products	1,305	1,370	2,229	1,986	2,508	2,477
Total animal products	18,155	19,003	20,474	19,635	20,594	20,294
Vegetable products:						
Cotton	3,962	3,429	4,333	3,419	3,950	3,024
Fruits and vegetables	9,231	8,921	9,719	9,517	9,763	11,340
Potatoes						
Grain and grain products—						
Grain—						
Wheat Corn Oats Other grain	30,906	35,856	36,715	33,058	34,111	37,421
Grain products—						
Flour and meal	6,590	7,332	7,880	6,872	7,745	8,039
Other mill products	4,639	5,043	5,698	5,153	5,210	6,005
Total grain and grain products	42,135	48,231	50,293	45,083	47,066	51,465
Hay, straw, and alfalfa	5,192	5,480	5,848	5,446	5,454	5,976
Sugar, sirup, glucose, and molasses	2,574	2,794	2,610	2,589	2,499	2,848
Tobacco	834	882	928	803	794	943
Other vegetable products	3,283	3,259	5,908	5,398	6,656	5,989
Total vegetable products	67,211	72,996	79,639	72,255	76,182	81,585
Total farm products	85,366	91,999	100,113	91,890	96,776	101,879
OTHER FREIGHT						
Products of mines	383,562	435,450	476,900	444,216	459,561	544,604
Products of forests	80,437	92,187	101,618	90,475	97,105	113,011
Manufactures	94,759	118,605	135,011	102,271	106,178	136,830
Merchandise, all l. c. l. freight	71,539	81,864	79,543	68,364	66,873	72,140
Total tonnage	715,663	820,105	893,185	797,216	826,493	968,464

TABLE 738.—*Freight tonnage originating on railways in the United States, 1899–1924*—Continued

[Thousand short tons—i. e., 000 omitted]

Commodity	Year ended June 30—					
	1911	1912	1913	1914	1915	1916
FARM PRODUCTS						
Animal products:	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
Animals, live—						
Horses and mules, Cattle and calves, Sheep and goats, Hogs	13,991	14,147	15,042	14,811	15,021	16,964
Packing-house products—						
Fresh meats	2,330	2,346	2,407	2,283	2,503	2,656
Hides and leather	1,096	1,139	1,121	1,081	1,150	1,401
Other packing-house products	2,249	2,360	2,345	2,375	2,541	2,775
Total packing-house products	5,675	5,845	5,873	5,739	6,194	6,832
Eggs						
Butter and cheese						
Poultry	719	768	847	915	862	1,017
Wool	275	407	398	409	370	503
Other animals and products	3,003	3,807	4,286	5,264	4,213	4,629
Total animal products	23,763	24,974	26,446	27,138	26,660	29,945
Vegetable products:						
Cotton	3,486	4,953	3,942	4,141	5,013	4,052
Fruits and vegetables	11,747	12,880	16,099	16,795	17,898	18,192
Potatoes						
Grain and grain products—						
Grain—						
Wheat, Corn, Oats, Other grain	41,058	39,299	50,945	46,015	53,447	57,686
Grain products—						
Flour and meal	8,634	8,629	9,523	9,097	9,597	10,472
Other mill products	6,490	7,081	7,830	7,824	8,036	7,993
Total grain and grain products	56,182	55,009	68,298	63,536	71,080	76,151
Hay, straw, and alfalfa	6,307	6,828	7,145	7,319	7,049	7,373
Sugar, sirup, glucose, and molasses	2,883	3,233	3,569	3,926	3,727	3,917
Tobacco	934	982	1,091	1,071	1,052	1,096
Other vegetable products	6,910	10,125	9,493	9,338	10,348	8,938
Total vegetable products	88,449	94,010	109,667	106,126	116,767	119,639
Total farm products	112,212	118,984	136,113	133,264	143,427	149,641
OTHER FREIGHT						
Products of mines	539,256	566,538	650,940	626,076	556,582	706,029
Products of forests	108,506	100,148	112,079	110,878	93,971	106,857
Manufactures	132,293	136,716	161,933	145,257	132,410	182,916
Merchandise, all l. c. l. freight	74,967	75,897	83,775	78,649	76,014	92,777
Total tonnage	967,234	998,283	1,144,840	1,094,124	1,002,404	1,238,223

TABLE 733.—*Freight tonnage originating on railways in the United States, 1899–1924*—Continued

[Thousand short tons—i.e.,000 omitted]

Commodity	Calendar year					
	1916	1917	1918	1919	1920	1921
FARM PRODUCTS						
Animal products:	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
Animals, live—						
Horses and mules	17,294	17,906	19,263	19,395	936	428
Cattle and calves					9,809	8,522
Sheep and goats					1,344	1,175
Hogs					5,421	5,504
Packing-house products—						
Fresh meats	2,808	2,966	3,714	3,398	2,770	2,578
Hides and leather	1,396	1,357	1,303	1,371	1,051	972
Other packing-house products	2,633	2,567	3,510	3,736	2,206	2,094
Total packing-house products	6,837	6,890	8,527	8,505	6,027	5,644
Eggs					536	551
Butter and cheese					425	434
Poultry	1,097	1,022	1,155	1,322	264	276
Wool	505	499	494	547	202	400
Other animals and products	4,740	5,541	6,339	5,724	1,540	1,329
Total animal products	30,473	31,858	35,778	35,493	26,594	24,263
Vegetable products:						
Cotton	4,212	3,552	3,552	3,803	3,379	3,191
Fruits and vegetables	17,621	17,679	18,737	19,726	10,045	9,255
Potatoes					4,118	4,639
Grain and grain products—						
Grain—						
Wheat	55,685	46,372	55,881	52,375	23,131	29,039
Corn					12,689	17,218
Oats					8,615	7,542
Other grain					5,669	4,568
Grain products—						
Flour and meal	10,319	10,065	10,589	11,670	10,952	10,553
Other mill products	8,234	8,413	8,630	9,079	8,891	7,881
Total grain and grain products	74,238	64,850	75,100	73,124	69,947	76,801
Hay, straw, and alfalfa	7,243	8,315	8,241	7,483	7,957	5,154
Sugar, sirup, glucose, and molasses	3,763	4,235	4,264	4,934	5,664	4,767
Tobacco	1,016	1,029	1,160	1,203	1,081	927
Other vegetable products	9,305	9,205	9,260	9,604	15,251	15,186
Total vegetable products	117,398	108,865	120,254	119,967	117,442	119,920
Canned goods (food products)					3,074	2,627
Total farm products	147,871	140,723	156,032	155,460	147,110	146,810
OTHER FREIGHT						
Products of mines	680,123	732,653	734,797	589,951	712,154	511,271
Products of forests	93,819	100,838	97,256	94,076	100,766	76,419
Manufactures	185,025	188,796	176,202	163,825	242,189	163,691
Merchandise, all l. c. l. freight	95,162	101,006	99,057	92,799	53,202	41,992
Total tonnage	1,202,000	1,264,016	1,263,344	1,096,111	1,255,421	940,183

TABLE 733—*Freight tonnage originating on railways in the United States, 1899–1924*—Continued

[Thousand short tons—i. e., 000 omitted]

Commodity	Calendar year		
	1922	1923 [1]	1924 [1]
FARM PRODUCTS			
Animal products:	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
Animals, live—			
Horses and mules	491	603	531
Cattle and calves	9,567	9,403	9,316
Sheep and goats	1,159	1,159	1,215
Hogs	5,795	6,947	6,707
Packing-house products—			
Fresh meats	2,614	3,022	3,001
Hides and leather	1,081	1,084	1,025
Other packing-house products	2,049	2,395	2,395
Total packing-house products	5,744	6,501	6,421
Eggs	565	595	572
Butter and cheese	507	571	649
Poultry	292	357	376
Wool	360	290	294
Other animals and products	1,750	1,811	1,668
Total animal products	26,230	28,237	27,749
Vegetable products:			
Cotton	3,074	2,875	3,261
Fruits and vegetables	9,683	10,378	10,868
Potatoes	4,829	4,697	4,590
Grain and grain products—			
Grain—			
Wheat	24,805	23,095	27,442
Corn	19,275	15,174	14,883
Oats	7,646	8,296	8,507
Other grain	5,245	4,738	5,616
Grain products—			
Flour and meal	10,694	10,482	10,330
Other mill products	9,000	9,988	10,083
Total grain and grain products	76,665	71,773	76,861
Hay, straw and alfalfa	5,723	5,966	5,802
Sugar, sirup glucose and molasses	5,091	4,881	5,356
Tobacco	882	1,097	1,069
Other vegetable products	11,868	13,369	15,277
Total vegetable products	117,815	115,036	123,084
Canned goods (food products)	3,106	3,440	3,731
Total farm products	147,151	146,713	154,564
OTHER FREIGHT			
Products of mines	532,998	713,384	638,520
Products of forests	89,059	115,220	106,090
Manufactures	211,308	257,688	246,432
Merchandise, all l. c. l. freight	43,229	44,314	40,551
Total tonnage	1,023,745	1,277,319	1,188,157

Division of Statistical and Historical Research. Compiled from reports of the Interstate Commerce Commission.

[1] Preliminary.

TABLE 734.—*Freight rates on wheat, in effect September, 1924*

From—	To—	Rate per 100 pounds	From—	To—	Rate per 100 pounds
		Cents			*Cents*
Withrow, Wash.	Wenatchee, Wash.	16.0	Beloit, Kans.	Kansas City, Mo.	18.0
Do.	Tacoma, Wash.	25.5	Brewster, Kans.	do.	20.5
Do.	Spokane, Wash.	28.0	Abilene, Kans.	do.	17.5
Harrington, Wash.	do.	7.0	Great Bend, Kans.	do.	19.5
Do.	Seattle, Wash.	24.0	McPherson, Kans.	do.	19.0
Colfax, Wash.	do.	24.0	Hutchinson, Kans.	Minneapolis, Minn.	36.5
Do.	Portland, Oreg.	24.0	Do.	Kansas City, Mo.	19.0
Pomeroy, Wash.	do.	23.0	Do.	New Orleans, La.	46.5
Pendleton, Oreg.	do.	18.5	Do.	Galveston, Tex.	49.0
Marion, Oreg.	do.	14.0	Bucklin, Kans.	Minneapolis, Minn.	37.5
Kingdon, Calif.	San Francisco, Calif.	10.0	Do.	Kansas City, Mo.	20.0
Moscow, Idaho.	Seattle, Wash.	24.0	Harper, Kans.	do.	19.0
Caldwell, Idaho.	do.	37.0	Galena, Kans.	do.	13.5
Twin Falls, Idaho.	Portland, Oreg.	44.0	Enid, Okla.	do.	23.5
Idaho Falls, Idaho.	do.	44.0	Do.	New Orleans, La.	43.5
Bozeman, Mont.	Seattle, Wash.	38.5	Do.	Galveston, Tex.	43.0
Do.	Portland, Oreg.	38.5	Do.	Fort Worth, Tex.	33.0
Scobey, Mont.	Duluth, Minn.	37.5	Cordell, Okla.	Oklahoma City, Okla.	19.0
Do.	Minneapolis, Minn.	37.5	Amarillo, Tex.	Fort Worth, Tex.	28.0
Wheelock, N. Dak.	Duluth, Minn.	27.0	Do.	Galveston, Tex.	28.0
Do.	Minneapolis, Minn.	27.0	Osakis, Minn.	Duluth, Minn.	14.0
Wales, N. Dak.	Duluth, Minn.	19.5	Do.	Minneapolis, Minn.	12.5
Do.	Minneapolis, Minn.	19.5	Winterset, Iowa.	Chicago, Ill.	20.5
Leeds, N. Dak.	Duluth, Minn.	20.0	Do.	St. Louis, Mo.	20.5
Do.	Minneapolis, Minn.	20.5	Marshall, Mo.	do.	17.5
Adams, N. Dak.	Duluth, Minn.	19.5	Golden City, Mo.	do.	20.5
Do.	Minneapolis, Minn.	19.5	Do.	Springfield, Mo.	10.5
Leal, N. Dak.	Duluth, Minn.	20.0	La Prairie, Ill.	St. Louis, Mo.	11.5
Do.	Minneapolis, Minn.	20.0	Lincoln, Ill.	Chicago, Ill.	12.5
Makoti, N. Dak.	Duluth, Minn.	25.5	Jerseyville, Ill.	do.	14.5
Do.	Minneapolis, Minn.	25.5	Do.	Peoria, Ill.	11.5
Dickinson, N. Dak.	Duluth, Minn.	28.0	Do.	St. Louis, Mo.	9.5
Do.	Minneapolis, Minn.	28.0	Belleville, Ill.	do.	9.5
Groton, S. Dak.	do.	24.0	Carmi, Ill.	Chicago, Ill.	20.5
Wessington, S. Dak.	do.	21.0	Do.	St. Louis, Mo.	17.5
Do.	Sioux City, Iowa.	20.0	Schoolcraft, Mich.	Chicago, Ill.	15.5
Do.	Milwaukee, Wis.	34.0	Shelbyville, Ind.	Indianapolis, Ind.	9.0
Chappell, Nebr.	Omaha, Nebr.	24.5	Do.	Chicago, Ill.	17.5
Do.	Kansas City, Mo.	31.0	Fostoria, Ohio.	New York, N. Y.	28.5
Exeter, Nebr.	Omaha, Nebr.	16.5	Do.	Baltimore, Md.	25.5
Do.	Kansas City, Mo.	19.0	Orrville, Ohio.	New York, N. Y.	28.0
Beaver City, Nebr.	Omaha, Nebr.	21.0	Lancaster, Pa.	Philadelphia, Pa.	11.5
Do.	Kansas City, Mo.	21.0	Do.	Baltimore, Md.	15.5
Beatrice, Nebr.	St. Louis, Mo.	28.0	Do.	New York, N. Y.	19.0
Do.	Kansas City, Mo.	17.0	Hagerstown, Md.	do.	24.0
Phillipsburg, Kans.	do.	19.5	Do.	Baltimore, Md.	18.5
Marysville, Kans.	do.	14.5	Staunton, Va.	do.	22.5

Division of Statistical and Historical Research Supplied by Interstate Commerce Commission.

TABLE 735.—*Butter: Changes in domestic freight rates, all rail shipments, 1913–September, 1924*

Destination and point of origin	Date	Rate per 100 pounds
		Cents
Atlanta, Ga.:		
From Chicago, Ill.	Jan. 1, 1913	133.0
	Jan. 1, 1916	142.0
	Feb. 1, 1918	142.7
	June 5, 1918	150.5
	June 25, 1918	188.5
	Aug. 1, 1919	176.5
	July 15, 1920	177.0
	Aug. 15, 1920	144.5
	Aug. 26, 1920	187.0
	Jan. 1, 1922	181.0
	July 1, 1922	168.5
Boston, Mass.:		
From Newport, Va.	Jan. 1, 1913	40.0
	Apr. 1, 1914	39.0
	Aug. 1, 1917	45.0
	June 25, 1918	56.5
	Aug. 1, 1919	46.5
	Dec. 31, 1919	46.0
	Aug. 26, 1920	64.5
	Jan. 1, 1922	58.0
	Sept. 1, 1922	58.5
From Chicago, Ill.	Jan. 1, 1913	71.0
	Jan. 15, 1915	74.3
	July 16, 1917	85.0
	June 25, 1918	106.5
	Feb. 15, 1919	105.0
	Aug. 1, 1919	80.0
	Aug. 26, 1920	110.0
	Jan. 1, 1922	99.5
From Topeka, Kan.	Jan. 1, 1913	117.5
	Feb. 15, 1914	102.5
	Feb. 15, 1916	105.4
	July 16, 1917	114.0
	June 25, 1918	143.0
	Feb. 15, 1919	142.0
	Aug. 26, 1920	194.0
	July 1, 1922	175.0
	June 15, 1924	176.0
Chicago, Ill.:		
From Coopersville, Mich.	Jan. 1, 1913	27.0
	Apr. 15, 1913	28.5
	Oct. 26, 1914	29.9
	Sept. 20, 1917	41.0
	June 25, 1918	51.5
	Aug. 1, 1919	40.5
	Aug. 26, 1920	56.5
	July 1, 1922	51.0
Chicago, Ill.—Contd		
From Barron, Wis.	Jan. 1, 1913	44.0
	June 25, 1918	55.0
	Aug. 26, 1920	74.5
	July 1, 1922	67.0
New Orleans, La.:		
From Marshfield, Mo.	Jan. 1, 1913	90.0
	Jan. 1, 1916	110.0
	June 25, 1918	143.0
	Feb. 29, 1920	171.0
	Aug. 15, 1920	141.0
	Aug. 26, 1920	181.0
	Mar. 1, 1921	208.5
	Jan. 1, 1922	198.0
	Apr. 1, 1922	205.5
	July 1, 1922	195.0
New York, N. Y.:		
From Chicago, Ill.	Jan. 1, 1913	65.0
	Jan. 15, 1915	69.3
	July 16, 1917	79.0
	June 25, 1918	99.0
	Aug. 1, 1919	75.0
	Aug. 26, 1920	105.0
	Jan. 1, 1922	94.5
From Long Prairie, Minn.	Jan. 1, 1913	121.0
	Aug. 20, 1913	114.3
	Jan. 15, 1915	116.8
	July 16, 1917	124.3
	June 25, 1918	155.5
	Aug. 26, 1920	213.5
	Jan. 1, 1922	207.0
	July 1, 1922	192.5
From Eureka, Calif.	Sept. 29, 1915	310.0
	Oct. 11, 1915	245.0
	Apr. 18, 1916	225.0
	June 25, 1918	281.5
	Aug. 26, 1920	373.0
	Jan. 1, 1922	335.5
Philadelphia, Pa.:		
From Chicago, Ill.	Jan. 1, 1913	63.0
	Jan. 15, 1915	66.3
	July 16, 1917	77.0
	June 25, 1918	96.5
	Feb. 15, 1919	97.0
	Aug. 1, 1919	73.0
	Aug. 26, 1920	103.0
	Jan. 1, 1922	92.5

Division of Statistical and Historical Research. Compiled from information furnished by the Interstate Commerce Commission. The rates last shown are those in effect during September, 1924.

TABLE 736.—*Cheese: Changes in domestic freight rates, all-rail shipments, 1918–September, 1924*

Destination, and point of origin	Date	Rate per 100 pounds	Destination, and point of origin	Date	Rate per 100 pounds
		Cents			*Cents*
Atlanta, Ga.:			Chicago, Ill.:		
From Plymouth, Wis.	Jan. 1, 1913	150.0	From Plymouth, Wis.	Jan. 1, 1913	18.0
	June 10, 1914	132.8		June 25, 1918	22.5
	Feb. 1, 1915	133.4		Aug. 26, 1920	30.5
	Jan. 1, 1916	142.4		Jan. 1, 1922	27.5
	June 25, 1918	178.0	From Wausau, Wis.	Jan. 1, 1913	33.0
	Feb. 15, 1920	199.0		June 25, 1918	41.5
	Aug. 26, 1920	215.0		Aug. 26, 1920	56.0
	May 26, 1921	194.5		July 1, 1922	50.5
	Jan. 11, 1922	188.0	Cincinnati, Ohio:		
	July 1, 1922	175.5	From Plymouth, Wis.	Jan. 1, 1913	52.0
	Dec. 10, 1923	190.5		June 25, 1918	65.0
From Wausau, Wis.	Jan. 1, 1913	150.0		Aug. 26, 1920	88.0
	Jan. 1, 1916	159.0		Jan. 1, 1922	79.0
	June 25, 1918	199.0	New York, N. Y.:		
	Aug. 15, 1920	166.5	From Plymouth, Wis.	Jan. 1, 1913	55.8
	Aug. 26, 1920	215.0		Jan. 15, 1915	58.4
	Jan. 1, 1922	206.0		Mar. 29, 1918	65.8
	July 1, 1922	193.5		June 25, 1918	82.5
	Dec. 10, 1923	190.5		Aug. 26, 1920	110.0
Boston, Mass.:				Jan. 1, 1922	99.0
From Watertown, N. Y.	Jan. 1, 1913	33.0		Jan. 15, 1922	115.0
	Feb. 23, 1915	34.7		July 1, 1922	103.5
	June 8, 1915	34.5	San Francisco, Calif.:		
	Aug. 1, 1917	39.0	From Tillamook, Oreg.	Jan. 1, 1913	61.0
	June 25, 1918	49.0		June 25, 1918	76.5
	Dec. 29, 1919	48.0		Aug. 26, 1920	96.0
	Aug. 26, 1920	67.0		Jan. 1, 1922	86.5
	Jan. 1, 1922	60.0			
	Jan. 3, 1922	59.5			

Division of Statistical and Historical Research. Compiled from information furnished by the Interstate Commerce Commission. The rates last shown are those in effect during September, 1924.

TABLE 737.—*Tobacco, leaf: Changes in domestic freight rates, all-rail shipments, June, 1918–1924*

Destination, and point of origin	Date	Rate per 100 pounds	Destination, and point of origin	Date	Rate per 100 pounds
		Cents			*Cents*
Baltimore, Md.:			Chicago, Ill.—Continued.		
From Bedford, Va. (hogsheads)	June 1, 1913	26.0	From Springfield, Mass. (cases)	June 1, 1913	35.0
	June 1, 1915	27.3		June 1, 1915	36.8
	June 1, 1918	31.5		June 1, 1918	42.0
	June 25, 1918	40.5		June 25, 1918	52.5
	Aug. 26, 1920	56.5		Aug. 26, 1920	73.5
	Jan. 1, 1922	51.0		Jan. 1, 1922	66.0
Chicago, Ill.:			Cincinnati, Ohio:		
From Dayton, Ohio (cases)	June 1, 1913	16.5	From Dayton, Ohio (cases).[1]	Jan. 1, 1918	15.0
	June 1, 1915	17.3		June 25, 1918	19.0
	June 1, 1918	25.0		Feb. 29, 1920	18.5
	June 25, 1918	31.5		Aug. 26, 1920	26.0
	Aug. 26, 1920	44.0		July 1, 1922	23.5
	Jan. 1, 1922	39.5	Danville, Va.:		
From Edgerton, Wis. (cases)	June 1, 1913	17.5	From Chase City, Va. (hogsheads).[2]	June 1, 1913	21.0
	June 25, 1918	22.0		Oct. 23, 1915	19.0
	Aug. 26, 1920	33.5		June 25, 1918	24.0
	Jan. 1, 1922	30.0		Aug. 31, 1920	30.0
From Lancaster, Pa. (cases)	June 1, 1913	33.0		Jan. 1, 1922	27.0
	June 1, 1915	34.8	Durham, N. C.:		
	June 1, 1918	40.0	From Chase City, Va. (hogsheads)	June 1, 1913	21.0
	June 25, 1918	50.5		June 25, 1918	26.5
	Aug. 26, 1920	71.5		Aug. 26, 1920	33.0
	Jan. 1, 1922	64.0		Jan. 1, 1922	29.5
From Quincy, Fla. (cases)	June 1, 1913	95.0	From Darlington, S. C. (hogsheads)	June 1, 1913	36.0
	June 1, 1918	103.5		June 25, 1918	45.0
	June 25, 1918	129.5		Aug. 26, 1920	56.5
	Aug. 26, 1920	167.0		Jan. 1, 1922	51.0
	Jan. 1, 1922	150.5			

[1] Rates supplied by the Public Utilities Commission of Ohio.
[2] Rates supplied by the Virginia State Corporation Commission.

TABLE 737.—*Tobacco, leaf: Changes in domestic freight rates, all-rail shipments, June, 1913–1924*—Continued

Destination, and point of origin	Date	Rate per 100 pounds
		Cents
Durham, N. C.→Con.		
From South Hill, Va. (hogsheads)	June 1, 1913	19.0
	June 25, 1918	24.0
	Aug. 26, 1920	30.0
	Jan. 1, 1922	27.0
Louisville, Ky.:		
From Cincinnati, Ohio (hogsheads)	June 1, 1913	10.0
	Oct. 26, 1914	10.5
	Apr. 22, 1918	12.0
	June 25, 1918	15.0
	Aug. 26, 1920	21.0
	Jan. 1, 1922	19.0
From Lexington, Ky. (hogsheads) [3]	June 1, 1913	15.0
	June 25, 1918	19.0
	Aug. 26, 1920	24.0
	July 1, 1922	21.5
Lynchburg, Va.:		
From Blackstone, Va. (hogsheads) [2]	June 1, 1913	19.0
	June 25, 1918	24.0
	Nov. 26, 1918	27.5
	Aug. 31, 1920	38.5
	Jan. 1, 1922	34.5
New York, N. Y.:		
From Dayton, Ohio (cases)	June 1, 1913	29.5
	June 1, 1915	30.0
	June 1, 1918	35.5
	June 25, 1918	44.5
	June 1, 1919	44.0
	Aug. 26, 1920	61.5
	Jan. 1, 1922	55.5
From Edgerton, Wis. (cases)	June 1, 1913	49.0
	June 1, 1915	50.8
	June 1, 1918	56.0
	June 25, 1918	70.0
	June 1, 1920	65.5
	Aug. 26, 1920	91.5
	Jan. 1, 1922	83.0
	July 1, 1922	82.5
From Hartford, Conn. (cases)	June 1, 1913	13.0
	June 1, 1915	15.0
	June 1, 1918	17.5
	June 25, 1918	24.5
	Aug. 26, 1920	34.5
	Jan. 1, 1922	31.0
From Lancaster, Pa. (cases)	June 1, 1913	17.0
	June 1, 1915	17.9
	June 1, 1918	20.5
	June 25, 1918	25.5
	Aug. 26, 1920	35.5
	Jan. 1, 1922	32.0
From Lexington, Ky. (hogsheads)	June 1, 1913	35.0
	Jan. 28, 1915	36.8
	July 30, 1917	42.0
	June 25, 1918	52.5
	Aug. 26, 1920	73.5
	Jan. 1, 1922	66.0
From Quincy, Fla. (cases)	June 1, 1913	95.0
	June 1, 1916	85.0
	June 25, 1918	106.5
	Aug. 26, 1920	142.0
	Jan. 1, 1922	128.0
From Springfield, Mass. (cases)	June 1, 1913	13.0
	June 1, 1914	15.0
	June 1, 1918	17.5
	June 25, 1918	22.0
	June 1, 1920	24.5
	Aug. 26, 1920	34.5
	Jan. 1, 1922	31.0
Norfolk, Va.:		
From Bedford, Va. (hogsheads) [2]	June 1, 1913	25.0
	June 25, 1918	31.5
	Nov. 26, 1918	36.5
	Aug. 31, 1920	51.0
	Jan. 1, 1922	46.0
	Feb. 16, 1924	38.0
Petersburg, Va.:		
From Bedford, Va. (hogsheads) [2]	June 1, 1913	23.0
	June 25, 1918	29.0
	Nov. 26, 1918	33.0
	Aug. 31, 1920	46.0
	Jan. 1, 1922	41.5
From Blackstone, Va. (hogsheads) [2]	June 1, 1913	14.0
	June 25, 1918	17.5
	Nov. 26, 1918	20.0
	Aug. 31, 1920	28.0
	Jan. 1, 1922	25.0
	Sept. 20, 1923	22.0
Philadelphia, Pa.:		
From Cincinnati, Ohio (cases)	June 1, 1913	28.5
	June 1, 1915	30.0
	June 1, 1918	34.5
	June 25, 1918	43.0
	June 1, 1919	43.5
	Aug. 26, 1920	61.5
	Jan. 1, 1922	55.0
	July 1, 1922	55.5
From Edgerton, Wis. (cases)	June 1, 1913	47.0
	June 1, 1915	48.2
	June 1, 1918	54.0
	June 25, 1918	67.5
	June 1, 1920	63.5
	Aug. 26, 1920	89.5
	Jan. 1, 1922	81.0
	July 1, 1922	80.5
From Germantown, Ohio (cases)	June 1, 1913	28.5
	June 1, 1915	30.0
	June 1, 1918	34.5
	June 25, 1918	43.0
	June 1, 1919	43.5
	Aug. 26, 1920	61.5
	Jan. 1, 1922	55.0
	July 1, 1922	55.5
From Hartford, Conn. (cases)	June 1, 1913	16.0
	June 1, 1915	17.0
	June 1, 1918	19.5
	June 25, 1918	24.5
	Aug. 26, 1920	34.5
	Jan. 1, 1922	31.0
From Lancaster, Pa. (cases) [4]	June 1, 1913	11.0
	Feb. 23, 1915	11.6
	Aug. 1, 1917	13.5
	June 25, 1918	17.0
	Aug. 26, 1920	24.0
	Jan. 1, 1922	21.5
From Quincy, Fla. (cases)	June 1, 1913	92.0
	June 1, 1916	85.0
	June 25, 1918	106.5
	Aug. 26, 1920	142.0
	Jan. 1, 1922	128.0
From Springfield, Mass. (cases)	June 1, 1913	16.0
	June 1, 1915	17.0
	June 1, 1918	19.5
	June 25, 1918	24.5
	Aug. 26, 1920	34.5
	Jan. 1, 1922	31.0

[1] Rates supplied by the Virginia State Corporation Commission.
[3] Rates supplied by the Railroad Commission of Kentucky.
[4] Rates supplied by the Public Service Commission of Pennsylvania.

TABLE 737.—*Tobacco, leaf: Changes in domestic freight rates, all-rail shipments, June, 1913–1924*—Continued

Destination, and point of origin	Date	Rate per 100 pounds
Richmond, Va.:		
From Chase City, Va. (hogsheads)[2]		*Cents*
	June 1, 1913	21.0
	June 25, 1918	26.5
	Aug. 31, 1920	33.0
	Jan. 1, 1922	29.5
From Cincinnati, Ohio (hogsheads)		
	June 1, 1913	27.5
	May 3, 1915	29.0
	June 25, 1918	36.5
	Mar. 7, 1919	42.0
	Dec. 31, 1919	42.5
	Aug. 26, 1920	59.5
	July 1, 1921	61.0
	Nov. 1, 1921	59.0
	Nov. 15, 1921	61.0
	Jan. 1, 1922	53.0
	Mar. 28, 1922	54.5
	July 1, 1922	61.0
	Aug. 1, 1922	54.5
From Darlington, S. C. (hogsheads)		
	June 1, 1913	36.0
	Jan. 1, 1916	40.0
	June 25, 1918	50.0
	Aug. 26, 1920	62.5
	Jan. 1, 1922	56.5
From Lexington, Ky. (hogsheads)		
	June 1, 1913	27.5
	May 3, 1915	29.0
	June 25, 1918	36.5
	Mar. 7, 1919	42.0
	Dec. 31, 1919	42.5
	Aug. 26, 1920	70.5
	Nov. 1, 1921	59.5
	Nov. 15, 1921	70.5
	Jan. 1, 1922	53.5
	Mar. 28, 1922	54.5
	July 1, 1922	61.0
	Aug. 1, 1922	54.5
From Tarboro, N. C. (hogsheads)		
	June 1, 1913	25.0
	June 25, 1918	31.5
	Aug. 26, 1920	39.5
	Jan. 1, 1922	35.5
	Feb. 14, 1922	36.0
St. Louis, Mo.:		
From Cincinnati, Ohio (hogsheads)		*Cents*
	June 1, 1913	17.5
	Oct. 26, 1914	18.4
	Sept. 20, 1917	26.5
	June 25, 1918	33.0
	Feb. 29, 1920	33.5
	July 15, 1920	34.0
	Aug. 26, 1920	47.5
	Jan. 1, 1922	43.0
	July 1, 1922	42.5
From Lexington, Ky. (hogsheads)		
	June 1, 1913	27.5
	June 25, 1918	34.5
	Aug. 26, 1920	46.0
	Mar. 28, 1922	41.5
Winston Salem, N. C.:		
From Chase City, Va. (hogsheads)		
	June 1, 1913	23.0
	June 25, 1918	29.0
	Aug. 26, 1920	36.5
	Jan. 1, 1922	33.0
From Cincinnati, Ohio (hogsheads)		
	June 1, 1913	32.0
	June 25, 1918	41.5
	Feb. 29, 1920	42.5
	Aug. 26, 1920	53.0
	Jan. 1, 1922	47.5
	Mar. 4, 1922	55.0
From Lexington, Ky. (hogsheads)		
	June 1, 1913	32.0
	June 25, 1918	41.5
	Feb. 29, 1920	42.5
	Aug. 26, 1920	53.0
	Jan. 1, 1922	47.5
	Mar. 4, 1922	55.0

Division of Statistical and Historical Research. Compiled from information furnished by the Interstate Commerce Commission except as noted. The rates last shown are those in effect during June, 1924.

[2] Rate supplied by the Virginia State Corporation Commission.

TABLE 738.—*Index numbers showing changes in freight rates of 50 representative agricultural products, by months, 1900–1923*

[Average for year 1913=100]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1900	105.7	105.7	103.8	103.4	103.7	103.6	103.7	103.5	103.4	103.5	103.9	103.9	104.0
1901	103.8	104.4	104.4	104.4	104.3	103.5	103.1	103.1	103.1	103.4	103.9	103.9	103.8
1902	103.9	103.9	103.9	103.9	103.7	103.6	103.3	103.1	102.8	102.7	102.7	103.6	103.4
1903	103.9	103.6	103.5	103.5	103.1	102.9	103.0	102.9	102.8	102.6	102.9	103.7	103.2
1904	103.5	102.7	102.1	102.0	90.8	101.9	102.3	102.3	102.3	102.3	102.3	105.2	101.6
1905	101.4	101.8	101.7	101.9	101.5	101.0	100.8	100.7	100.8	100.8	100.8	100.8	101.2
1906	101.0	101.0	101.0	101.0	101.0	101.0	100.8	100.3	100.1	100.1	100.1	100.2	100.6
1907	100.2	98.3	100.2	100.4	100.3	100.3	100.4	100.2	99.9	99.7	99.7	99.7	99.9
1908	99.7	99.7	99.7	99.7	99.9	100.1	100.1	100.5	100.5	100.6	100.4	100.4	100.1
1909	100.0	100.0	99.9	99.9	99.9	99.9	99.9	100.0	100.1	100.1	99.9	99.9	100.0
1910	99.9	100.3	100.3	100.3	100.3	100.5	100.5	100.5	100.5	100.5	100.5	100.4	100.4
1911	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.5	100.4
1912	100.5	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.5	100.5	100.5	100.4
1913	100.5	100.5	100.5	100.5	100.5	100.5	100.2	99.5	99.3	99.3	99.3	99.3	100.0
1914	99.3	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.5	99.6	99.4

TABLE 738.—*Index numbers showing changes in freight rates of 50 representative agricultural products, by months, 1900–1923*—Continued

[Average for year 1913=100]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1915	99.7	100.0	100.2	100.2	100.3	100.3	100.3	100.3	100.3	100.5	100.4	100.4	100.2
1916	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.7	100.7	100.7	100.7	100.6
1917	100.7	100.7	100.8	100.8	100.8	100.8	100.8	101.6	101.9	102.2	102.4	102.4	101.3
1918	102.4	102.4	102.4	103.2	103.3	108.8	130.7	130.7	130.7	130.5	130.3	130.3	117.1
1919	130.3	130.3	130.4	130.5	130.5	130.8	130.8	130.5	130.7	131.4	131.4	131.6	130.8
1920	131.8	131.8	132.1	132.1	132.1	131.9	131.7	140.2	176.1	176.1	176.1	176.3	147.4
1921	176.8	176.8	177.3	177.8	177.8	177.8	177.7	177.4	177.2	176.1	175.8	175.8	177.0
1922	161.5	161.4	161.4	161.7	161.5	158.2	158.0	158.0	158.3	158.2	158.2	158.2	159.2
1923	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2
1924	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2

Division of Statistical and Historical Research.

The commodities and rates on which this index is based will be found in the Yearbook, 1922, pp. 1013–18. Except for the following corrections of rates in effect Jan. 1, 1923, no changes in the rates used in the index took place during 1923 and 1924.

	Cents per 100 pounds
Rate on potatoes from Greeley, Colo., to Chicago should be	65
Rate on potatoes from Idaho Falls, Idaho, to St. Louis should be	69
Rate on eggs from Petaluma, Calif., to Chicago should be	240
Rate on corn from Sperry, Iowa, to Los Angeles City should be	66
Rate on wheat from Pana, Ill., to New York should be	41.5
Rate on cattle from Amarillo, Tex., to Kansas City, Mo., should be	47
Rate on cattle from Garretson, S. Dak., to Sioux City, Iowa, should be	20

TABLE 739.—*Freight rates, ocean: Wheat per bushel to the United Kingdom and the Continent from the United States, Canada, Argentina, India, and Australia for 1913, 1923, and 1924*

Month	United States										Canada		Argentina			India			Australia		
	North Atlantic ports [1]			New York [2]			New Orleans [3]		North Pacific ports [4]												
	1913	1923	1924	1913	1923	1924	1923	1924	1923	1924	1923	1924	1913	1923	1924	1913	1923	1924	1913	1923	1924
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Jan	10	9	9	9	6	8	9	8	22	23	10	9	14	15	15	12	16	16	24	27	25
Feb	10	7	11	6	5	10	9	8	21	23	9	11	16	12	17	12	15	17	22	24	27
Mar	9	7	10	6	5	9	9	9	22	21	9	11	14	13	17	12	17	16	22	23	25
Apr	8	9	9	6	6	7	9	9	23	20	10	10	12	17	16	11	18	15	20	24	20
May	8	8	9	7	5	8	9	11	23	20	9	10	11	19	16	11	18	15	20	22	19
June	7	7	8	5	3	5	9	11	23	19	9	9	8	14	14	11	16	14	20	20	18
July	8	8	7	5	4	4	9	11	22	19	8	8	9	12	12	12	16	13	20	20	19
Aug	9	7	8	5	4	5	8	11	22	18	7	9	10	12	13	12	18	13	19	20	19
Sept	8	7	9	4	5	6	8	11	21	19	8	11	8	12	14	11	14	15	19	21	25
Oct	7	8	9	5	6	8	8	11	22	22	9	11	6	10	14	10	15	16	21	22	27
Nov	7	9	10	5	8	9	8	11	22	22	10	11	6	11	13	11	15	16	21	23	29
Dec	6	9	9	4	8	8	8	12	22	22	9	10	6	12	15	10	15	16	20	23	28
Average	8	8	9	6	5	7	9	10	22	21	9	10	10	13	15	11	16	15	21	22	23

Division of Statistical and Historical Research. Compiled from Reports of the International Institute of Agriculture, except as otherwise indicated. The above rates were originally quoted in shillings; conversions made on the basis of the average monthly rate of exchange, except in 1913, when exchange was at par.

[1] Average of principal North Atlantic ports, including New York.
[2] New York to Liverpool.
[3] From U. S. Shipping Board.
[4] Average of principal North Pacific ports.

FERTILIZER MATERIALS AND FERTILIZER

TABLE 740.—*Pyrites: Production and price, 1917–1923*

PRODUCTION

State	1917	1918	1919	1920	1921	1922	1923
	Long tons	*Long tons*	*Long tons*	*Long tons*	*Long tons*	*Long tons*	*Long tons*
Colorado	20,000	18,817	17,474	25,523	7,290	.....	.....
Georgia	23,242	31,315	34,412	.....	.....	.....	.....
California	115,817	111,861	128,803	128,114	98,252	.....	(1)
Illinois	24,596	24,369	13,353	.....	.....	.....	.....
New York	.....	63,982	60,544	50,753	.....	.....	11,000
Missouri	.....	7,674	.....	.....	.....	.....	.....
Ohio	13,218	9,845	4,009	.....	.....	.....	138
Virginia	170,382	143,427	119,164	109,545	.....	.....	(1)
Wisconsin	.....	.....	26,053	.....	.....	.....	190
Other States	115,407	53,204	16,235	25,842	51,576	.....	.....
Total	482,662	464,494	420,647	310,777	157,118	169,043	181,628

AVERAGE PRICE PER TON

State	1917	1918	1919	1920	1921	1922	1923
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Colorado	5.38	6.15	4.88	4.84	2.53	.....	.....
Georgia	6.69	8.58	10.16	.....	.....	.....	.....
California	2.88	4.48	4.12	4.05	4.76	.....	.....
Illinois	3.66	3.52	3.49	.....	.....	.....	.....
New York	.....	6.61	7.73	8.51	.....	.....	.....
Missouri	.....	9.02	.....	.....	.....	.....	.....
Ohio	2.24	4.08	3.66	.....	.....	.....	.....
Virginia	8.09	5.86	7.48	6.07	.....	.....	.....
Wisconsin	.....	.....	.74	.....	.....	.....	.....
Other States	4.32	5.62	9.24	3.19	4.36	.....	.....
Average	5.37	5.69	6.08	5.14	4.53	3.97	3.64

Division of Statistical and Historical Research. Compiled from reports of the Geological Survey. Figures for 1904–1916 are published in the Yearbook for 1923.

[1] California and Virginia produced 170,300 long tons.

TABLE 741.—*Phosphate rock: Production, by States, based on the quantity marketed, 1920–1923*

State and item	1920		1921		1922		1923	
	Quantity	Value per ton	Quantity	Value per ton	Quantity	Value per ton	Quantity	Value per ton
	Long tons	*Dolls.*	*Long tons*	*Dolls.*	*Long tons*	*Dolls.*	*Long tons*	*Dolls.*
Florida:								
Hard rock	400,249	11.31	175,774	10.28	188,084	6.96	199,516	5.37
Soft rock	13,953	13.66	4,419	4.56	446	7.85	2,348,137	3.40
Land pebble	2,955,182	4.99	1,599,835	5.38	1,870,063	3.76	.....	.....
Total	3,369,384	5.78	1,780,028	5.86	2,058,593	4.05	2,547,653	3.56
South Carolina:								
Land rock	44,141	8.32	.....	.....	1,500	5.50	.....	.....
Tennessee:								
Brown rock	556,177	7.96	252,543	6.60	344,231	5.97	[1] 427,799	5.46
Blue rock	78,671	6.59	25,163	5.81	9,078	5.71	919	6.14
Total	634,848	7.79	277,706	6.53	353,309	5.96	[1] 428,118	5.47
Other States	55,609	5.47	6,291	4.11	4,481	4.39	30,335	5.79
Grand total	4,103,982	6.11	2,064,025	5.95	2,417,883	4.34	3,006,706	3.83

Division of Statistical and Historical Research. Compiled from reports of Geological Survey. Figures for 1891–1919 are published in the Yearbook for 1923.

[1] Includes brown rock from Kentucky.

TABLE 742.—*Lime, for agricultural purposes: Production and value, 1916–1923*

PRODUCTION

State	1916	1917	1918	1919	1920	1921	1922	1923
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Alabama	592	1,791	1,947					(1)
California	5,386	6,196	850			559	2,756	
Connecticut								(1)
Indiana	3,401	2,297	1,303	5,868	3,475	1,182	5,017	4,926
Kentucky	241							(1)
Maine	9,553	10,243	8,017	8,763	7,810	8,207	8,912	7,678
Maryland	109,468	85,633	68,807	76,770	64,193	50,543	44,053	41,109
Massachusetts	4,500	5,073	3,089	4,673	4,552	2,902	4,628	3,960
Missouri		4,317	193	1,123	1,891		1,081	1,014
New Jersey	6,517	5,002	2,208	4,154	2,997		2,078	(1)
New York	12,649	9,588	5,931	6,206	3,323	3,917	2,751	3,668
Ohio	49,527	29,997	40,001	27,696	11,195	16,969	25,332	17,497
Pennsylvania	318,722	246,608	200,073	232,851	202,830	152,667	137,460	112,011
Tennessee	2,080	1,904	3,311	730	377	614	1,392	1,325
Vermont	1,276	502	2,201	2,072	752	1,278	1,111	1,571
Virginia	38,751	44,335	34,444	35,712	26,974	21,793	16,420	21,294
West Virginia	41,507	21,999	16,053	25,253	17,449	17,746	15,287	16,719
Wisconsin		954	211	453	356	145	657	
Other States	8,201	10,931	1,555	4,698	2,280	5,768	3,192	5,329
Total	612,461	487,370	390,224	436,982	350,454	284,290	272,127	238,101
Hawaii					475	75		
Porto Rico	1,066	927	823	1,650	922	357	599	1,466
Total	613,527	488,297	391,047	438,632	351,851	284,722	272,726	[2] 240,551

VALUE

	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Alabama	2,246	9,816	17,436					
California	31,974	32,447	8,304			4,988	35,774	
Connecticut								
Indiana	14,598	12,143	6,122	49,461	35,210	11,328	39,741	42,889
Kentucky	790							(1)
Maine	39,729	35,216	46,168	59,558	39,157	51,978	48,283	38,256
Maryland	407,930	463,081	534,852	655,704	614,097	441,085	351,482	374,125
Massachusetts	12,226	18,185	35,450	25,532	26,096	15,082	19,163	14,042
Missouri		26,844	1,706	8,540	20,770		11,736	10,978
New Jersey	22,202	18,978	12,268	21,997	23,920		18,382	(1)
New York	44,891	40,540	27,868	34,574	23,912	30,334	22,613	25,559
Ohio	224,120	161,205	275,561	212,156	99,219	125,844	177,571	127,758
Pennsylvania	1,036,222	1,218,316	1,343,636	1,706,027	1,792,948	1,183,361	1,021,092	838,010
Tennessee	4,410	9,835	15,333	6,020	2,465	5,217	11,752	11,591
Vermont	3,804	1,380	8,288	15,474	5,157	7,687	6,262	10,784
Virginia	147,843	235,568	232,204	290,032	208,190	161,653	109,968	153,152
West Virginia	160,959	106,892	116,554	191,125	160,091	136,982	101,075	112,374
Wisconsin		5,024	502	4,754	1,824	666	4,523	
Other States	65,884	74,938	10,267	40,495	25,944	54,154	21,814	49,010
Total	2,219,888	2,470,408	2,692,519	3,330,449	3,077,000	2,230,359	2,001,231	1,808,528
Hawaii					8,313	1,500		
Porto Rico	4,513	5,323	6,329	14,590	11,392	5,651	3,851	9,493
Total	2,224,401	2,475,731	2,698,848	3,345,039	3,096,705	2,237,510	2,005,082	[1] 1,825,519

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

[1] Included in other States.
[2] Totals include Texas production of 984 tons, valued at $7,498.

TABLE 743.—*Lime and peat, for fertilizer: Production and value, United States, 1908–1923*

Year	Quantity			Value		
	Hydrated lime	Limestone pulverized	Peat	Hydrated lime	Limestone pulverized	Peat
	Short tons	*Short tons*	*Short tons*	*Dollars*	*Dollars*	*Dollars*
1908	----------	----------	23,000	----------	----------	121,210
1909	----------	----------	26,768	----------	----------	118,891
1910	----------	----------	37,024	----------	----------	140,209
1911	----------	174,290	51,733	----------	205,006	257,204
1912	----------	200,000	41,080	----------	311,702	186,022
1913	----------	408,627	28,460	----------	493,718	169,600
1914	126,136	615,197	37,729	548,692	688,961	249,899
1915	----------	810,399	38,304	----------	893,530	258,447
1916	184,944	1,066,376	48,106	869,654	1,146,582	336,004
1917	177,815	1,040,248	92,263	1,114,359	1,352,397	658,509
1918	181,890	1,091,918	79,573	1,452,436	1,626,292	775,313
1919	198,165	1,392,914	54,690	1,784,110	2,409,460	557,240
1920	148,981	1,364,260	63,272	1,525,950	2,724,209	773,635
1921	142,582	1,311,529	29,460	1,297,192	2,355,339	251,046
1922	150,423	1,195,000	57,747	1,254,894	2,150,435	369,165
1923	131,443	1,278,770	57,907	1,176,637	2,160,249	351,641

Division of Statistical and Historical Research. Compiled from reports of Geological Survey.

TABLE 744.—*Phosphate rock, pyrites, and marl: Production and value for fertilizer, United States, 1900–1923*

Year	Quantity			Value		
	Phosphate rock	Pyrites	Marl[1]	Phosphate rock	Pyrites	Marl
	Long tons	*Long tons*	*Short tons*	*Dollars*	*Dollars*	*Dollars*
1900	1,491,216	204,615	60,000	5,359,248	749,991	30,000
1901	1,483,723	[2] 241,691	99,880	5,316,403	1,257,879	124,880
1902	1,490,314	[2] 207,874	12,439	4,693,444	947,089	12,741
1903	1,581,576	[2] 233,127	34,211	5,319,294	1,109,818	22,521
1904	1,874,428	207,081	18,989	6,580,875	814,808	13,145
1905	1,947,190	253,000	38,026	6,763,403	938,492	16,494
1906	2,080,957	261,422	19,104	8,579,437	931,305	7,341
1907	2,265,343	247,387	14,091	10,653,558	794,949	8,429
1908	2,386,138	222,598	8,469	11,399,124	857,113	4,330
1909	2,330,152	247,070	21,814	10,772,120	1,028,157	45,053
1910	2,654,988	241,612	----------	10,917,000	977,978	----------
1911	3,053,279	301,456	----------	11,900,683	1,164,871	----------
1912	2,973,332	350,928	----------	11,675,773	1,334,259	----------
1913	3,111,221	341,338	----------	11,796,231	1,286,084	----------
1914	2,734,043	336,662	----------	9,608,041	1,283,346	----------
1915	1,835,667	394,124	----------	5,413,449	1,674,933	----------
1916	1,982,385	439,132	58,088	5,890,993	2,038,002	144,768
1917	2,584,287	482,602	73,900	7,771,084	2,593,035	165,223
1918	2,490,760	464,494	98,694	8,214,463	2,644,515	261,082
1919	2,271,983	420,647	91,437	11,591,268	2,558,172	327,294
1920	4,103,982	310,777	97,487	25,079,572	1,596,961	322,339
1921	2,064,025	157,118	59,730	12,270,070	711,432	195,743
1922	2,417,883	169,943	67,777	10,482,846	671,241	203,196
1923	3,006,706	181,628	99,410	11,576,049	661,000	328,932

Division of Statistical and Historical Research. Compiled from report of Geological Survey. Figures for 1880–1899 are published in Yearbook for 1923.

[1] Calcareous marl, 1916–1923.
[2] Includes production of natural sulphur.

TABLE 745.—*Fish scrap (acidulated): Production in Atlantic and Gulf coast districts, 1912–1923*

Year	The North	North Carolina	Florida	Texas	Georgia	Total, five districts
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1912	12,838					12,838
1913	31,548	2,039				33,587
1914	12,162	3,089	1,190	1,544		17,985
1915	5,268	3,045	788	1,273		10,374
1916	5,215	5,110	2,400	1,800		14,525
1917	5,637	7,478	2,336	865	1,345	17,661
1918	19,412	6,524	2,700	2,646	1,905	33,187
1919	30,086	6,784	5,030	4,420	750	47,070
1920	33,900	3,900	3,800	3,000	5,000	49,600
1921		16,800	1,200		1,890	[1] 57,890
1922		2,120	2,120			4,240
1923	232,161	68,019	24,829	16,318	12,815	354,142

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.

[1] Includes 37,558 tons produced in Chesapeake district.

TABLE 746.—*Fish scrap (dried): Production in Atlantic coast districts, 1912–1923*

Year	Chesapeake	The North	North Carolina	Florida	Total, four districts
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*
1912	51,000	6,655	7,250	160	[1] 65,060
1913	29,358	2,744	2,175	245	34,522
1914	21,936	1,604	665		24,205
1915	19,361	824	1,289		21,414
1916	21,258			1,200	22,458
1917	14,584	292	5,187	762	20,825
1918	12,221		3,460	366	16,047
1919	12,340		2,763		15,103
1920	18,750		1,240		19,990
1921	2,200	22,898	2,112		27,210
1922			1,757	1,320	3,077
1923	258,378	40,267	30,398	5,803	334,846

Division of Statistical and Historical Research. Compiled from The American Fertilizer Handbook.

[1] Includes 595 tons produced in Texas district.

TABLE 751.—*Phosphate rock: Average wholesale price per long ton, 1913-1924*

Year	Tennessee phosphate rock, f. o. b. Mount Pleasant			South Carolina phosphate rock kiln dried, f. o. b. Ashley River	Florida land pebble phosphate rock, 68 per cent, f. o. b. Port Tampa	Florida high-grade phosphate hard rock	
	Domestic, 78 to 80 per cent	75 per cent guaranteed	68 to 72 per cent [2]			77 per cent, f. o. b. Florida ports	75 per cent, Tampa
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
1913	5.25	4.88	4.38	3.62	3.49	6.00	.....
1914	5.25	4.88	4.38	3.62	3.12	6.00	.....
1915	5.25	4.88	4.38	3.62	3.01	5.60	.....
1916	5.25	4.88	4.38	3.62	2.84	5.12	.....
1917	5.48	4.99	4.65	3.89	2.63	5.42	.....
1918	6.56	6.71	6.81	Nominal.	4.22	7.25	.....
1919	10.50	9.52	[1] 7.46	Nominal.	5.00	9.39	7.75
1920	13.42	10.82	.....	.....	8.48	13.02	10.35
1921	15.25	8.90	.....	.....	5.90	12.02	8.74
1922	Nominal.	6.90	5.54	.....	3.11	8.58	6.23
1923	Nominal.	7.58	5.50	.....	3.05	7.69	5.17
1924	Nominal.	6.65	4.65	.....	2.34	6.75	4.18

Division of Statistical and Historical Research. Compiled from Oil, Paint and Drug Reporter, average of weekly prices.

[1] Three months.
[2] *Grade changed to 76 per cent 1922 and subsequently.*

TABLE 752.—*Fertilizer, commercial: Sold in cotton States, based on sale of fertilizer tags, 1918-1924*

State	1918	1919	1920	1921	1922	1923	1924
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Virginia	429,909	421,436	465,227	369,490	449,942	302,211	343,792
North Carolina	1,055,924	1,109,070	1,222,103	831,684	1,035,430	1,190,583	1,306,941
South Carolina	1,064,886	1,033,887	1,253,800	615,488	504,000	678,612	878,933
Georgia	978,175	1,063,841	1,039,048	556,573	535,084	677,040	690,075
Florida	204,712	256,613	272,316	289,857	329,668	379,000	379,000
Alabama	[1] 306,880	[1] 298,007	391,170	179,547	298,147	434,374	434,374
Mississippi	114,312	126,377	166,903	94,572	169,937	253,811	253,811
Louisiana	118,430	97,724	95,863	38,760	66,470	107,368	107,368
Texas	58,000	46,000	56,700	19,204	33,420	76,000	76,800
Arkansas	88,590	53,373	69,036	14,550	40,325	74,774	74,774
Tennessee	113,370	108,430	112,102	84,044	96,992	112,656	117,137
Missouri	85,000	70,000	77,888	8,022	7,900	.....	.....
Total	4,618,188	4,678,758	5,222,246	3,101,791	3,567,315	4,286,429	4,780,783

Division of Statistical and Historical Research. Compiled from Division of Crop and Livestock Estimates. Figures for 1914-1917 are published in Yearbook, 1923.

Cottonseed meal not included.

TABLE 753.—*Fertilizer used on cotton, 1923–1924.*

State	Area in cotton				Fertilizer used				Value					
	June 25		Fertilized		Average per acre		Total		Average price per ton		Total		Average per acre	
	1923	1924	1923	1924	1923	1924	1923	1924	1923	1924	1923	1924	1923	1924
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*	*Pounds*	*Pounds*	*Tons*	*Tons*	*Dollars*	*Dollars*	*1,000 dollars*	*1,000 dollars*	*Dollars*	*Dollars*
Virginia	74	92	70	90	385	440	13,475	19,800	32.00	27.40	431	543	6.16	6.03
North Carolina	1,687	1,822	1,653	1,804	445	450	367,792	405,900	30.20	26.70	11,107	10,838	6.72	6.01
South Carolina	2,005	2,185	1,784	2,076	310	345	276,520	358,110	27.50	25.40	7,604	9,096	4.26	4.38
Georgia	3,844	3,767	3,575	3,579	250	270	446,875	483,165	29.80	27.00	13,317	13,045	3.72	3.64
Florida	171	111	150	101	250	200	18,750	10,100	29.00	28.00	544	283	3.63	2.80
Alabama	3,190	3,190	2,867	2,867	230	238	322,805	334,033	30.50	29.20	9,846	9,754	3.51	3.47
Mississippi	3,392	3,256	1,492	1,498	190	200	141,740	149,800	36.00	35.00	5,103	5,243	3.42	3.50
Louisiana	1,464	1,537	556	768	190	175	52,820	67,200	35.50	38.50	1,875	2,587	3.37	3.37
Texas	14,440	15,595	722	1,248	190	175	54,340	109,200	34.00	35.20	1,848	3,844	2.56	3.08
Arkansas [1]	3,120	3,058	967	1,070	185	177	89,448	94,695	34.20	35.60	3,059	3,371	3.16	3.15
Tennessee	1,221	1,184	366	533	210	205	38,430	54,632	28.50	27.50	1,095	1,502	2.99	2.82
Missouri	394	453	12	18	200	170	1,200	1,445	40.00	34.00	48	49	4.00	2.17
Oklahoma	3,400	3,672	34	18	150	150	2,550	1,350	32.00	29.50	82	40	2.41	2.22
California	[2] 235	[2] 266												
Arizona	130	179												
New Mexico	70	140		7	150	150		525		33.00		17		2.43
Total	38,701	40,403	14,088	15,617	258	268	1,826,745	2,089,975	39.63	28.80	55,959	60,202	3.94	3.85

Division of Statistical and Historical Research. Compiled from reports of the Division of Crop and Livestock Estimates.

[1] Cottonseed meal and nitrate of soda are not included in the report for this State.
[2] Including 150,000 acres in 1923 and 140,000 acres in 1924, planted in Lower California but excluded from "Total, United States."

FARM PRICES

TABLE 754.—*Farm prices of agricultural products, weighted by calendar and crop years, 1908–1924*

Year	Grains and seeds																											
	Wheat		Corn		Oats		Barley		Rye		Buckwheat		Flaxseed		Kafir corn		Beans (dry)		Soybeans	Cowpeas		Clover seed		Timothy seed		Cottonseed	
	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning Nov. 1	Year beginning Jan. 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning Sept. 1	Year beginning Jan. 1	Year beginning Sept. 1	Year beginning Jan. 1	Year beginning Nov. 1	Year beginning Jan. 1	Year beginning Sept. 1	Year beginning Oct. 1	Year beginning Jan. 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning Sept. 1	Year beginning Jan. 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning Aug. 1
	Cts. p. bu.	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Dols. p. ton*	*Dols. p. ton*
1908	90.4	95.6	63.8	66.4	48.2	49.8	58.7	58.2	73.9	74.4	76.3	77.3	110.3	120.4														
1909	102.5	101.3	66.2	63.7	46.9	43.0	57.9	55.8	74.7	74.5	74.7	72.1	142.2	159.0														
1910	96.3	91.3	61.8	53.6	39.9	35.5	56.7	61.3	73.8	73.4	69.6	67.5	218.8	238.5			221.6	220.7				8.05	8.30		4.28		26.75	
1911	86.7	88.9	55.9	69.6	38.9	46.2	75.9	83.2	78.2	81.0	70.6	75.4	205.9	194.3			225.7	236.8				9.36	11.25	6.07	6.87	17.99	17.12	
1912	87.5	83.2	67.5	57.0	41.9	34.5	67.5	53.2	74.6	69.0	72.4	68.3	145.5	123.5			236.9	225.0				10.72	9.71	3.88	2.01	18.31	18.77	
1913	78.7	79.5	60.2	71.9	36.8	39.0	53.1	52.6	63.5	63.0	72.8	76.6	118.6	124.5			218.5	217.4	175.6			8.86	7.75	1.97	2.13	22.01	22.14	
1914	88.8	102.8	71.3	72.7	41.0	45.9	50.9	55.4	73.0	82.4	77.9	81.1	127.6	134.5			222.3	255.7	218.0			8.21	8.41	2.33	2.49	16.20	15.59	
1915	106.2	98.8	71.6	70.1	43.1	39.4	55.0	54.3	89.3	85.3	81.6	81.5	162.9	174.0			291.2	327.2	210.6	164.5	151.9	8.93	9.98	2.70	2.89	28.99	30.25	
1916	125.4	152.2	75.0	124.2	44.4	53.8	70.1	88.7	99.4	114.6	96.9	126.5	221.1	243.5		152.6	430.4	501.5	215.6	152.0	189.7	9.72	9.54	2.61	2.42	46.82	48.11	
1917	202.9	206.8	131.8	147.6	63.9	72.1	110.3	137.8	160.7	176.5	155.0	167.1	290.6	315.9	163.4	182.3	705.3	703.7	305.4	241.1	236.2	11.07	14.48	3.13	3.50	62.88	64.04	
1918	204.2	208.1	148.7	152.1	75.2	69.4	113.5	98.6	167.5	152.7	173.8	164.7	347.3	353.6	180.3	189.4	611.2	498.4	323.2	241.5	254.3	17.54	21.01	3.90	4.19	58.78	65.62	
1919	214.2	221.6	151.5	150.1	69.7	79.9	110.9	125.7	139.6	144.6	154.0	159.2	406.8	421.1	158.4	140.4	443.8	440.7	344.6	281.4	319.4	24.34	28.34	4.64	4.98	66.99	67.87	
1920	213.6	181.8	138.9	62.6	74.1	51.0	109.6	76.1	156.4	145.0	150.3	126.8	279.6	199.2	130.7	63.6	391.6	312.2	279.9	329.0	273.8	22.30	11.81	4.21	3.29	40.39	28.56	
1921	111.6	103.1	57.8	53.4	34.5	33.0	48.3	47.4	94.6	83.0	100.7	89.1	150.4	164.2	55.9	54.8	286.1	318.0	216.6	208.9	190.7	10.51	11.14	2.64	2.64	28.23	29.25	
1922	99.8	96.7	57.5	76.6	35.9	39.1	50.1	52.6	70.6	67.8	88.3	89.9	204.8	218.2	64.2	96.6	351.2	388.1	200.0	165.0	172.8	10.99	10.71	2.57	2.60	31.29	32.13	
1923	95.8	93.2	77.9	83.1	40.9	42.4	55.3	57.1	61.8	59.8	94.6	96.3	222.0	215.0	96.3	88.1	400.8	368.4	212.4	199.2	213.6	11.63	12.38	3.01	3.19	41.75	41.58	
1924	114.9	.....	88.0	.....	47.4	.....	71.3	.....	84.4	.....	103.3	.....	220.4	.....	88.4	.....	363.4	.....	.....	245.8	.....	13.05	.....	3.24	.....	33.28	.....	

Division of Crop and Livestock Estimates.

Year	Fruits and vegetables											
	Apples		Peaches	Pears	Potatoes		Sweet potatoes		Cabbage		Onions	
	Year beginning Jan. 1	Year beginning June 1	Year beginning June 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1
	Cts. p. bu.	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. p. bu.*	*Cts. per 100 lbs.*	*Cts. per 100 lbs.*	*Cts. p. bu.*	*Cts. p. bu.*
1908					72.7	79.0						
1909					73.4	57.9						
1910	86.3	88.1	113.3	100.9	55.3	61.3	76.6	78.7	194.2	156.6	99.1	106.2
1911	80.2	76.6	138.2	109.3	81.3	99.6	87.8	92.2	163.3	222.5	112.1	129.8
1912	70.5	66.8	111.2	109.4	77.9	55.6	88.9	85.6	196.5	127.6	120.5	88.2
1913	85.6	93.0	131.3	111.2	63.0	70.6	84.6	84.0	153.1	195.0	96.9	124.0
1914	71.2	62.7	108.7	93.7	66.1	58.0	84.1	84.6	176.9	160.1	126.2	106.1
1915	68.3	71.0	88.2	82.5	54.2	70.8	79.1	75.4	148.6	132.7	94.1	104.5
1916	85.9	90.7	115.0	104.8	112.1	166.3	82.9	92.9	195.3	444.9	131.5	241.7
1917	110.1	113.6	148.0	127.4	175.1	122.5	111.8	122.3	427.2	262.1	255.5	156.7
1918	131.9	137.5	176.6	161.1	118.8	125.6	144.9	150.0	269.6	283.4	152.3	171.3
1919	175.7	186.1	200.9	185.7	147.3	223.8	156.0	161.7	321.4	431.5	204.2	257.0
1920	151.0	134.4	228.9	194.1	221.9	131.5	159.2	144.8	384.3	218.8	231.9	145.6
1921	185.2	196.2	213.5	172.2	109.7	121.3	117.0	110.9	243.5	292.0	153.0	252.5
1922	117.1	107.5	152.3	139.7	88.0	75.9	101.2	97.4	248.9	244.0	229.3	160.7
1923	120.3	117.3	175.8	165.5	87.1	94.2	112.7	121.7	287.0	284.4	186.2	181.9
1924	119.2		153.7		83.2		136.3		268.2		168.7	

Division of Crop and Livestock Estimates.

TABLE 754.—*Farm prices of agricultural products: Weighted by calendar and crop years, 1908–1924*—Continued

Year	Hay crops										Other commodities			
	Hay (all loose)		Timothy hay		Clover hay		Alfalfa hay		Prairie hay		Cotton (lint)		Peanuts	
	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning Nov. 1
	Dollars per ton	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Dollars per ton*	*Cents per pound*	*Cents per pound*	*Cents per pound*	*Cents per pound*
1908	9.94	9.46									9.4	9.0		
1909	9.98	10.61									12.1	13.6		
1910	11.26	11.54									14.0	14.0	4.7	4.6
1911	12.90	14.36									11.0	9.7	4.5	4.4
1912	13.16	11.17									11.0	11.5	4.6	4.6
1913	11.06	11.49									12.3	12.5	4.6	4.6
1914	11.23	10.92		13.87		12.83		9.12		7.69	8.7	7.4	4.5	4.4
1915	10.41	10.40	13.32	13.09	11.97	11.29	8.95	9.39	7.34	7.13	10.0	11.2	4.3	4.3
1916	10.47	11.22	12.81	12.83	11.00	11.33	10.59	12.76	7.51	8.61	15.5	17.7	4.5	4.8
1917	13.81	16.30	15.43	18.67	14.10	17.21	16.51	18.42	11.32	13.31	23.8	27.2	6.5	7.1
1918	18.23	19.42	21.22	22.66	19.52	20.93	19.58	20.35	14.61	16.03	29.6	28.8	6.6	6.5
1919	20.42	21.27	23.95	25.13	22.25	23.69	21.33	22.70	17.02	16.78	31.9	35.0	8.3	9.2
1920	20.55	16.65	25.03	20.64	23.70	19.48	21.24	15.96	14.61	10.94	25.4	17.2	6.5	4.7
1921	12.59	11.74	15.70	14.82	15.14	14.15	11.07	10.58	8.07	7.62	14.9	16.9	3.8	3.7
1922	11.57	11.67	14.43	14.18	13.39	13.03	11.66	12.82	7.96	8.79	20.6	23.5	4.6	5.5
1923	12.37	12.98	15.33	16.53	14.05	15.14	13.58	13.54	9.37	8.92	28.0	29.0	6.4	6.5
1924	13.35		15.93		14.82		13.72		8.57		24.9		6.1	

Division of Crop and Livestock Estimates.

TABLE 755.—*Farm prices of agricultural products: Weighted by calendar and crop years, 1910–1924*

Year	Livestock and livestock products														
	Hogs		Beef cattle		Veal calves	Sheep	Lambs		Horses	Chickens		Eggs		Butter	Wool
	Year beginning Jan. 1	Year beginning Nov. 1	Year beginning Jan. 1	Year beginning Aug. 1	Year beginning Jan. 1	Year beginning Jan. 1	Year beginning Jan. 1	Year beginning June 1	Year beginning Jan. 1	Year beginning Jan. 1	Year beginning July 1	Year beginning Jan. 1	Year beginning Apr. 1	Year beginning Jan. 1	Year beginning Jan. 1
	Dols. per 100 lbs.	*Dols. per 100 lbs.*	*Dols. per 100 lbs.*	*Dols. per 100 lbs.*	*Dols. per 100 lbs.*	*Dols. per 100 lbs.*	*Dols. per 100 lbs.*	*Dols. per 100 lbs.*	*Dols. per head*	*Cts. per lb.*	*Cts. per lb.*	*Cts. per doz.*	*Cts. per doz.*	*Cts. per lb.*	*Cts. per lb.*
1910	8.10	6.61	4.78	4.55	6.42	5.24	6.40	5.79	146	11.3	11.0	20.5	19.3	25.5	20.5
1911	6.30	6.43	4.46	4.69	6.04	4.16	5.19	5.28	141	10.4	10.4	16.9	18.2	22.9	15.6
1912	6.66	7.39	5.14	5.60	6.45	4.24	5.62	5.96	140	10.9	11.2	19.8	18.9	25.7	18.1
1913	7.44	7.60	5.91	6.12	7.48	4.55	6.06	6.03	142	11.7	12.0	18.8	19.8	26.7	16.4
1914	7.52	6.69	6.24	6.12	7.83	4.79	6.34	6.49	135	11.8	11.5	20.1	19.3	25.1	17.7
1915	6.56	7.61	6.01	6.24	7.63	5.27	6.86	7.38	130	11.6	12.0	18.9	19.0	25.7	22.8
1916	8.13	12.10	6.48	7.31	8.35	6.29	8.22	9.50	130	13.4	14.6	21.4	23.3	28.0	27.9
1917	13.46	15.78	8.17	8.92	10.51	9.45	12.31	13.60	132	16.9	18.4	31.3	33.0	35.9	47.8
1918	15.85	16.60	9.46	9.85	11.91	10.95	13.93	13.65	130	21.6	23.0	35.2	34.9	42.7	57.9
1919	16.02	13.43	9.61	9.00	12.76	9.63	12.96	13.05	121	23.4	24.2	39.9	41.8	50.3	50.3
1920	12.86	8.52	8.38	6.76	11.80	8.51	11.85	9.41	119	24.3	22.8	42.3	39.3	54.3	39.1
1921	7.81	8.10	5.44	5.18	7.81	4.65	7.19	7.83	92	20.1	19.3	26.9	25.3	37.0	16.4
1922	8.32	7.34	5.43	5.55	7.68	5.96	9.76	10.39	84	18.4	18.2	23.9	24.7	35.3	29.8
1923	7.11	7.06	5.57	5.57	7.99	6.65	10.59	10.54	82	18.3	18.3	25.6	25.2	40.4	38.9
1924	7.46	.....	5.59	.....	8.12	6.80	10.75	.....	76	18.8	.....	25.2	.....	39.4	36.9

Division of Crop and Livestock Estimates.

TABLE 756.—*Index numbers of farm prices of 30 commodities, 1910–1924*

[August, 1909–July, 1914=100]

Year	Grains	Fruits and vegetables	Meat animals	Dairy and poultry products	Cotton and cotton seed	Unclassified	All groups
1910	104	91	103	101	113	102	103
1911	96	106	87	95	101	103	95
1912	106	110	95	103	87	106	99
1913	92	92	108	100	97	94	100
1914	103	100	112	101	85	95	102
1915	120	83	104	99	78	95	100
1916	126	123	120	106	119	100	117
1917	217	202	173	133	187	130	176
1918	226	162	202	160	215	157	200
1919	231	189	206	182	247	162	209
1920	231	249	173	197	248	152	205
1921	112	148	108	151	101	90	116
1922	105	152	113	135	156	94	124
1923	114	136	106	147	216	109	135
1924	129	124	109	137	211	100	134

Division of Statistical and Historical Research. The commodities, by groups, are as follows: Grains—wheat, corn, oats, barley, rye, kafir; fruits and vegetables—apples, oranges, grapefruit, potatoes, sweet potatoes, beans, onions, cabbage; meat animals—beef cattle, calves, hogs, sheep, lambs; dairy and poultry products—chickens, eggs, butter (represents butter, butterfat, and cream), milk; cotton and cottonseed; unclassified—horses (represents horses and mules), hay, flax, tobacco, wool.

TABLE 757.—*Index numbers of farm prices of 30 commodities, by months, 1910–1924*

[August, 1909–July, 1914=100]

Year and month	Grains	Fruits and vegetables	Meat animals	Dairy and poultry products	Cotton and cottonseed	Unclassified	All groups
1910							
January	110	90	99	112	116	101	106
February	112	93	100	106	113	105	105
March	112	92	109	98	113	107	107
April	109	92	115	99	113	105	108
May	107	96	110	95	114	102	105
June	106	93	109	94	113	100	104
July	107	90	103	93	113	99	102
August	106	94	98	95	115	100	102
September	102	94	102	100	112	100	102
October	97	88	101	103	111	100	101
November	92	84	96	108	113	101	99
December	90	87	93	111	115	102	99
1911							
January	91	92	96	107	117	101	100
February	90	94	93	96	114	101	97
March	88	97	92	91	113	100	95
April	89	106	88	89	114	100	94
May	92	108	84	87	116	101	94
June	94	121	82	86	116	104	95
July	97	129	83	87	110	105	95
August	99	125	88	91	100	107	96
September	101	109	88	95	88	106	95
October	104	94	84	98	77	105	92
November	103	93	83	104	72	106	92
December	102	102	82	109	70	105	93
1912							
January	104	109	83	112	71	106	94
February	107	118	85	110	76	109	97
March	110	130	87	104	81	113	99
April	116	144	96	98	85	117	104
May	123	150	98	97	89	119	107
June	122	135	96	95	89	116	104
July	115	116	95	95	93	107	101
August	106	104	100	97	92	100	100
September	100	86	103	100	89	97	98
October	95	74	104	106	88	96	97
November	87	78	99	108	91	97	96
December	82	78	99	108	97	96	96

TABLE 757.—*Index numbers of farm prices of 30 commodities, by months, 1910–1924*—Continued

[August, 1909–July, 1914=100]

Year and month	Grains	Fruits and vegetables	Meat animals	Dairy and poultry products	Cotton and cotton-seed	Unclassified	All groups
1913							
January	84	79	99	104	97	95	95
February	86	81	103	99	96	95	96
March	86	81	109	97	95	94	97
April	88	83	113	94	95	94	98
May	91	92	109	94	94	92	96
June	94	99	110	93	94	92	99
July	93	103	111	93	94	92	99
August	95	102	110	99	93	92	101
September	98	96	109	105	101	94	103
October	97	97	110	105	106	94	104
November	96	96	108	112	102	96	104
December	97	97	107	113	98	96	103
1914							
January	97	101	109	112	96	95	104
February	98	106	112	107	99	96	105
March	99	110	114	100	99	96	104
April	100	115	114	95	98	96	104
May	101	117	113	93	100	97	104
June	100	119	112	93	101	96	104
July	97	113	114	94	100	95	103
August	104	102	118	98	86	94	104
September	111	92	117	102	66	94	102
October	110	79	111	104	58	92	98
November	108	71	106	108	54	92	96
December	111	72	104	110	57	92	97
1915							
January	123	75	103	110	60	92	100
February	134	78	101	105	65	95	101
March	136	77	101	96	67	97	100
April	138	82	103	94	73	98	102
May	139	90	106	94	74	98	104
June	127	91	107	91	72	98	101
July	118	89	106	91	70	97	99
August	115	85	105	93	70	94	97
September	106	76	106	96	81	93	97
October	101	79	108	101	99	92	101
November	99	84	101	107	99	92	99
December	102	89	98	110	100	93	100
1916							
January	112	99	101	108	100	95	104
February	115	108	108	102	100	98	106
March	111	112	116	98	99	100	108
April	111	114	121	96	102	102	110
May	113	117	123	97	104	104	111
June	110	124	124	97	107	103	112
July	113	125	124	97	109	100	113
August	127	123	123	101	115	98	117
September	138	121	127	106	128	97	122
October	147	120	122	114	144	98	128
November	158	147	123	124	163	101	137
December	157	156	125	129	160	104	139
1917							
January	161	167	131	127	148	107	140
February	169	208	144	127	144	109	148
March	179	241	162	122	149	115	159
April	217	265	177	123	160	123	176
May	251	283	179	128	169	132	188
June	246	270	177	125	189	136	188
July	250	219	173	124	204	135	185
August	248	165	178	129	199	133	183
September	233	146	190	138	197	135	184
October	223	150	194	147	214	139	187
November	213	155	186	153	232	145	187
December	213	156	190	159	237	152	191

TABLE 757.—*Index numbers of farm prices of 30 commodities, by months, 1910–1924*—Continued

[August, 1909–July, 1914=100]

Year and month	Grains	Fruits and vegetables	Meat animals	Dairy and poultry products	Cotton and cotton-seed	Unclassified	All groups
1918							
January	218	158	187	165	244	158	194
February	227	162	198	163	249	160	197
March	234	157	199	153	257	164	199
April	235	156	204	146	251	162	200
May	231	160	210	144	245	157	198
June	227	160	207	141	234	152	196
July	228	172	205	146	235	150	197
August	230	177	211	153	246	152	203
September	229	166	214	161	264	157	207
October	229	166	204	174	253	159	204
November	216	158	198	184	236	158	200
December	217	155	199	192	235	159	201
1919							
January	217	154	201	189	227	159	200
February	213	156	203	172	208	156	194
March	220	167	214	164	206	159	197
April	234	179	224	168	213	162	207
May	245	197	227	174	242	169	215
June	247	205	221	171	249	171	216
July	248	216	228	172	260	167	222
August	246	219	227	176	259	166	222
September	235	194	197	182	252	162	208
October	222	186	185	192	227	155	206
November	220	187	177	207	205	156	209
December	229	206	173	214	202	158	212
1920							
January	241	226	183	215	293	166	219
February	242	252	184	205	295	171	221
March	246	279	184	203	298	173	222
April	261	323	186	191	304	177	230
May	277	373	181	187	303	180	235
June	283	366	182	183	301	169	234
July	266	314	181	184	297	152	224
August	242	239	177	190	266	141	209
September	222	180	177	196	218	136	194
October	163	150	169	205	175	125	176
November	137	143	150	209	132	118	156
December	138	144	124	205	101	111	149
1921							
January	138	136	123	190	93	105	135
February	136	127	119	170	89	102	128
March	131	125	125	152	80	99	123
April	118	124	114	144	76	95	115
May	116	132	111	133	78	91	112
June	117	140	105	127	78	90	110
July	109	156	109	131	79	87	111
August	103	178	112	139	91	86	116
September	100	171	101	143	130	84	11
October	94	162	98	155	150	82	120
November	88	162	92	164	137	80	116
December	88	165	91	163	131	82	115
1922							
January	91	159	95	149	129	83	114
February	102	173	108	136	128	84	118
March	111	181	118	129	131	80	123
April	114	190	117	126	136	80	123
May	115	206	119	123	144	86	127
June	111	197	121	124	160	84	128
July	105	174	120	123	166	85	126
August	100	129	114	125	166	86	120
September	97	109	112	132	160	90	119
October	101	101	113	142	168	97	123
November	106	101	108	152	186	94	126
December	111	104	107	161	195	103	131

TABLE 757.—*Index numbers of farm prices of 30 commodities, by months, 1910–1924*—Continued

[August, 1909–July, 1914=100]

Year and month	Grains	Fruits and vegetables	Meat animals	Dairy and poultry products	Cotton and cotton-seed	Unclassified	All groups
1923							
January	113	117	110	157	203	104	134
February	114	122	110	151	215	108	136
March	117	130	110	144	224	105	136
April	121	146	110	139	222	101	137
May	123	157	108	136	211	102	135
June	119	161	103	135	207	107	133
July	112	165	105	133	199	99	130
August	109	151	104	138	190	101	128
September	111	131	112	144	204	100	132
October	113	123	106	156	221	94	134
November	110	114	100	166	228	96	136
December	108	114	98	166	253	98	137
1924							
January	110	118	101	155	255	98	137
February	113	123	102	152	247	98	136
March	114	123	104	136	219	99	131
April	113	128	106	126	226	98	130
May	114	132	107	123	222	94	129
June	116	146	105	123	219	95	130
July	130	142	103	122	215	101	132
August	141	138	116	123	219	103	139
September	140	113	115	133	175	100	132
October	150	109	121	142	182	102	138
November	147	108	115	150	179	106	137
December	155	110	113	158	176	102	139

Division of Statistical and Historical Research. The commodities, by groups, are as follows: Grains—wheat, corn, oats, barley, rye, kaffir; fruits and vegetables—apples, oranges, grapefruit, potatoes, sweet potatoes, beans, onions, cabbage; meat animals—beef cattle, calves, hogs, sheep, lambs; dairy and poultry products—chickens, eggs, butter (represents butter, butterfat, and cream), milk; cotton and cottonseed; unclassified—horses (represents horses and mules), hay, flax, tobacco, wool.

TABLE 758.—*Index numbers of wholesale prices, by groups of commodities, United States, 1890–1924*

[Year 1913=100]

Year	Farm products	Foods	Cloths and clothing	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities
1890	70	86	95	62	116	82	91	88	99	81
1891	75	85	91	60	102	78	92	89	97	80
1892	68	79	91	57	92	74	93	85	91	75
1893	71	85	90	58	85	73	91	85	92	77
1894	61	75	79	56	72	70	82	80	88	69
1895	61	74	77	66	77	68	81	77	93	70
1896	55	69	76	65	78	68	81	77	92	67
1897	59	71	75	55	72	66	88	75	93	67
1898	63	74	77	56	72	70	97	78	96	70
1899	64	74	80	67	110	77	101	80	100	75
1900	70	79	88	76	108	81	102	87	104	81
1901	74	79	81	73	103	78	105	87	96	79
1902	81	83	82	84	100	80	108	87	93	84
1903	77	81	87	98	99	82	105	90	102	86
1904	81	84	88	87	88	79	105	89	110	88
1905	79	86	90	81	98	85	103	88	117	86
1906	80	83	98	85	113	95	96	91	116	89
1907	87	89	105	89	121	100	98	98	111	94
1908	86	91	94	88	95	92	99	92	101	90
1909	97	97	98	84	93	95	100	92	130	97

TABLE 762.—*Index numbers of wholesale prices of nonagricultural commodities, United States, 1910–1924* [1]

[1910–1914=100]

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1910	103	103	104	107	106	104	103	102	100	98	97	98	102
1911	97	97	99	97	96	94	94	95	95	94	94	94	96
1912	95	96	97	100	100	100	100	101	102	103	103	104	100
1913	107	107	106	106	105	104	104	104	104	104	102	101	104
1914	100	100	101	100	98	97	96	96	97	95	94	95	97
1915	96	96	96	96	97	98	100	101	103	105	109	115	101
1916	122	126	132	134	136	137	136	135	137	143	155	166	138
1917	170	173	176	179	185	195	199	196	189	175	173	174	182
1918	177	178	180	188	186	188	192	193	195	196	196	193	188
1919	188	184	181	179	183	194	204	211	213	215	219	224	199
1920	236	244	247	254	254	250	251	249	246	237	221	208	241
1921	196	185	177	171	168	164	159	156	156	150	161	161	167
1922	158	156	155	156	164	168	177	182	179	176	175	175	168
1923	177	178	179	180	176	172	169	167	167	165	163	162	171
1924	164	166	166	164	162	159	158	159	158	158	160	163	162

Division of Crop and Livestock Estimates. Compiled from Bureau of Labor Statistics reports.

[1] Commodities not originating on United States farms. Includes all commodities other than those in Table 763.

PRICES, COST OF LIVING, AND WAGES

TABLE 763.—*Index numbers of prices, cost of living, and wages, 1913–1924*

(1913=100)

Calendar year	Farm prices, 30 commodities, August, 1909 July, 1914 = 100 [1]	Wholesale prices all commodities [2]	Retail prices, 22 articles of food [2]	Cost of living (32 cities) [3]	Farm labor [1]	Union wages per hour May 15 [4]	Earnings New York State factory workers, June 1914 = 100 [4]
1913	100	100	100	100	100	100	
1914	102	98	102	[5] 103	99	102	[6] 100
1915	100	101	101	[5] 105	99	103	101
1916	117	127	114	[5] 118	108	107	114
1917	176	177	146	[5] 142	133	114	129
1918	200	194	168	[5] 174	161	133	159
1919	209	206	186	[5] 199	186	155	185
1920	205	226	203	[5] 200	214	199	222
1921	116	147	153	[5] 174	143	205	203
1922	124	139	142	[5] 170	138	193	197
1923	135	154	146	[5] 173	155	211	214
1924	134	150	150	[5] 172	156	228	218
1924							
January	137	151	149		151		219
February	136	152	147				218
March	131	150	144	170	153		222
April	130	148	141		157		218
May	129	147	141				217
June	130	145	142	169			214
July	132	147	143		159		213
August	130	150	144				216
September	132	149	147	171			221
October	138	152	149		160		217
November	137	153	150				218
December	129	157	152	172			222

Division of Statistical and Historical Research.

[1] Bureau of Agricultural Economics.

[2] Bureau of Labor Statistics.

[3] Bureau of Labor Statistics. Food (22 items prior to 1921; 43 from Jan. 1921); heat and light (5 items); clothing (about 75 items varying from time to time); rent (representative number of moderate-priced houses); furniture and household articles (28 items), and 42 miscellaneous articles.

[4] New York State Department of Labor

[5] December.

[6] June.

FOREIGN EXCHANGE

TABLE 764.—*Foreign exchange: Average rates at New York, 1912–1924*

ARGENTINE PESOS, PAPER [1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
1912	42.460	42.500	42.604	42.655	42.526	42.510	42.510	42.510	42.510	42.510	42.478	42.495
1913	42.510	42.878	42.720	42.535	42.470	42.395	42.260	42.110	42.110	42.110	42.110	42.110
1914	42.158	42.522	42.540	42.365	42.230	42.230	42.246	43.465	44.683	43.042	43.128	43.720
1915	43.348	43.332	42.925	42.580	42.005	42.018	42.236	41.385	41.712	42.080	42.212	42.380
1916	42.652	42.858	43.158	43.058	42.525	42.182	41.592	41.402	42.136	42.900	43.240	43.824
1917	44.170	43.960	43.402	42.642	42.202	43.918	43.525	43.104	42.960	43.768	45.600	46.680
1918	44.820	43.895	44.062	44.472	45.192	44.820	44.388	44.413	44.632	44.712	44.828	45.018
1919	44.804	44.748	44.328	44.045	44.100	43.220	42.548	42.138	42.315	42.324	42.945	43.110
1920	43.076	43.108	43.320	42.957	42.485	42.058	40.496	37.657	36.808	35.807	33.650	34.368
1921	34.792	35.078	34.122	32.476	31.585	30.782	28.952	29.284	30.627	32.154	32.329	32.914
1922	33.963	36.234	36.423	35.529	36.200	36.016	36.013	36.117	35.677	35.822	36.180	37.650
1923	37.284	37.065	37.024	36.585	35.939	35.485	34.205	32.762	32.935	32.410	31.304	31.826
1924	32.468	33.639	33.683	32.913	32.838	32.512	32.612	33.730	35.212	36.762	37.616	38.860

EGYPTIAN TALARI [2]

1912	100.345	100.398	100.310	99.980	100.006	99.992	99.972	100.090	100.042	100.412	99.980	100.005
1913	100.144	99.928	99.845	99.832	99.862	99.690	99.662	99.952	100.120	100.244	99.912	99.768
1914	99.965	99.875	99.685	99.828	99.912	99.912	100.158	103.630	103.292	102.552	100.962	100.236
1915	99.582	99.138	98.708	98.372	98.320	97.955	97.738	96.335	96.232	96.114	95.805	96.840
1916	97.505	97.652	97.740	97.770	97.648	97.575	97.592	97.590	97.612	97.698	97.698	97.644
1917	97.605	97.538	97.576	97.670	97.578	97.526	97.608	97.680	97.628	97.572	97.576	98.080
1918	97.585	97.580	97.552	97.598	97.600	97.570	97.560	97.618	97.630	97.675	97.712	97.710
1919	97.726	97.702	96.480	95.525	95.808	94.588	91.395	88.036	95.518	85.560	84.334	78.442
1920	75.864	68.660	74.123	80.088	78.934	79.642	78.362	73.498	72.510	70.876	70.565	72.482
1921	76.915	79.482	80.405	80.780	82.360	78.208	75.126	75.128	76.810	79.538	81.428	84.630
1922	86.725	89.163	87.592	89.970	91.120	91.377	91.118	91.955	90.828	91.275	91.558	93.842
1923	95.070	96.730	96.850	95.528	95.782	94.880	94.417	94.315	93.794	93.635	89.808	89.234
1924	87.295	88.410	88.340	88.852	88.960	88.750						

INDIAN RUPEE [3]

1919	35.650	35.650	35.875	35.650	42.500	42.500	43.000	43.500	45.000	43.000	43.375	45.000
1920	44.125	45.500	47.250	46.500	43.500	40.875	37.875	35.750	33.788	30.625	29.375	27.250
1921	28.574	28.938	26.906	26.100	26.344	25.422	23.059	24.224	26.360	27.419	26.874	27.449
1922	27.810	28.143	27.822	27.810	28.751	28.911	28.891	29.014	28.741	28.842	29.511	30.649
1923	31.726	31.850	31.566	31.346	31.081	30.992	30.859	30.461	30.602	31.063	30.860	31.095
1924	30.447	30.324	29.862	30.404	30.580	30.488	31.253	32.260	32.519	33.694	34.392	35.324

POUND STERLING [3]

1912	$4.8699	$4.8728	$4.8721	$4.8710	$4.8720	$4.8756	$4.8752	$4.8725	$4.8604	$4.8574	$4.8506	$4.8502
1913	4.8688	4.8746	4.8720	4.8688	4.8651	4.8670	4.8678	4.8640	4.8568	4.8580	4.8526	4.8535
1914	4.8623	4.8570	4.8628	4.8698	4.8831	4.8849	4.8878	5.0000	4.9812	4.9530	4.9031	4.8715
1915	4.8422	4.8206	4.8018	4.7945	4.7925	4.7755	4.7648	4.7062	4.6912	4.6858	4.6706	4.7208
1916	4.7506	4.7591	4.7641	4.7648	4.7581	4.7579	4.7577	4.7575	4.7574	4.7567	4.7567	4.7479
1917	4.7567	4.7550	4.7544	4.7567	4.7555	4.7544	4.7553	4.7545	4.7548	4.7522	4.7523	4.7517
1918	4.7525	4.7525	4.7525	4.7550	4.7550	4.7538	4.7525	4.7502	4.7550	4.7550	4.7575	4.7575
1919	4.7575	4.7575	4.7000	4.6512	4.6562	4.6125	4.4275	4.2725	4.1800	4.1712	4.0812	3.7688
1920	3.6700	3.3762	3.7712	3.9130	3.8500	3.9475	3.8525	3.6200	3.5125	3.4730	3.4250	3.4912
1921	3.7562	3.8712	3.9150	3.9300	3.9775	3.7725	3.6321	3.6536	3.7240	3.8729	3.9702	4.1561
1922	4.2448	4.3620	4.3757	4.4134	4.4461	4.4519	4.4464	4.4047	4.4307	4.4385	4.4799	4.6098
1923	4.6546	4.6908	4.6957	4.6555	4.6257	4.6147	4.5834	4.5603	4.5422	4.5237	4.3822	4.3602
1924	4.2591	4.3077	4.2906	4.3513	4.3608	4.3199	4.3704	4.4995	4.4605	4.4870	4.6097	4.6958

Division of Statistical and Historical Research.

[1] Compiled from International Yearbook of Agricultural Statistics, 1921, page 505, through June, 1921; average of weekly quotations. Federal Reserve Bulletin, July, 1921, to date; average monthly rate of exchange.

[2] Interpolation, no quotation.

[3] International Yearbook of Agricultural Statistics, 1921, page 505, and 1922, page 342.

[4] Federal Reserve Bulletins. January–September, 1919, highest rate for month. October, 1919–December, 1920, average of high and low quotations for month. January, 1921–June, 1921, average of weekly high and low quotations for month. July, 1921 to date, average rate of exchange.

[5] International Yearbook of Agricultural Statistics, 1921, pages 504 and 498. Federal Reserve Bulletins, July, 1921, to date. Sight drafts 1912–1920; cables 1921 to date.

FEDERAL-AID HIGHWAYS

TABLE 765.—*Apportionment of Federal aid to States, year ended June 30*

States	1917	1918	1919	1920	1921
Alabama	$104,148.90	$208,297.80	$1,363,720.57	$1,995,501.80	$2,104,883.51
Arizona	68,513.52	137,027.04	890,584.16	1,301,582.81	1,373,644.16
Arkansas	82,689.10	165,378.20	1,080,247.99	1,596,436.09	1,685,178.09
California	151,063.92	302,127.84	1,980,415.53	2,896,071.77	3,054,675.51
Colorado	83,690.14	167,380.28	1,124,849.83	1,648,384.72	1,755,759.17
Connecticut	31,090.44	62,180.88	399,281.11	583,422.84	613,349.43
Delaware	8,184.37	16,368.74	105,796.45	154,630.46	162,674.81
Florida	55,976.27	111,952.54	744,521.08	1,090,214.67	1,147,447.92
Georgia	134,329.48	268,658.96	1,749,954.20	2,557,485.02	2,697,150.96
Idaho	60,463.50	120,927.00	792,980.82	1,159,967.61	1,226,049.93
Illinois	220,926.23	441,852.46	2,843,874.13	4,152,546.24	4,365,067.91
Indiana	135,747.62	271,495.24	1,756,149.60	2,564,846.88	2,687,053.27
Iowa	146,175.60	292,351.20	1,877,699.81	2,741,787.79	2,881,328.74
Kansas	143,207.40	286,414.80	1,865,445.80	2,728,996.45	2,871,244.62
Kentucky	97,471.91	194,943.82	1,269,849.80	1,856,043.83	1,951,755.43
Louisiana	67,474.66	134,949.32	884,484.31	1,293,385.15	1,362,231.13
Maine	48,451.50	96,903.00	626,038.97	914,339.94	960,230.16
Maryland	44,047.22	88,094.44	565,608.45	826,000.35	866,998.61
Massachusetts	73,850.95	147,701.90	958,145.15	1,400,078.26	1,472,788.83
Michigan	145,783.72	291,567.44	1,882,570.18	2,749,706.24	2,891,667.97
Minnesota	142,394.06	284,788.12	1,846,639.92	2,699,471.59	2,842,089.33
Mississippi	88,905.84	177,811.68	1,168,239.88	1,709,027.72	1,807,557.17
Missouri	169,720.41	339,440.82	2,203,918.08	3,221,006.80	3,387,899.60
Montana	98,287.19	196,574.38	1,267,988.03	1,898,987.58	2,006,990.13
Nebraska	106,770.81	213,541.62	1,386,087.32	2,026,619.93	2,133,741.98
Nevada	64,398.30	128,796.60	836,163.28	1,221,573.57	1,276,344.43
New Hampshire	20,996.62	41,993.24	270,420.49	394,839.71	414,838.93
New Jersey	59,212.68	118,425.36	771,408.02	1,128,696.51	1,187,556.45
New Mexico	78,737.81	157,475.62	1,037,420.34	1,517,692.99	1,598,467.85
New York	250,720.27	501,440.54	3,237,630.60	4,727,117.15	4,971,893.11
North Carolina	114,381.92	228,763.84	1,482,533.93	2,165,957.19	2,279,053.80
North Dakota	76,143.06	152,286.12	997,946.19	1,459,884.53	1,536,227.80
Ohio	186,905.42	373,810.84	2,412,505.91	3,523,478.73	3,706,246.81
Oklahoma	115,139.00	230,278.00	1,499,544.83	2,190,805.44	2,302,478.33
Oregon	78,687.37	157,374.74	1,023,791.84	1,496,172.28	1,576,152.03
Pennsylvania	230,644.17	461,288.34	2,986,221.62	4,362,544.11	4,591,946.05
Rhode Island	11,065.71	23,331.42	151,503.33	221,408.80	233,256.81
South Carolina	71,807.64	143,615.28	932,311.14	1,362,864.40	1,436,019.04
South Dakota	80,946.02	161,892.04	1,053,896.27	1,540,369.27	1,615,779.44
Tennessee	114,153.48	228,306.96	1,472,767.00	2,150,996.64	2,261,913.90
Texas	291,927.81	583,855.62	3,803,206.07	5,559,816.81	5,861,598.46
Utah	56,950.15	113,900.30	738,355.27	1,078,425.00	1,129,575.66
Vermont	22,844.47	45,688.94	294,116.61	429,376.62	450,077.09
Virginia	99,660.71	199,321.42	1,290,173.72	1,884,900.60	1,977,673.83
Washington	71,884.28	143,768.56	938,897.43	1,372,497.77	1,444,627.79
West Virginia	53,270.46	106,540.92	691,723.00	1,010,817.30	1,060,152.77
Wisconsin	128,361.07	256,722.14	1,655,653.72	2,418,598.39	2,544,945.35
Wyoming	61,196.82	122,393.64	796,718.22	1,164,533.65	1,233,715.84
Hawaii					
Total	4,850,000.00	9,700,000.00	63,050,000.00	92,150,000.00	97,000,000.00

TABLE 765.—*Apportionment of Federal aid to States, year ended June 30*—Cont.

States	1922	1923	1924	1925	Total
Alabama	$1, 553, 420. 67	$1, 035, 613. 78	$1, 345, 323. 41	$1, 542, 052. 56	$11, 252, 963. 00
Arizona	1, 053, 281. 44	702, 187. 63	915, 876. 68	1, 053, 003. 56	7, 495, 701. 00
Arkansas	1, 254, 142. 20	836, 094. 80	1, 093, 376. 46	1, 258, 857. 07	9, 062, 400. 00
California	2, 462, 098. 53	1, 641, 399. 02	2, 140, 463. 10	2, 464, 990. 78	17, 093, 306. 00
Colorado	1, 341, 175. 69	894, 117. 13	1, 183, 041. 98	1, 361, 482. 06	9, 559, 881. 00
Connecticut	480, 897. 78	320, 598. 52	414, 860. 00	475, 513. 91	3, 381, 195. 00
Delaware	365, 625. 00	243, 750. 00	316, 875. 00	365, 625. 17	1, 739, 530. 00
Florida	886, 825. 69	591, 217. 13	771, 395. 18	887, 336. 52	6, 286, 887. 00
Georgia	1, 997, 957. 58	1, 331, 971. 72	1, 729, 366. 09	1, 983, 022. 99	14, 449, 897. 00
Idaho	938, 536. 68	625, 691. 12	816, 397. 33	936, 098. 01	6, 677, 712. 00
Illinois	3, 246, 281. 07	2, 164, 187. 38	2, 797, 888. 59	3, 203, 867. 99	23, 436, 492. 00
Indiana	1, 958, 855. 41	1, 305, 903. 61	1, 692, 437. 05	1, 939, 903. 32	14, 312, 392. 00
Iowa	2, 102, 872. 74	1, 401, 915. 16	1, 813, 757. 63	2, 078, 248. 33	15, 336, 137. 00
Kansas	2, 102, 281. 51	1, 401, 521. 01	1, 818, 947. 37	2, 081, 230. 04	15, 299, 289. 00
Kentucky	1, 417, 178. 68	944, 785. 79	1, 228, 125. 29	1, 411, 584. 45	10, 371, 739. 00
Louisiana	996, 989. 64	664, 659. 76	865, 966. 44	995, 301. 59	7, 265, 442. 00
Maine	695, 160. 25	463, 440. 17	598, 954. 65	686, 453. 36	5, 089, 972. 00
Maryland	640, 629. 01	427, 086. 01	554, 540. 90	635, 945. 01	4, 648, 950. 00
Massachusetts	1, 096, 176. 04	730, 784. 03	950, 448. 62	1, 089, 806. 22	7, 919, 780. 00
Michigan	2, 249, 532. 43	1, 499, 688. 29	1, 942, 431. 00	2, 226, 824. 73	15, 879, 772. 00
Minnesota	2, 123, 597. 07	1, 415, 731. 38	1, 842, 800. 97	2, 120, 906. 56	15, 318, 419. 00
Mississippi	1, 294, 906. 22	863, 270. 81	1, 127, 182. 03	1, 294, 371. 65	9, 531, 273. 00
Missouri	2, 448, 128. 62	1, 632, 085. 75	2, 114, 412. 17	2, 423, 485. 75	17, 940, 188. 00
Montana	1, 546, 885. 82	1, 031, 257. 21	1, 344, 963. 47	1, 544, 483. 19	10, 966, 417. 00
Nebraska	1, 581, 189. 50	1, 054, 126. 33	1, 371, 713. 17	1, 577, 155. 34	11, 450, 946. 00
Nevada	953, 436. 78	635, 624. 52	826, 360. 27	947, 623. 25	6, 890, 321. 00
New Hampshire	365, 625. 00	243, 750. 00	316, 875. 00	365, 625. 01	2, 434, 904. 00
New Jersey	942, 870. 95	628, 580. 63	816, 083. 37	936, 413. 03	6, 589, 247. 00
New Mexico	1, 189, 823. 34	793, 215. 56	1, 030, 969. 61	1, 185, 528. 88	8, 589, 332. 00
New York	3, 696, 447. 97	2, 464, 298. 65	3, 195, 493. 85	3, 663, 105. 86	26, 708, 148. 00
North Carolina	1, 709, 333. 90	1, 139, 555. 93	1, 477, 424. 33	1, 697, 246. 16	12, 294, 251. 00
North Dakota	1, 164, 714. 42	776, 476. 28	1, 021, 269. 47	1, 178, 708. 13	8, 363, 656. 00
Ohio	2, 823, 004. 05	1, 882, 002. 70	2, 436, 304. 85	2, 795, 804. 69	20, 140, 164. 00
Oklahoma	1, 752, 339. 44	1, 168, 226. 29	1, 524, 701. 96	1, 753, 189. 71	12, 536, 703. 00
Oregon	1, 182, 663. 90	788, 442. 60	1, 026, 044. 09	1, 176, 830. 15	8, 506, 159. 00
Pennsylvania	3, 398, 953. 97	2, 265, 969. 31	2, 938, 092. 22	3, 365, 956. 21	24, 601, 616. 00
Rhode Island	365, 625. 00	243, 750. 00	316, 875. 00	365, 624. 87	1, 933, 041. 00
South Carolina	1, 061, 237. 34	707, 491. 56	918, 171. 43	1, 054, 028. 17	7, 687, 546. 00
South Dakota	1, 204, 060. 31	802, 706. 87	1, 049, 885. 60	1, 209, 144. 18	8, 718, 680. 00
Tennessee	1, 647, 692. 24	1, 098, 461. 49	1, 421, 604. 32	1, 628, 740. 97	12, 024, 637. 00
Texas	4, 425, 172. 41	2, 950, 114. 94	3, 838, 351. 12	4, 410, 169. 76	31, 724, 213. 00
Utah	849, 417. 21	566, 278. 14	735, 829. 37	847, 741. 90	6, 116, 473. 00
Vermont	365, 625. 00	243, 750. 00	316, 875. 00	365, 625. 27	2, 533, 979. 00
Virginia	1, 456, 828. 47	971, 218. 98	1, 264, 612. 72	1, 448, 562. 55	10, 592, 953. 00
Washington	1, 103, 709. 77	735, 806. 51	962, 177. 72	1, 113, 308. 17	7, 886, 678. 00
West Virginia	802, 359. 77	534, 906. 51	696, 085. 80	798, 275. 47	5, 754, 132. 00
Wisconsin	1, 894, 815. 86	1, 263, 210. 57	1, 636, 543. 58	1, 877, 600. 32	13, 678, 451. 00
Wyoming	934, 617. 63	623, 078. 42	814, 724. 65	936, 372. 13	6, 687, 351. 00
Hawaii				365, 625. 00	365, 625. 00
Total	73, 125, 000. 00	48, 750, 000. 00	63, 375, 000. 00	73, 125, 000. 00	525, 125, 000. 00

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TABLE 766.—*Federal-aid highways completed and under construction*

State	Highways completed and final payment made, year ended June 30, 1924			Projects under construction June 30, 1924[1]			
	Miles	Total cost	Federal aid	Miles	Estimated cost	Federal aid allotted	Federal aid paid
Alabama	96.2	$809,709.89	391,544.33	866.4	15,132,450.48	$7,400,051.40	$3,390,256.35
Arizona	155.7	1,820,339.89	1,091,994.20	164.7	2,419,995.90	1,439,148.62	653,540.25
Arkansas	208.2	2,471,545.59	1,115,773.51	342.9	6,247,120.36	1,996,982.36	1,122,077.14
California	193.2	4,503,527.43	2,168,180.27	434.1	11,871,819.13	6,396,695.08	3,839,123.06
Colorado	76.6	1,637,374.75	893,660.30	173.5	4,833,066.27	2,595,855.07	952,209.98
Connecticut	12.9	494,228.07	243,400.75	52.3	3,041,169.37	1,029,509.90	
Delaware	27.3	860,222.00	388,860.00	27.6	1,096,672.50	429,933.60	205,704.00
Florida	33.2	891,467.76	401,770.29	259.4	9,190,175.12	4,506,550.50	2,340,780.20
Georgia	288.7	3,206,873.85	1,592,101.60	736.2	8,925,089.27	4,268,001.56	2,443,039.85
Idaho	80.7	1,301,024.19	836,284.51	97.8	1,498,933.13	868,722.94	490,936.33
Illinois	61.2	1,753,179.80	865,254.37	557.0	16,485,446.19	8,192,130.42	4,584,861.56
Indiana	68.7	2,063,956.40	987,263.42	523.4	15,956,388.75	7,798,552.57	2,667,132.16
Iowa	625.5	7,156,698.57	3,176,895.38	622.0	8,689,469.34	4,026,657.08	1,545,729.60
Kansas	153.0	4,867,707.58	1,794,738.46	598.0	16,689,331.36	6,248,427.04	3,760,906.92
Kentucky	144.4	4,202,690.51	1,825,956.13	329.2	7,573,552.00	3,663,928.55	1,817,896.41
Louisiana	70.8	1,357,068.28	479,015.33	372.3	5,683,581.53	2,815,058.90	1,415,218.20
Maine	70.9	2,248,204.59	1,056,972.35	51.6	1,437,207.97	714,171.72	267,379.27
Maryland	58.2	1,450,649.48	698,478.24	71.0	2,225,748.35	894,685.95	328,820.47
Massachusetts	69.0	3,549,226.86	1,302,709.34	90.4	5,173,074.47	1,800,439.47	265,439.62
Michigan	151.1	3,906,063.54	1,716,795.09	484.5	13,609,397.79	6,587,382.19	2,195,012.49
Minnesota	398.6	4,208,889.87	1,851,565.20	676.4	8,600,577.00	3,623,184.40	1,519,366.79
Mississippi	192.6	3,141,422.58	1,544,383.53	489.8	7,695,258.21	3,839,698.61	1,565,099.30
Missouri	437.9	6,079,270.62	2,887,050.58	601.9	14,814,141.06	7,070,575.64	3,327,533.55
Montana	79.9	932,093.86	488,281.62	265.6	2,537,536.91	1,922,348.47	695,066.47
Nebraska	964.8	4,716,522.69	2,205,016.55	687.2	6,675,996.20	3,244,725.73	1,749,261.38
Nevada	22.0	411,136.23	291,513.63	394.1	4,755,024.78	4,063,643.23	2,286,454.96
New Hampshire	30.8	739,753.19	358,862.89	29.8	886,518.84	414,374.33	141,688.99
New Jersey	36.6	2,200,432.16	685,747.07	70.1	10,226,184.47	2,728,243.65	123,694.18
New Mexico	97.2	599,377.33	325,186.00	657.7	6,165,553.69	4,041,486.28	1,185,878.43
New York	282.1	9,036,108.67	3,899,184.74	563.2	24,063,366.96	9,526,032.97	2,941,638.93
North Carolina	57.9	797,369.21	350,994.29	266.6	9,623,594.36	3,484,417.74	2,027,458.32
North Dakota	795.4	3,946,815.56	1,925,906.33	504.0	3,159,113.69	1,554,191.41	522,780.08
Ohio	299.7	10,282,701.34	3,973,592.82	351.1	12,789,365.01	4,853,124.66	2,167,371.25
Oklahoma	125.8	3,191,230.72	1,471,063.57	839.8	8,689,043.76	4,194,407.46	2,030,959.40
Oregon	121.5	1,691,510.69	1,036,357.41	175.6	2,927,450.56	1,708,203.60	881,367.60
Pennsylvania	76.9	3,735,219.53	1,499,636.00	268.5	15,325,653.77	4,613,831.25	1,839,801.46
Rhode Island	7.4	290,321.90	151,593.00	22.7	1,087,787.06	411,759.49	134,528.20
South Carolina	269.3	2,834,991.32	1,238,290.85	517.6	5,998,020.81	2,360,714.93	1,092,389.12
South Dakota	455.3	3,915,690.62	1,924,628.94	793.1	6,268,470.80	3,186,316.97	1,440,305.16
Tennessee	147.1	3,594,712.41	1,778,173.89	433.3	13,761,114.87	6,501,844.09	3,319,002.49
Texas	863.2	13,169,497.50	5,096,555.14	1,624.5	25,874,663.79	10,200,655.43	4,800,179.57
Utah	102.4	1,120,416.34	699,368.24	304.2	4,382,736.86	2,833,446.15	1,496,408.38
Vermont	21.3	551,398.53	273,335.37	42.6	1,527,160.47	731,432.50	240,485.53
Virginia	160.0	3,211,323.12	1,522,752.87	302.7	8,859,252.85	3,975,621.01	2,206,109.51
Washington	37.2	1,027,634.85	471,789.75	121.6	2,851,003.81	1,306,000.00	514,945.89
West Virginia	49.3	1,389,522.22	564,109.12	163.8	4,823,815.81	2,158,539.55	1,373,618.09
Wisconsin	247.7	3,249,211.76	1,414,044.33	150.4	3,546,039.10	1,763,705.92	839,882.05
Wyoming	152.8	1,526,186.25	867,324.57	327.4	4,355,513.36	2,647,849.95	1,216,404.20
Total	9,155.7	141,950,750.13	63,807,726.00	18,053.5	380,649,591.14	172,613,311.94	77,943,603.23

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[1] Includes 3,689.4 miles of practically completed projects.

TABLE 767.—*Highways: Federal-aid projects completed, by types, 1918–1924*

Year ended June 30—	Graded and drained			Sand-clay		
	Miles	Total cost	Federal aid	Miles	Total cost	Federal aid
1918						
1919	10.0	$11,808.24	$4,738.04	16.8	$126,885.24	$63,321.17
1920	203.0	681,851.41	208,906.94	90.0	384,811.91	181,107.89
1921	349.9	2,308,794.90	1,021,277.45	384.2	2,401,029.18	1,075,989.09
1922	1,635.5	17,134,140.97	7,055,698.94	1,111.8	9,208,839.93	4,243,289.25
1923	1,966.0	14,569,579.11	6,316,326.91	1,016.7	8,120,872.33	3,896,209.34
1924	2,395.2	14,853,625.61	6,720,790.19	805.8	5,653,910.67	2,839,353.07
Total	6,529.6	49,559,800.24	21,417,737.57	3,455.3	25,846,952.86	12,274,067.06

Year ended June 30—	Gravel			Water-bound macadam		
	Miles	Total cost	Federal aid	Miles	Total cost	Federal aid
1918						
1919	55.2	$236,623.22	$103,891.64			
1920	247.8	1,795,311.88	778,582.85	11.7	$139,131.96	$69,241.84
1921	1,201.4	9,839,752.94	4,268,225.54	40.5	560,631.81	254,989.59
1922	3,415.3	35,333,778.98	15,854,797.05	286.8	4,279,366.52	1,837,921.56
1923	4,104.0	46,479,134.23	20,867,363.64	287.5	5,987,050.01	2,578,843.54
1924	3,463.4	32,733,515.57	15,332,944.52	238.6	4,227,471.97	1,757,186.78
Total	12,905.9	126,198,545.10	57,057,842.84	865.1	15,129,202.54	6,172,671.64

Year ended June 30—	Bituminous macadam			Bituminous concrete		
	Miles	Total cost	Federal aid	Miles	Total cost	Federal aid
1918				6.8	$136,715.94	$59,571.76
1919	1.2	$41,237.10	$11,620.00	19.5	347,484.00	162,627.93
1920	11.0	205,783.73	100,882.07	19.7	460,080.99	195,509.11
1921	148.9	3,428,696.06	1,576,184.47	139.1	4,580,701.11	2,005,818.94
1922	294.5	8,854,811.29	3,822,667.03	392.8	13,533,187.30	5,221,431.96
1923	468.1	14,640,388.38	6,355,525.91	131.0	4,829,129.82	2,071,446.10
1924	601.0	17,583,663.08	7,754,528.06	210.6	8,066,572.91	3,278,561.95
Total	1,524.7	44,754,489.64	19,621,407.54	919.5	31,609,131.46	12,992,362.29

Year ended June 30—	Portland-cement concrete			Brick		
	Miles	Total cost	Federal aid	Miles	Total cost	Federal aid
1918	5.7	$121,015.43	$52,685.22			
1919	25.2	599,328.74	217,917.11	18.8	$702,502.04	$194,361.28
1920	110.3	2,729,185.04	1,189,723.28	21.8	839,375.33	261,101.09
1921	494.6	16,490,885.57	7,374,016.37	26.8	1,520,655.96	391,123.05
1922	2,126.9	84,788,065.27	35,844,590.98	205.6	9,680,179.46	3,100,843.36
1923	1,621.4	63,858,248.33	26,021,235.74	69.9	2,998,868.14	1,063,446.49
1924	1,292.0	46,578,479.90	20,851,772.92	166.8	6,757,954.05	2,610,165.94
Total	5,679.1	214,649,238.96	91,349,281.65	508.8	22,499,532.98	7,621,044.13

Year ended June 30—	Bridges			All types		
	Miles	Total cost	Federal aid	Miles	Total cost	Federal aid
1918				12.5	$257,731.37	$112,256.98
1919	0.2	$59,004.90	$10,000.00	176.8	2,124,873.48	768,472.17
1920	.9	109,467.28	84,733.45	716.1	7,405,090.53	3,159,790.63
1921	4.2	1,018,723.83	494,474.58	2,898.5	42,149,181.36	18,462,089.99
1922	20.0	6,153,276.71	2,844,952.47	9,519.3	188,965,646.43	79,816,175.60
1923	10.3	5,318,937.62	2,510,895.09	9,973.9	106,802,207.97	71,681,382.67
1924	12.8	3,792,417.69	1,907,865.25	9,155.7	140,227,611.45	63,053,168.68
Total	47.9	16,511,828.03	7,852,920.75	32,452.9	546,818,721.81	236,569,985.46

Bureau of Public Roads.

TABLE 768.—*Rural roads, mileage: Consolidated data for all States, counties, townships, and districts, January 1, 1922*

States and geographic divisions	Mileage by type of surfacing												Total	Earth roads	Total, all types
	Sand-clay	Gravel, chert, shale	Water-bound macadam	Surface-treated macadam	Bituminous macadam	Sheet asphalt	Bituminous concrete	Portland cement concrete	Brick	Wood block	Stone block	Miscellaneous			
Maine	81	2,662	24	20	124	1	3	37				1	2,953	18,530	21,483
New Hampshire		1,368	66	123	50		29	1				55	1,692	12,149	13,841
Vermont		3,518	1		13		5	8					3,545	11,132	14,677
Massachusetts	8	3,103	1,163	521	1,289		280	129	7	1	8	86	6,575	12,293	18,868
Rhode Island		145	74	258	140	2	127	6			2		754	1,520	2,274
Connecticut		794	772	37	211	4	120	172	2			94	2,206	9,946	12,152
New England	89	11,590	2,100	959	1,807	7	564	353	9	1	10	236	17,725	65,570	83,295
New York		4,210	5,424	3,600	3,740	1	158	953	232		4	244	18,566	63,312	81,878
New Jersey	12	3,435	1,110	605	193	74	715	238	13	2	39	23	6,459	7,607	14,066
Pennsylvania		394	696	2,719	204	137	493	1,149	327		1	7,801	13,921	77,070	90,991
Middle Atlantic	12	8,039	7,230	6,924	4,137	212	1,366	2,340	572	2	44	8,068	38,946	147,989	186,935
Ohio	501	14,931	14,380	1,860	1,318	10	181	1,060	1,316			511	36,068	48,151	84,219
Indiana		30,801	6,917	949	305	20	38	654	173				39,857	36,389	76,246
Illinois	84	6,747	2,618	138	63		56	1,534	225	8			11,473	84,853	96,326
Michigan	78	13,185	1,715	236	172		225	1,294	13			268	17,186	60,097	77,283
Wisconsin	3,860	12,987	879	817	52	8	14	1,091	6				19,714	58,965	78,679
East North Central	4,523	78,651	26,509	4,000	1,910	38	514	5,633	1,733	8		779	124,298	288,455	412,753
Minnesota	3,975	12,188	169	75	19	9	100	350	10	10			16,905	90,198	107,103
Iowa		2,346		1				187	51				2,585	101,497	104,082
Missouri	1,755	4,510	1,329	56	104	1	11	103	10				7,879	103,641	111,520
North Dakota	14	695						1					710	105,813	106,523
South Dakota	26	518	4										548	114,937	115,485
Nebraska	276	151	1	24			3	13	28				496	86,060	86,556
Kansas	297	383	100	63	32			163	58			4	1,100	127,451	128,551
West North Central	6,343	20,791	1,603	219	155	10	114	817	157	10		4	30,223	729,597	759,820
Delaware		50	16	150	32		21	172	7				448	3,485	3,933
Maryland		922	398	1,186		21	44	493	2			597	3,663	11,109	14,772
Virginia	3,400	1,339	782	1,089	277		5	219	1		1	147	7,260	51,820	59,080
West Virginia		132	440	103	197		57	258	170			10	1,367	33,806	35,173
North Carolina	12,198	3,332	416	189	125	88	207	137	58		1	4	16,755	51,449	68,204
South Carolina	5,833	973	15		6		22	54	1		4		6,908	54,942	61,850

Georgia	14,128	3,236	190	30	254	17	79	400				5	18,339	76,573	94,912
Florida	2,333	1,627	686	605	101	474		20	539			53	6,438	21,205	27,643
South Atlantic	37,892	11,611	2,943	3,352	992	600	435	1,753	778		6	816	61,178	304,389	365,567
Kentucky	70	3,122	10,624	1,414	59	45	10	25	5	5		57	15,436	53,268	68,704
Tennessee		5,306	3,985	436	62	5	26	36		1		21	9,878	52,668	62,546
Alabama	6,198	3,670	465	34	3	11	28	10				1	10,420	47,990	58,410
Mississippi	364	5,017	107	82	7		16	138	6			7	5,744	47,341	53,085
East South Central	6,632	17,115	15,181	1,966	131	61	80	209	11	6		86	41,478	201,267	242,745
Arkansas	150	2,869	320	73	154	12	219	74					3,871	70,995	74,866
Louisiana	148	2,449		6	8		3	7	18			132	2,771	37,032	39,803
Oklahoma	1,840	491	7	4	2		25	82	1			9	2,461	[1] 131,802	[1] 134,263
Texas	2,764	10,790	339	374	90	43	77	151	3			252	14,883	152,802	167,685
West South Central	4,902	16,599	666	457	254	55	324	314	22			393	23,986	392,631	416,617
Montana	15	1,716	5		2			32				2	1,772	62,960	64,732
Idaho	217	2,537	73	56	22	11	39	13				14	2,982	28,117	31,099
Wyoming		413	12				1	14					440	46,088	46,528
Colorado	1,070	3,326	131					71					4,598	43,545	48,143
New Mexico	674	1,101						27					1,802	43,747	45,549
Arizona	23	960	29		3		35	153					1,233	19,994	21,227
Utah	697	1,631	12	4	7	2	39	152					2,544	20,503	23,047
Nevada	10	126		4				28					168	25,889	26,057
Mountain	2,706	11,810	262	64	34	13	114	520				16	15,539	290,843	306,382
Washington		10,377	169	13	108	20	228	920	51			176	12,062	33,754	45,816
Oregon		6,230	540		35		746	139				60	8,050	37,425	45,475
California	240	7,086	533	1,355	701	585	493	2,613				669	14,275	61,614	75,889
Pacific	240	23,693	1,542	1,368	844	605	1,467	3,672	51			905	34,387	132,793	167,180
Total all States	63,339	199,899	58,036	19,309	10,264	1,601	4,978	15,611	3,333	27	60	11,303	387,760	2,553,534	2,941,294

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[1] Includes about 26,000 miles of section lines declared public highways by law but which are not open for general traffic.

TABLE 769.—*Sources and amounts of State and State controlled funds for highways, 1921*

State	Total	Bonds	State taxes [1]	Appropriations not allocated as to source	Funds raised by county bond issues transferred to State control
Alabama	$1,596,102				
Arizona	2,008,788		$884,443	$546,403	
Arkansas	1,872,265				
California	10,347,739	$5,122,000			
Colorado	4,089,538	250,000	1,479,774		
Connecticut	7,312,595			2,381,750	
Delaware	3,907,983	1,680,248		99,529	$542,224
Florida	2,230,866		643,373		
Georgia	5,461,092				
Idaho	6,195,135	2,000,000	463,295		
Illinois	15,881,180	4,769,478	235,500		
Indiana	6,715,672		[2] 2,865,781		
Iowa	16,885,275	3,179,000			
Kansas	2,955,660				
Kentucky	4,905,266		689,392		
Louisiana	2,424,749	684,479	182,911		
Maine	5,677,125	1,717,572	637,103	300,000	
Maryland	6,743,091	2,448,750			
Massachusetts	7,589,160	381,362	617,697	901,244	
Michigan	15,361,930	5,448,000	1,514,282		
Minnesota	10,296,630		1,657,800		
Mississippi	2,441,364			100,000	
Missouri	5,983,450		140,558		
Montana	3,935,000				
Nebraska	4,835,774		1,471,055		
Nevada	1,747,272	575,000	203,962		
New Hampshire	2,542,305			355,000	
New Jersey	8,613,140		3,569,726	500,000	
New Mexico	4,282,447	830,000	1,099,115		
New York	45,462,909	18,355,231	14,808,688		
North Carolina	13,733,998	7,983,710			
North Dakota	1,366,148			362,938	
Ohio	12,672,644		5,469,133		
Oklahoma	8,821,027		440,244		
Oregon	17,712,897	10,957,359	1,009,686		
Pennsylvania	55,460,942	26,773,560		12,120,000	
Rhode Island	2,756,431	286,160	299,291	912,730	
South Carolina	3,970,929			130,065	662,568
South Dakota	5,005,478	3,007,644	195,225		
Tennessee	5,008,863		758,150		1,086,750
Texas	7,893,625				
Utah	3,486,891	1,214,648	810,065		
Vermont	1,125,687		138,747	224,063	
Virginia	7,054,148		1,374,381	1,846,310	
Washington	8,222,993		3,005,211		
West Virginia	17,995,652	15,080,600			
Wisconsin	11,476,755		1,700,000	885,000	
Wyoming	[3] 3,555,416	700,000	106,200	200,000	
Total, all States	[4] 405,642,899	113,384,202	46,262,186	21,865,102	2,191,542

[1] Includes appropriations made directly from tax revenues.
[2] Includes $652,597 inheritance tax.
[3] Includes $104,500 Federal funds for Yellowstone Park.
[4] Includes $104,500 over which State had no control. Actual State and State controlled funds were $405,538,399.

TABLE 769.—*Sources and amounts of State and State controlled funds for highways, 1921*—Continued

State	Funds raised by county property taxes transferred to State control	Motor vehicle fees	Gasoline taxes	Federal-aid and forest funds	Miscellaneous sources
Alabama	$187,084	$893,136		$477,590	$38,292
Arizona		180,633		816,681	670,628
Arkansas		[1] 420,000	[2] $80,000	1,372,205	
California		2,434,800		2,533,354	257,585
Colorado	351,634	400,000	320,000	1,191,584	96,543
Connecticut	514,854	3,405,085		656,455	354,451
Delaware		375,471		244,313	966,198
Florida		671,535	228,056	430,308	107,554
Georgia		1,600,000		3,610,524	259,478
Idaho	1,934,269	180,488		1,539,045	78,038
Illinois		6,852,126		3,802,430	221,646
Indiana		2,305,312		1,446,623	97,936
Iowa		7,241,922		4,308,679	[4] 2,186,274
Kansas		1,254,095		1,601,565	
Kentucky	609,923	1,685,769	438,116	1,482,066	
Louisiana		106,761		1,424,114	26,484
Maine	921,046	1,004,750		852,192	244,161
Maryland	1,781,127	1,600,990		859,006	63,214
Massachusetts		5,023,963		661,504	73,250
Michigan	2,062,059	3,897,963		592,854	39,781
Minnesota		5,616,144		2,986,920	35,796
Mississippi		704,988		1,656,366	
Missouri		2,505,354		2,304,780	32,718
Montana		273,075		2,041,172	1,620,848
Nebraska		2,114,721		1,200,000	50,000
Nevada		97,200		506,591	304,519
New Hampshire		790,118		240,782	1,156,405
New Jersey		4,029,971		509,372	4,071
New Mexico	722,854	188,593	333,288	1,093,208	24,369
New York	4,916,157	7,716,044		2,398,451	267,728
North Carolina		2,322,630	506,019	2,674,070	247,569
North Dakota		418,525		584,685	
Ohio		3,588,396		3,595,383	19,732
Oklahoma	3,772,423	2,263,006		2,345,354	
Oregon		1,629,275	948,509	2,181,957	986,111
Pennsylvania		9,310,447		4,533,682	2,723,253
Rhode Island		777,587		358,374	122,289
South Carolina	1,209,610	692,663		1,359,455	16,547
South Dakota				1,650,130	152,379
Tennessee		1,386,378		1,685,453	92,132
Texas		1,901,577		5,788,048	204,000
Utah		478,474		862,712	120,992
Vermont		[3] 627,588		135,289	
Virginia		1,926,624		980,806	926,027
Washington	779,388	3,375,600	500,000	537,794	25,000
West Virginia		1,938,000		1,057,652	
Wisconsin	3,023,016	2,627,122		2,443,597	798,030
Wyoming		290,000		[5] 1,318,764	940,452
Total, all States	22,785,464	101,204,479	3,353,988	79,031,441	16,644,495

Bureau of Public Roads.

[1] Approximate.
[2] Includes $1,521,435 of primary road assessment certificates.
[3] Includes $104,500 Federal funds for Yellowstone Park.

TABLE 770.—*Sources and amounts of county, township, and district funds for highway purposes, 1921*

State	Total	Bonds	Taxes	Motor vehicle fees	Gasoline taxes	Forest road funds	All other sources [1]
Alabama	$4,973,465	$1,878,316	$2,232,702				$862,447
Arizona	7,201,128	5,504,825	1,549,758				146,545
Arkansas	21,014,765	16,060,289	4,266,391	$436,544	$90,000		161,541
California	39,344,156	17,896,539	15,432,565	2,434,800			3,580,252
Colorado	4,675,908		3,714,335	420,316	239,472	$301,785	
Connecticut	2,633,032	293,824	2,339,208				
Delaware	1,579,335	[2] 935,304	179,729				464,302
Florida	9,739,116	6,142,433	3,320,670				276,013
Georgia	11,871,044	4,500,281	7,358,512				12,251
Idaho	6,918,308	4,221,802	2,065,596	630,910			
Illinois	27,833,604	6,588,193	18,115,139				3,130,272
Indiana	51,091,642	28,709,037	20,589,236				1,793,369
Iowa	21,106,507	6,227,869	14,878,638				
Kansas	20,431,960	7,476,611	12,315,864				639,485
Kentucky	6,622,998	485,000	4,081,499				2,056,499
Louisiana	20,806,167	15,147,507	4,054,173	346,515			1,257,972
Maine	2,213,715	49,387	721,273				1,443,055
Maryland	3,982,869	1,075,549	2,717,185				190,135
Massachusetts	11,669,909	2,953,651	8,521,919				194,339
Michigan	42,300,418	15,221,626	16,852,278	3,897,963			6,328,551
Minnesota	30,061,295	8,731,150	19,234,368				2,095,777
Mississippi	23,297,563	14,741,678	8,078,082				477,803
Missouri	11,510,525	3,426,420	4,999,628				3,084,477
Montana	6,096,811	3,330,829	2,392,404	273,075			100,503
Nebraska	8,611,008	2,242,484	4,976,955	705,279			686,290
Nevada	544,072		444,477				99,595
New Hampshire	1,340,083	107,316	1,231,877				890
New Jersey	13,044,694	7,183,444	5,172,898				688,352
New Mexico	614,220		614,220				
New York	21,896,421		19,575,155	1,283,356			1,037,910
North Carolina	19,107,627	9,656,824	8,357,346				1,093,457
North Dakota	5,349,252		5,349,252				
Ohio	69,603,024	32,869,752	26,799,208	3,456,355			6,477,709
Oklahoma	10,095,888	5,273,327	5,135,454				287,107
Oregon	10,819,927	2,950,673	5,250,360	555,000			2,063,894
Pennsylvania	23,827,327	7,231,023	14,731,187				1,865,117
Rhode Island	567,576		567,576				
South Carolina	10,290,283	[3] 7,584,062	2,539,915				166,306
South Dakota	10,242,754		9,184,159	648,528			410,067
Tennessee	11,435,073	[4] 7,359,603	3,518,634				556,836
Texas	64,975,734	44,962,149	13,610,393	1,852,562			4,550,630
Utah	3,073,475	1,280,932	1,611,758				180,785
Vermont	1,017,666	100,472	917,194				
Virginia	10,777,995	5,519,711	4,313,339				944,945
Washington	15,637,226	4,914,339	8,938,472				1,789,415
West Virginia	9,241,823	3,775,066	5,418,257				48,500
Wisconsin	30,251,846	8,004,232	17,515,659	797,024			3,934,931
Wyoming	1,853,463		1,853,463				
Total	[5] 743,794,997	[6] 322,613,529	347,633,360	17,738,227	329,472	301,785	55,178,624

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[1] Includes interest on bank deposits, donations, sale of materials, rental of equipment, appropriations, and transfers from funds of undetermined origin, as well as a certain amount of township and district tax and bond moneys which could not be definitely segregated.
[2] Does not include $542,224 of county bonds transferred to State highway department.
[3] Does not include $562,568 county bonds transferred to State highway department.
[4] Does not include $1,086,750 of county bonds transferred to State.
[5] Does not include $104,500 of non-State funds included in Table 771.
[6] Including $2,191,542 of county bonds transferred to State. This total is $324,805,071.

TABLE 771.—*Rural roads, income for all purposes: Consolidated data for all States, counties, townships, and districts, 1921*

Geographic division and State	Bonds [1]		Federal and forest road aid [2]		Motor-vehicle fees [3]			General property taxes		All other sources		Total
	Amount	Per cent of total	Amount	Per cent of total	Amount	Gasoline taxes (amount)	Per cent of total	Amount	Per cent of total	Amount	Per cent of total	
Maine	$1,766,960	22.4	$852,192	10.8	$1,004,750		12.7	$2,279,722	28.9	$1,987,216	25.2	$7,890,840
New Hampshire	107,316	2.8	240,782	6.2	790,118		20.4	1,231,877	31.7	1,512,295	38.9	3,882,388
Vermont	100,472	4.7	135,289	6.3	627,588		29.3	1,055,941	49.3	224,063	10.4	2,143,353
Massachusetts	3,335,013	17.3	661,594	3.4	5,023,963		26.1	9,139,616	47.5	1,108,883	5.7	19,269,069
Rhode Isalnd	286,160	8.6	358,374	10.7	777,587		23.4	866,867	26.1	1,035,019	31.2	3,324,007
Connecticut	293,824	3.0	656,455	6.6	3,405,085		34.2	2,854,062	28.7	2,736,201	27.5	9,945,627
New England	5,889,745	12.7	2,904,686	6.2	11,629,091		25.1	17,428,085	37.5	8,603,677	18.5	46,455,284
New York	18,355,231	27.2	2,398,461	3.6	[3] 9,000,000		13.4	[3] 36,300,000	53.9	1,305,638	1.9	67,359,330
New Jersey	7,183,444	33.2	509,372	2.4	4,029,971		18.6	8,742,624	40.2	1,192,423	5.6	21,657,834
Pennsylvania	34,004,583	42.9	4,533,682	5.7	9,310,447	(4)	11.7	14,731,187	18.6	[5] 16,708,370	21.1	79,288,269
Middle Atlantic	59,543,258	35.4	7,441,515	4.4	22,340,418		13.3	59,773,811	35.5	19,206,431	11.4	168,305,433
Ohio	32,869,752	39.9	3,595,383	4.4	7,044,751		8.6	32,265,341	39.2	6,497,441	7.9	82,275,668
Indiana	28,709,037	49.7	1,446,623	2.5	2,305,312		4.0	23,455,017	40.6	1,891,625	3.2	57,807,614
Illinois	11,297,671	25.9	3,802,439	8.7	6,862,126		15.7	18,350,639	42.0	3,351,918	7.7	43,664,784
Michigan	20,669,626	37.1	599,854	1.1	7,795,926		14.0	20,228,619	36.4	6,368,332	11.4	55,662,357
Wisconsin	8,004,232	19.2	2,443,597	5.8	3,424,146		8.2	22,238,675	53.3	5,617,951	13.5	41,728,601
East North Central	101,550,318	35.9	11,887,887	4.2	27,432,261		9.8	116,541,291	41.7	23,727,267	8.4	281,139,024
Minnesota	8,731,150	21.6	2,986,920	7.4	5,616,114		13.9	20,892,168	51.8	2,131,573	5.3	40,357,925
Iowa	9,406,869	24.8	4,308,079	11.3	7,211,922		19.0	14,878,638	39.2	2,186,274	5.7	37,991,782
Missouri	3,426,420	20.8	2,304,790	14.0	2,505,354		15.2	5,140,186	31.1	3,118,225	18.9	16,494,975
North Dakota			584,685	8.7	418,525		6.2	5,349,252	79.7	362,938	5.4	6,715,400
South Dakota	3,007,644	19.7	1,650,130	10.8	648,528		4.3	9,379,484	61.5	562,446	3.7	15,248,232
Nebraska	2,242,484	16.6	1,200,000	9.0	2,820,000		21.0	6,448,008	47.9	736,290	5.5	13,446,782
Kansas	7,476,611	32.0	1,601,565	6.8	1,354,095		5.8	12,315,864	52.7	639,485	2.7	23,387,620
West North Central	34,291,178	22.3	14,636,169	9.5	20,574,538		13.4	74,403,600	48.5	9,737,231	6.3	153,642,716

[1] Includes all receipts from sale of highway bonds during 1921 and all cash from previous bond sales on hand at beginning of the year.
[2] Includes only Federal aid and national forest payments received by the States and credited by them to their respective highway funds during the fiscal year.
[3] Approximate.
[4] Gasoline tax effective Sept. 1, 1921.
[5] Appropriations, $12,120,000.

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TABLE 772.—*Rural roads, expenditures for all purposes: Consolidated data for all States, counties, townships, and districts, 1921*—Contd.

Geographic division and State	Construction, roads and bridges		Maintenance, roads and bridges		Administration and engineering		Principal and interest payments, highway bonds		Purchase and repair of machinery and equipment, and general miscellaneous		Total
	Amount	Per cent of total	Amount	Per cent of total	Amount	Per cent of total	Amount	Per cent of total	Amount	Per cent of total	
Delaware	$4,561,348	75.6	$535,610	8.9	$240,976	4.0	$465,588	7.7	$232,115	3.8	$6,035,637
Maryland	5,337,456	51.8	3,324,353	32.3	196,952	1.9	1,329,552	12.9	109,823	1.1	10,298,136
Virginia	8,254,486	53.4	5,045,909	32.5	931,949	6.1	1,101,970	7.1	151,078	.9	15,485,392
West Virginia	7,274,371	72.3	1,426,626	14.2	493,987	4.9	[7] 679,232	6.8	185,857	1.8	10,060,073
North Carolina	16,734,431	57.1	5,989,437	20.4	[8] 732,257	2.7	3,705,965	12.6	2,111,610	7.2	29,323,700
South Carolina	7,280,309	72.6	1,239,289	12.5	504,021	5.0	[9] 154,413	1.5	851,249	8.4	10,049,281
Georgia	10,029,427	63.5	2,853,167	18.0	779,485	4.9	1,245,083	7.9	909,432	5.7	15,816,594
Florida	6,287,424	65.6	1,569,354	16.4	280,771	2.9	1,046,466	10.9	404,118	4.2	9,588,133
South Atlantic	65,759,252	61.6	22,003,745	20.6	4,210,398	4.0	9,728,269	9.1	4,955,282	4.7	106,656,946
Kentucky	7,622,488	60.4	3,666,942	29.0	393,730	3.1	[10] 789,585	6.3	149,918	1.2	12,622,663
Tennessee	8,160,059	64.3	2,715,290	21.4	723,784	5.7	[11] 650,654	5.1	447,660	3.5	12,697,447
Alabama	2,935,461	52.3	1,488,065	26.5	219,476	3.8	726,134	13.0	247,699	4.4	5,607,835
Mississippi	12,887,000	63.3	3,659,108	18.1	443,893	2.2	3,051,833	15.1	266,455	1.3	20,308,289
East South Central	31,605,008	61.6	11,529,405	22.5	1,771,883	3.5	5,218,206	10.2	1,111,732	2.2	51,236,234
Arkansas	14,397,819	67.9	3,196,665	15.1	1,279,374	6.0	[12] 1,857,208	8.8	479,948	2.2	21,211,014
Louisiana	10,479,570	74.8	875,883	6.2	[13] 293,494	2.1	2,183,843	15.6	189,213	1.3	14,022,003
Oklahoma	9,068,249	61.8	3,576,748	24.3	837,330	5.7	748,413	5.1	449,151	3.1	14,679,891
Texas	30,191,076	56.1	12,133,177	22.5	1,870,528	3.5	8,191,819	15.1	1,520,671	2.8	53,907,271
West South Central	64,136,714	61.8	19,782,473	19.1	4,280,726	4.1	12,981,283	12.5	2,638,983	2.5	103,820,179
Montana	6,619,120	63.8	1,509,797	14.5	648,167	6.2	1,106,241	10.7	499,823	4.8	10,383,157
Idaho	8,283,361	70.0	1,467,630	12.4	226,705	1.9	1,020,946	8.7	828,741	7.0	11,807,383
Wyoming	3,197,397	67.7	612,970	13.0	234,908	5.0	396,200	8.3	283,937	6.0	4,725,412
Colorado	5,144,486	56.8	2,651,055	29.4	544,328	6.0	145,543	1.6	563,415	6.2	9,048,821
New Mexico	2,635,933	61.9	510,302	11.9	[14] 111,667	2.6	889,541	21.0	111,562	2.6	4,259,005
Arizona	8,480,916	79.7	671,967	6.3	490,237	4.6	[15] 443,673	4.2	561,392	5.2	10,648,485
Utah	3,462,964	66.9	787,730	15.2	137,418	2.7	610,475	11.8	176,127	3.4	5,174,714
Nevada	1,304,665	61.8	258,116	12.2	115,908	5.5	139,057	6.6	293,206	13.9	2,110,952
Mountain	39,108,845	67.3	8,469,567	14.5	2,509,338	4.3	4,751,676	8.2	3,318,503	5.7	58,157,929

Washington	17,344,669	71.5	3,384,970	14.0	732,835	3.0	2,009,679	8.3	766,576	3.2	24,238,729
Oregon	23,891,963	85.4	1,756,103	6.3	659,990	2.4	1,492,792	5.3	168,065	.6	27,968,913
California	21,329,275	51.0	10,987,776	26.3	1,910,576	4.6	5,208,277	12.4	2,387,068	5.7	41,822,972
Pacific	62,565,907	66.5	16,128,849	17.2	3,303,401	3.5	8,710,748	9.3	3,321,709	3.5	94,030,614
Total all States	626,965,373	60.5	248,593,169	24.0	36,031,353	3.5	89,280,946	8.6	35,716,931	3.4	1,036,587,772

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[7] Does not include approximately $270,000 of interest charged to construction.
[8] State engineering charged to construction and maintenance.
[9] Does not include approximately $450,000 interest and principal payments charged to "Miscellaneous."
[10] Does not include approximately $150,000 of interest payments charged to construction.
[11] Complete data not available. Total interest and principal payments on highway bonds estimated to have been approximately $2,000,000 during 1921.
[12] Complete data for principal and interest payments not available.
[13] Cost of State engineering and inspection charged to construction.
[14] State engineering amounting to approximately $140,000 charged to construction.
[15] Does not include approximately $400,000 of interest payments charged to construction.

TABLE 773.—*State highway bonds outstanding, December 31, 1923*

State	Amount of State highway bonds outstanding Dec. 31, 1923	State	Amount of State highway bonds outstanding Dec. 31, 1923	State	Amount of State highway bonds outstanding Dec. 31, 1923
Alabama	$6,000,000	Maryland	[7] $19,375,000	Oregon	$39,395,250
Arizona	----------	Massachusetts	[8] 13,694,500	Pennsylvania	50,000,000
Arkansas	(1)	Michigan	35,050,000	Rhode Island	2,788,000
California	[2] 68,000,000	Minnesota	[9] 24,377,545	South Carolina	----------
Colorado	6,500,000	Mississippi	----------	South Dakota	5,750,000
Connecticut	[3] 5,095,658	Missouri	13,000,000	Tennessee	----------
Delaware	[4] 6,644,000	Montana	(1)	Texas	----------
Florida	(1)	Nebraska	(1)	Utah	7,220,000
Georgia	(1)	Nevada	[10] 550,000	Vermont	----------
Idaho	[5] 3,615,500	New Hampshire	75,000	Virginia	----------
Illinois	42,000,000	New Jersey	17,000,000	Washington	[13]
Indiana	(1)	New Mexico	1,380,000	West Virginia	20,000,000
Iowa	(6)	New York	100,000,000	Wisconsin	(1)
Kansas	----------	North Carolina	[11] 40,000,000	Wyoming	3,500,000
Kentucky	----------	North Dakota	(1)		
Louisiana	(1)	Ohio	(12)	Total	539,886,953
Maine	8,876,500	Oklahoma	----------		

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[1] No debt can be incurred for roads.
[2] Approximate.
[3] *Total outstanding less sinking fund assets.*
[4] Outstanding Dec. 15, 1923.
[5] Outstanding Sept. 30, 1922.
[6] No debt over $250,000 can be incurred without approval of people.
[7] Outstanding Dec. 31, 1922.
[8] Outstanding Nov. 30, 1923; includes bonds issued for highways by metropolitan district commissioners.
[9] County bonds assumed by State (Jan. 1, 1923). No State bonds issued.
[10] Outstanding Nov. 30, 1922.
[11] Amount sold.
[12] Debts can not be incurred for roads except for casual deficits.
[13] None outstanding Sept. 30, 1922.

TABLE 774.—*Gasoline taxes, 1923*

State	Total gross receipts	Amount applicable to highway work by or under supervision of State highway department	Tax in cents per gallon on Jan. 1, 1923	Tax in cents per gallon on Jan. 1, 1924	Date on which change in rate of tax became effective
Alabama	$1,133,085.49			2	Mar. 1, 1923
Arizona	474,123.04	$118,530.76	1	3	June 9, 1923
Arkansas [1]	1,219,198.75	301,094.76	1	4	Jan. 1, 1924
California	2,518,893.00	1,259,446.00		2	Sept. 30, 1923
Colorado	846,353.12	402,017.73	1	2	Aug. 1, 1923
Connecticut	880,222.70	880,222.70	1	1	
Delaware [2]	88,579.28	88,579.28		2	Jan. 1, 1924
District of Columbia					
Florida	1,641,042.25	1,150,355.99	1	3	July 1, 1923
Georgia	1,502,563.49	247,666.55	1	3	Oct. 1, 1923
Idaho	396,487.18	396,487.19		2	Apr. 1, 1923
Illinois					
Indiana	2,906,428.25	2,514,755.83		2	June 1, 1923
Iowa					
Kansas					
Kentucky	680,435.30	680,435.30	1	1	
Louisiana	754,437.85	754,437.85	1	1	
Maine	286,076.97	285,839.84		1	July 7, 1923
Maryland	688,304.02	688,304.02	1	2	Jan. 1, 1924
Massachusetts					
Michigan					
Minnesota [3]					
Mississippi	467,855.53	187,142.21	1	1	
Missouri					
Montana	411,249.10	75,877.10	1	2	July 1, 1923
Nebraska					
Nevada	115,843.24	60,000.00		2	Mar. 20, 1923
New Hampshire [4]	[5] 163,664.64	161,823.10		2	Jan. 1, 1924
New Jersey					
New Mexico	165,000.00	156,750.00	1	1	
New York					
North Carolina	2,909,904.74	[6] 2,900,000.00	1	3	Apr. 1, 1923
North Dakota	461,081.71		1	1	
Ohio					
Oklahoma	599,000.00	599,000.00		1	July 1, 1923
Oregon	1,958,141.37	1,885,421.15	2	3	June, 1923
Pennsylvania	5,491,522.66		1	2	July 1, 1923
Rhode Island					
South Carolina	1,511,452.56	411,327.78	2	3	Mar. 23, 1923
South Dakota	624,692.44	[6] 565,000.00	1	2	
Tennessee	812,356.68	801,502.36		2	Apr. 1, 1923
Texas	1,215,623.36	911,717.52		1	June 15, 1923
Utah	404,085.81	106,902.75		2½	Mar. 8, 1923
Vermont	168,172.81	168,172.81		1	Apr. 1, 1923
Virginia	1,556,920.99	[7] 1,037,947.32		3	June 27, 1923
Washington	1,225,149.66	1,225,149.66	1	2	Jan. 1, 1924
West Virginia	[8] 366,490.00	366,490.00		2	July 27, 1923
Wisconsin					
Wyoming	140,161.62	140,161.62		1	Mar. 1, 1923
Total	36,813,939.61	21,528,559.18			

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[1] One cent from Jan. 1 to Apr. 1; 3 cents, Apr. 1 to Dec. 31, inclusive.
[2] One cent from Apr. 22 to Dec. 31, inclusive.
[3] Constitutional amendment permitting a tax on gasoline approved November, 1924.
[4] Tax of 1 cent per gallon effective July 1 to Dec. 31, inclusive.
[5] To Dec. 1, 1923.
[6] Approximate.
[7] One-third of total receipts returned to counties for county highway work.
[8] Collections from July 27, when tax became effective, to Nov. 1.

TABLE 775.—*Motor vehicles: Registration, licenses, and revenues, registration year 1923*

State	Motor vehicles registered, 1923				Total registration, 1922	Increase during 1923 (per cent)	Motor cycles	Amount of registration fees paid		Registration fees, licenses, and permits	
	Private passenger cars	Motor trucks	Taxis, busses, and cars for hire [1]	Total				Private passenger cars	Motor trucks	Total gross receipts	Amount applicable to highway work by or under supervision of State highway department
Alabama	109,535	13,845	3,262	126,642	90,052	40.4	599			$1,541,017.56	$1,204,449.02
Arizona	42,176	6,565	434	49,175	38,034	29.3	392			281,670.75	281,670.75
Arkansas	102,000	11,300		113,300	84,596	33.9	300	$1,224,000.00	$192,100.00	1,435,090.00	430,527.12
California	1,056,756	43,527		1,100,283	861,807	27.7	14,694	9,081,836.00	814,138.00	10,608,544.00	4,906,015.00
Colorado	175,669	13,287	(2)	188,956	162,328	16.4	2,473	898,666.40	153,741.57	1,126,218.55	534,953.81
Connecticut	148,791	29,140	3,817	181,748	152,977	18.8	4,450	2,392,154.23	956,368.93	4,329,432.16	4,329,432.16
Delaware	24,709	5,268		29,977	24,560	22.1	467	287,950.00	108,379.00	516,209.00	516,209.00
District of Columbia [3]	[3] 65,681	[3] 7,187	[3] 1,943	74,811	52,792	41.7	1,772			357,918.00	
Florida	125,140	23,530	3,320	151,990	116,170	30.8	975			1,963,065.99	1,394,528.58
Georgia	151,325	22,469	95	173,889	143,423	21.2	1,011	1,756,219.20	344,831.04	2,156,406.08	2,095,762.60
Idaho	57,200	5,179		62,379	53,874	15.8	655	807,678.15	87,309.43	914,014.58	229,840.14
Illinois	847,005	122,326		969,331	781,974	23.9	7,611	7,132,472.16	1,820,379.48	9,653,796.04	9,653,796.04
Indiana	510,114	73,228		583,342	469,939	24.1	6,042	2,651,084.00	794,003.00	3,693,715.00	3,492,498.00
Iowa	534,796	36,265		571,061	500,158	14.2	3,044			8,827,052.99	[4] 8,000,000.00
Kansas	349,038	26,556	(5)	375,594	327,194	14.8	1,950			3,435,606.00	[6] 1,750,000.00
Kentucky	177,834	20,543		198,377	154,021	28.8	844			2,678,732.89	2,678,732.89
Louisiana	116,003	20,619		136,622	102,284	33.6	400	1,890,186.81	336,000.00	2,191,240.81	2,191,240.81
Maine	90,177	15,614	2,818	108,609	92,539	17.4	1,400			1,660,268.17	1,474,383.39
Maryland	153,661	11,609	4,081	169,351	165,624	[15] 24.0	4,846	2,230,333.05	461,539.95	3,536,955.20	3,183,259.68
Massachusetts	407,645	73,505		481,150	385,231	24.8	11,033	4,314,529.50	1,117,834.00	6,989,653.25	6,639,155.42
Michigan	657,148	72,000	1,510	730,658	578,210	26.4	4,165	8,135,757.89	[7] 1,225,958.00	10,500,786.05	4,741,624.91
Minnesota	399,404	48,783		448,187	380,557	17.8	5,220	6,212,601.93	959,495.66	7,316,772.03	7,316,772.03
Mississippi	93,846	10,440	(2)	104,286	77,571	34.4	114			1,077,616.22	580,852.12
Missouri	430,340	46,258		476,598	392,523	21.5	2,570			4,016,383.60	[8] 4,016,383.60
Montana	65,449	8,379		73,828	62,650	17.8	374	604,663.75	93,162.75	729,621.50	[9] 73,325.64
Nebraska	259,382	26,671		286,053	256,654	11.4	1,608	2,754,430.61	498,750.99	3,353,175.32	2,932,242.63
Nevada	13,699	2,000		15,699	12,116	29.6	112	119,798.10	30,000.00	153,888.10	[10] 144,992.15
New Hampshire	52,608	6,996	(5)	59,604	48,406	23.2	1,987			1,571,326.96	1,464,096.88
New Jersey	330,552	89,105	11,301	430,958	342,286	25.9	8,811	3,069,466.75	2,407,423.50	7,653,780.37	7,515,116.03
New Mexico	29,032	3,000		32,032	25,473	25.7	215	251,995.00	36,000.00	295,000.00	280,250.00

New York	962,681	203,846	37,686	1,204,213	1,002,293	20.1	22,153	11,689,802.97	5,391,418.25	19,862,441.52	[14] 14,896,831.14
North Carolina [11]	225,488	21,324	(2)	246,812	182,550	35.2	1,300			3,728,044.72	[4] 3,760,000.00
North Dakota	105,958	3,287	21	109,266	99,052	10.3	645			760,852.45	760,444.45
Ohio	927,200	141,900		1,069,100	858,716	24.5	15,000			9,662,370.29	4,832,962.25
Oklahoma	288,424	18,576	(2)	307,000	249,659	23.0	823			3,217,770.84	[12] 2,895,000.00
Oregon	[13] 152,135	12,987	840	165,962	134,125	23.7	3,140			4,069,609.40	[14] 2,924,707.05
Pennsylvania	[15] 969,361	74,409		1,043,770	829,737	25.8	19,220	9,944,691.89	3,410,031.50	15,844,303.80	15,844,303.80
Rhode Island	60,620	13,930	1,762	76,312	66,083	15.5	1,575	727,704.72	275,240.27	1,286,659.47	1,196,909.47
South Carolina	115,892	11,575		127,467	95,239	33.8	547	728,644.01	153,593.69	992,608.69	722,086.95
South Dakota	121,164	10,536		131,700	125,241	5.2	471			1,130,959.27	1,055,175.80
Tennessee	154,181	19,184		173,365	135,716	27.8	751			2,049,653.27	2,028,806.14
Texas	[16] 688,233	(2)		688,233	526,238	30.8	3,346			5,441,508.59	2,368,569.43
Utah	51,625	7,900		59,525	49,164	21.1	766			430,104.72	[14] 430,104.72
Vermont	49,420	3,356		52,776	43,881	20.2	839	674,868.63	83,394.50	938,860.30	860,803.03
Virginia	187,977	30,919		218,896	168,000	30.3	1,813	2,422,993.72	482,670.25	3,200,161.66	3,200,161.66
Washington	218,580	37,100	2,584	258,264	210,716	22.6	3,560	2,736,121.45	843,041.92	3,898,597.77	3,741,167.81
West Virginia	143,548	[17] 7,456	6,920	157,924	112,763	40.0	1,353	1,940,093.23	229,157.66	2,608,508.37	[8] 2,608,508.37
Wisconsin	422,718	34,553	(3)	457,271	382,542	19.5	5,645	4,227,180.00	625,619.56	4,968,933.56	4,693,887.30
Wyoming	35,294	4,537	(3)	39,831	30,637	30.1	291	514,003.00	89,702.00	414,096.39	[14] 414,096.39
Total	13,457,214	1,552,569	82,394	15,092,177	12,238,375	23.6	171,372	91,031,927.06	24,020,784.89	188,970,992.24	153,226,636.16

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[1] Where no data are given these vehicles are not registered as a separate class but included with passenger cars or trucks.
[2] Included with passenger cars.
[3] Includes re-registrations, but does not include nonresident registrations.
[4] Approximate.
[5] Included with trucks.
[6] Approximate amount available for State-aid road work.
[7] Includes receipts from taxicabs, motor busses, and cars for hire.
[8] For State highway work and financing State highway bonds.
[9] State's share for period Jan. 1 to Apr. 1 when new law becomes effective.
[10] Includes $48,115 used to finance State highway bonds.
[11] All data for the State of North Carolina are for the first 6 months of the registration year, which begins on July 1.
[12] To be expended by counties under general regulation made by State highway department.
[13] Includes ambulances and commercial cars under 1-ton capacity.
[14] To finance State highway bonds.
[15] Includes 88,650 commercial vehicles having a chassis weight of less than 2,000 pounds.
[16] Includes motor trucks
[17] Solid-tire vehicles only.
[18] Nonresident registrations included in both years for this computation.

TABLE 776.—*Average registration fees per motor vehicle and average gross receipts per motor vehicle from gasoline tax during 1923*

State	Average fee per motor vehicle based on gross registration receipts	Average passenger car fee [1]	Average motor truck fees [1]	Average gross gas tax receipts per motor vehicle	State	Average fee per motor vehicle based on gross registration receipts	Average passenger car fee [1]	Average motor truck fees [1]	Average gross gas tax receipts per motor vehicle
Alabama	12.17	.....	.....	8.95	Nevada	9.80	8.75	15.00	7.38
Arizona	5.73	.....	.....	9.64	New Hampshire	26.36	.....	.....	2.74
Arkansas	12.67	12.00	17.00	10.76	New Jersey	17.76	9.29	27.02	.....
California	9.64	8.59	18.70	2.29	New Mexico	9.21	8.68	12.00	5.15
Colorado	5.96	5.12	11.57	4.48	New York	16.49	12.14	26.45	.....
Connecticut	23.82	15.47	32.82	4.84	North Carolina	15.10	.....	.....	11.79
Delaware	17.22	11.65	20.57	2.95	North Dakota	6.96	.....	.....	4.22
Florida	12.92	.....	.....	10.80	Ohio	9.04	.....	.....	.....
Georgia	12.40	11.61	15.35	8.64	Oklahoma	10.48	.....	.....	1.95
Idaho	14.65	14.12	16.86	6.35	Oregon	24.52	.....	.....	11.80
Illinois	9.94	8.39	14.91	.....	Pennsylvania	15.18	[6] 10.26	[7] 45.83	5.26
Indiana	6.33	5.20	10.84	4.98	Rhode Island	16.86	12.00	19.76	.....
Iowa	15.46	.....	.....	.....	South Carolina	7.08	6.29	15.27	11.86
Kansas	9.15	.....	.....	.....	South Dakota	8.59	.....	.....	4.74
Kentucky	13.59	.....	.....	3.43	Tennessee	11.82	.....	.....	4.69
Louisiana	16.04	15.52	16.30	5.52	Texas	7.91	.....	.....	1.77
Maine	15.29	.....	.....	2.63	Utah	7.23	.....	.....	6.79
Maryland [2]	17.22	[3] 11.81	[4] 36.88	[5] 3.35	Vermont	17.79	13.66	24.85	3.19
Massachusetts	14.53	10.58	15.21	.....	Virginia	14.62	12.89	15.61	7.11
Michigan	14.37	12.38	17.03	.....	Washington	15.10	12.47	22.72	4.74
Minnesota	16.33	15.55	19.67	.....	West Virginia	16.52	[3] 13.52	[4] 30.73	2.32
Mississippi	10.33	.....	.....	4.49	Wisconsin	10.84	10.00	18.11	.....
Missouri	8.43	.....	.....	.....	Wyoming	10.40	8.90	19.66	3.52
Montana	9.88	9.24	11.12	5.98	Dist. Columbia	4.78	.....	.....	.....
Nebraska	11.72	10.60	18.70	.....	United States	12.49	.....	.....	.....

Bureau of Public Roads.

[1] Where blanks occur, the reports do not segregate the receipts from each class.
[2] Averages secured by including nonresident registrations.
[3] Includes all vehicles equipped with pneumatic tires.
[4] Includes only vehicles equipped with solid tires.
[5] If nonresident registrations are excluded, this figure becomes $4.06.
[6] Data included 88,650 commercial vehicles having chassis weighing less than 2,000 pounds.
[7] Includes only vehicles having chassis weighing 2,000 pounds or more.

HUNTERS' LICENSES

TABLE 777.—*Hunters' licenses issued by States, with total money returns, for the seasons 1922–23 and 1923–24*

State	Licenses issued						Total money returns [1]	
	Resident		Nonresident		Alien			
	1922–23	1923–24	1922–23	1923–24	1922–23	1923–24	1922–23	1923–24
Alaska [2]			20	32			$1,000.00	$1,606.00
Alabama	21,586	34,544	189	199			27,854.00	59,819.00
Arizona [3]	18,046	22,564	88	106			24,187.50	30,430.00
Arkansas	3,636	3,638	2,625	534			14,411.90	11,936.80
California	221,561	244,986	356	438	874	875	236,891.00	246,299.00
Colorado [3]	79,272	78,145	133	128			160,955.50	158,650.75
Connecticut	32,051	34,599	365	465	178	16	38,371.00	39,389.60
Delaware		[4] 1,357	218	[5] 286			2,180.00	4,495.70
Florida [4]								
Georgia	15,138	17,116	179	195			33,511.00	[6] 26,816.50
Idaho [3]	61,246	64,958	557	924	69	137	[6] 114,047.55	[6] 127,698.60
Illinois	218,000	237,540	500	1,057			186,336.38	207,683.80
Indiana [3]	164,632	181,726	173	267			170,066.80	185,804.50
Iowa	113,734	124,320	262	279			116,354.00	127,110.00
Kansas	74,330	95,259	37				74,885.00	95,259.00
Kentucky	75,000	72,286	251	320			[6] 65,594.85	[6] 63,868.60
Louisiana	104,150	69,991	391	473			110,024.50	81,816.00
Maine	[6] 17,587	[6] 37,156	3,142	3,144	77	80	45,336.75	55,843.40
Maryland	68,821	60,937	1,464	1,781			[6] 112,062.62	[6] 115,113.50
Massachusetts	81,200	[3] 86,414	736	[3] 860	158	167	[6] 132,298.10	141,322.40
Michigan	251,758	260,723	1,778	2,109			247,811.80	261,858.26
Minnesota	134,676	119,680	790	567			158,564.50	91,452.60
Mississippi [4]								
Missouri [3]	102,275	130,806	228				134,678.00	165,262.58
Montana	55,573	64,202	107	136	3	8	105,419.05	133,564.00
Nebraska [3]	110,000	117,487	227	192	15	11	112,595.00	125,715.10
Nevada [4]	4,533						6,799.50	
New Hampshire	[3] 57,456	55,000	2,418	3,000			92,726.00	100,000.00
New Jersey [3]	133,317	143,870	1,472	1,564			200,035.50	254,211.25
New Mexico	9,353	8,314	336	299			19,798.50	19,155.50
New York	286,568	310,239	2,305	2,111		650	[6] 298,268.60	[6] 338,220.50
North Carolina [4]								
North Dakota	31,818	38,916	68	104			40,427.00	56,673.00
Ohio	311,914	259,388	165	59			392,367.50	343,621.00
Oklahoma	76,102	85,100	243	260		1	79,747.00	89,025.00
Oregon [3]	47,090	48,609	404	552			172,742.00	181,893.50
Pennsylvania	475,735	497,216	2,126	2,328			[6] 446,667.00	[6] 605,627.00
Rhode Island	10,959	10,513	97	98	50	68	12,679.00	15,068.50
South Carolina	75,707	86,756	621	[7] 896			100,022.00	126,590.00
South Dakota	44,714	48,103	1,568	1,649			52,015.00	89,830.00
Tennessee [4]	19,364		334				[6] 26,248.80	
Texas	32,317	50,488	156	291			66,974.00	96,894.00
Utah [3]	78,000	48,322		325			138,000.00	89,334.72
Vermont [3]	36,145	36,647	819	1,057			39,382.50	41,811.30
Virginia	96,648	91,198	1,577	2,119	1	1	151,628.60	152,650.00
Washington [3]	155,698	173,844	2,117	3,096	174	245	281,187.50	177,185.00
West Virginia [4]	75,092		373				80,657.50	
Wisconsin	178,757	174,779	529	542			196,482.60	192,779.00
Wyoming [3]	17,488	19,374	387	482	2	18	47,277.00	64,433.50
Total	4,307,066	4,357,410	32,831	35,350	1,601	2,278	5,385,489.00	5,594,982.38

Bureau of Biological Survey.

[1] Money returns do not include amounts received from licenses to fish only.
[2] No resident licenses.
[3] Combination hunting and fishing licenses.
[4] Figures not available.
[5] Net.
[6] Licenses good as long as holder remains a resident; 154,001 issued previous to Jan. 1, 1924.
[7] Includes aliens.
Resident license not required in Delaware until season 1923–24.

METEOROLOGICAL STATISTICS

TABLE 780.—*Temperature: Monthly normal*[1] *and mean temperature at selected points in the United States, 1913–1924*

Station	Normal for Jan.	January monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	12.8	20.4	9.7	16.4	15.1	12.4	6.4	15.6	4.6	15.2	11.0	8.7	13.9
Boston, Mass	27.9	39.2	28.7	33.0	33.0	30.2	21.0	33.2	21.0	32.1	27.2	27.0	31.9
Buffalo, N. Y	24.6	33.8	27.9	25.3	32.0	24.4	14.1	31.0	15.6	29.1	23.2	25.4	24.4
Canton, N. Y	16.3	26.8	13.0	19.4	25.0	14.4	7.5	22.0	4.1	20.9	12.8	10.8	18.0
Trenton, N. J	30.5	40.8	32.2	34.0	35.5	32.4	20.4	34.8	23.2	35.4	28.4	31.0	32.6
Pittsburgh, Pa	30.7	40.2	34.4	30.6	37.5	31.6	18.6	39.4	24.4	34.6	28.8	33.4	28.7
Scranton, Pa	27.2	37.2	28.2	30.2	33.6	28.4	17.4	31.7	18.7	29.4	24.1	26.8	29.0
Washington, D. C	33.4	43.6	38.6	35.6	39.8	35.0	23.7	38.1	28.7	36.6	32.0	36.8	35.0
Lynchburg, Va	37.5	45.2	42.0	38.4	43.2	39.4	27.0	41.0	34.4	39.0	35.1	39.8	36.2
Norfolk, Va	40.6	51.2	44.1	42.2	47.0	42.8	31.6	43.8	37.4	43.6	39.2	43.9	42.2
Parkersburg, W. Va	32.5	42.2	37.6	31.9	38.8	33.2	20.3	35.6	28.4	37.4	31.8	37.0	30.2
Charlotte, N. C	41.2	48.8	43.8	41.6	47.6	46.1	32.4	45.0	39.8	42.2	40.2	44.6	40.0
Charleston, S. C	49.9	58.3	50.0	49.7	55.9	54.6	42.4	51.1	51.0	51.8	47.4	53.7	48.9
Atlanta, Ga	42.6	49.5	45.0	41.9	48.8	47.9	34.8	43.8	42.7	45.9	45.0	48.2	38.2
Thomasville, Ga	51.0	59.4	52.2	51.0	60.1	58.2	46.0	51.4	53.0	55.6	51.6	56.8	49.4
Jacksonville, Fla	55.4	63.6	55.2		62.4	61.2	50.0	55.3	57.3	58.0	53.4	59.2	53.7
Miami, Fla	67.3	72.4	64.4	67.0	72.0	69.8	62.8	65.1	68.6	67.8	67.6	68.8	69.5
Cincinnati, Ohio	30.3	40.6	37.8	31.4	37.6	32.4	16.3	35.2	25.4	35.9	29.2	36.5	26.8
Cleveland, Ohio	26.5	35.3	32.0	26.0	34.8	27.3	15.0	32.6	19.0	32.0	25.6	30.2	24.0
Evansville, Ind	33.5	39.4	39.6	31.5	38.6	36.3	19.4	38.5	30.4	39.4	32.3	40.8	28.9
Indianapolis, Ind	28.4	35.1	34.6	26.8	33.8	30.6	14.6	34.0	22.2	34.3	26.7	34.6	23.5
Chicago, Ill	25.1	29.3	32.4	24.1	28.8	24.2	13.3	31.0	18.8	32.4	24.8	30.8	19.8
Peoria, Ill	23.1	27.8	32.2	21.0	27.2	24.4	10.4	29.2	18.6	32.2	23.8	31.8	19.0
Grand Rapids, Mich	23.8	28.2	29.0	23.3	28.7	22.8	12.5	30.0	16.0	30.5	23.6	26.2	20.3
Marquette, Mich	16.3	17.7	21.8	16.3	17.4	12.6	8.8	24.6	9.2	23.4	17.2	19.2	10.5
Madison, Wis	16.7	19.4	25.9	15.4	20.2	13.8	5.6	24.1	10.0	25.4	17.0	22.0	11.4
Duluth, Minn	7.9	6.3	16.4	9.2	5.1	3.1	0.8	17.8	3.0	16.6	8.6	13.0	0.8
St. Paul, Minn	12.6	13.8	21.2	12.4	10.4	6.8	3.7	21.8	7.0	21.4	12.8	17.8	7.1
Des Moines, Iowa	20.1	23.5	29.6	20.8	20.8	20.0	11.8	29.8	18.4	30.4	22.6	29.3	17.0
Dubuque, Iowa	19.1	22.7	28.2	17.2	21.6	16.6	8.2	25.9	13.4	28.5	19.7	25.8	13.6
St. Louis, Mo	30.8	34.8	39.7	29.6	34.1	34.8	18.8	37.8	28.4	39.2	30.2	39.5	26.6
Springfield, Mo	33.5	34.2	39.5	32.2	33.8	36.0	18.4	36.6	31.4	39.8	31.8	42.7	28.4
Bismarck, N. Dak	7.8	5.6	17.9	9.2	−5.0	6.3	1.4	24.4	7.4	18.8	8.4	12.3	6.2
Devils Lake, N. Dak	0.3	−1.4	9.6	2.6	−8.2	−3.0	−4.6	14.4	−2.3	10.5	4.1	6.0	−0.6
Pierre, S. Dak	16.0	18.6	25.5	15.6	2.4	14.8	8.0	29.7	19.0	27.9	13.6	24.0	11.8
North Platte, Nebr	22.9	23.7	34.0	20.1	15.0	22.8	14.8	28.6	28.9	30.1	21.6	32.9	21.4
Omaha, Nebr	21.9	23.8	30.6	21.6	17.2	22.6	12.7	31.9	23.2	32.0	23.6	32.5	17.4
Concordia, Kans	26.4	27.0	36.2	26.5	21.5	28.8	15.3	33.6	30.2	36.2	27.0	37.2	20.8
Dodge City, Kans	29.0	29.4	39.4	30.6	23.8	31.3	21.1	31.0	32.8	36.4	28.6	39.0	28.1
Iola, Kans	27.6	30.6	37.2	30.4	28.5	33.7	17.6	33.6	30.5	38.4	30.0	40.6	27.1
Memphis, Tenn	40.9	46.0	45.1	39.4	46.2	44.7	27.6	43.0	39.3	47.2	40.0	49.2	36.4
Nashville, Tenn	38.6	45.4	42.6	36.2	44.6	41.8	26.4	40.1	38.6	43.2	38.9	45.0	33.4
Birmingham, Ala	45.1	52.0	47.4	42.8	51.2	49.4	36.6	43.9	46.2	49.3	45.9	51.8	40.0
Mobile, Ala	52.2	57.4	53.6	49.6	57.2	57.2	45.7	49.6	53.6	56.0	53.0	58.4	47.4
New Orleans, La	54.2	59.9	56.6	51.8	61.3	59.8	48.1	51.2	56.0	59.2	56.0	61.0	49.4
Shreveport, La	47.0	50.5	52.6	45.2	51.6	50.5	38.2	46.0	46.2	53.4	44.6	55.9	42.8
Amarillo, Tex	35.3	36.0	46.4	34.0	35.2	36.6	30.7	28.7	35.2	41.0	34.0	46.2	35.1
Brownsville, Tex	59.8	58.6	62.6	58.8	67.2	62.6	58.0	56.0	58.2	65.8	57.8	67.6	56.2
El Paso, Tex	45.0	40.3	48.4	41.2	50.4	44.8	41.5	40.7	44.5	48.6	43.5	49.1	42.2
Fort Worth, Tex	45.4	46.1	53.0	45.4	46.2	48.6	36.8	45.8	43.0	51.4	43.0	55.5	41.4
Galveston, Tex	53.8	54.6	57.0	51.2	58.4	56.6	47.8	50.6	54.0	58.2	52.0	62.0	50.4
San Antonio, Tex	52.3	52.4	56.4	50.6	56.2	55.2	47.0	49.7	49.4	58.4	49.4	62.0	47.4
Oklahoma City, Okla	36.4	37.0	45.4	37.1	33.4	39.0	25.0	38.4	35.2	43.0	35.2	47.8	34.0
Little Rock, Ark	41.4	45.1	47.0	40.2	45.2	45.0	28.6	43.2	40.8	47.2	39.8	49.7	36.9
Havre, Mont	12.9	6.9	18.8	11.4	−13.3	11.2	10.8	34.1	13.0	26.0	12.8	19.4	11.0
Kalispell, Mont	20.4	18.2	29.2	20.2	4.4	20.1	21.8	26.8	24.2	26.1	16.9	27.4	17.9
Cheyenne, Wyo	25.5	24.4	31.4	25.8	17.6	21.8	19.8	31.8	33.5	28.2	21.0	32.2	24.7
Sheridan, Wyo	18.9	14.4	29.2	17.8	1.8	18.2	15.6	27.9	22.8	27.6	11.6	28.4	14.2
Pueblo, Colo	29.9	29.0	38.6	29.6	27.1	30.1	22.8	30.8	35.0	35.4	26.1	39.0	27.8
Santa Fe, N. Mex	28.8	24.8	33.5	24.4	30.6	28.0	26.2	24.4	33.9	32.4	28.0	34.9	27.0
Phoenix, Ariz	51.2	47.2	54.8	50.0	50.8	49.0	49.6	50.8	53.3	52.0	48.6	55.4	50.4
Modena, Utah	26.7	23.9	32.2	24.2	24.4	13.6	28.2	25.6	28.7	28.7	16.6	33.5	24.4
Salt Lake City, Utah	29.2	26.9	35.2	28.2	29.4	21.2	30.4	32.0	30.8	35.7	22.2	36.0	25.0
Winnemucca, Nev	28.6	25.2	34.6	29.3	22.1	11.8	31.8	29.2	31.5	32.6	14.8	30.4	20.7
Boise, Idaho	29.8	28.0	37.8	27.6	27.4	23.2	34.4	32.8	30.1	34.8	20.6	35.5	23.6
Seattle, Wash	39.5	36.6	43.2	40.6	31.0	38.0	43.7	41.4	40.2	40.4	35.5	40.4	41.0
Walla Walla, Wash	32.7	32.0	45.6	30.8	18.6	34.0	39.8	36.8	31.6	37.8	23.0	40.8	30.7
Portland, Oreg	39.4	38.2	45.8	39.2	29.6	39.6	45.4	42.2	39.4	41.6	35.2	42.8	38.5
Roseburg, Oreg	41.2	38.4	45.4	40.3	35.8	38.0	45.8	41.3	41.2	42.0	37.2	42.6	41.5
Eureka, Calif	46.9	42.7	49.6	48.8	43.0	42.6	48.4	49.0	47.9	45.6	43.2	46.9	48.0
Fresno, Calif	46.2	44.5	50.0	47.4	45.6	42.8	46.4	48.2	48.2	46.4	41.7	46.2	46.7
Los Angeles, Calif	54.6	52.1	56.8	55.9	50.8	51.2	55.7	60.2	56.6	54.1	53.4	58.1	58.5
Sacramento, Calif	45.8	44.2	48.8	46.3	43.6	42.4	47.5	46.2	46.8	46.2	40.6	43.8	45.1
San Diego, Calif	54.3	50.6	56.3	55.2	52.5	51.6	54.4	56.6	54.6	53.6	52.5	56.3	55.2
San Francisco, Calif	49.9	47.4	51.5	50.8	47.0	47.6	52.7	51.2	52.2	49.5	46.8	48.1	50.2

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Feb.	February monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	12.4	10.4	5.9	20.4	11.9	9.1	10.2	18.2	15.0	16.3	14.8	7.3	10.0
Boston, Mass	28.8	27.7	24.3	33.2	25.5	25.8	26.9	32.6	27.6	32.6	32.0	23.4	26.6
Buffalo, N. Y	24.3	22.2	16.9	29.6	18.9	18.0	23.1	28.8	19.9	29.4	27.1	20.7	21.4
Canton, N. Y	18.0	13.1	8.3	20.8	11.6	9.5	15.6	21.8	15.4	20.9	20.1	9.2	10.0
Trenton, N. J	30.7	32.6	25.6	36.0	27.8	28.5	30.0	34.4	28.3	34.2	34.2	26.4	29.6
Pittsburgh, Pa	32.3	28.8	24.3	36.8	26.8	27.0	32.7	33.5	28.2	35.6	35.2	27.4	29.3
Scranton, Pa	25.5	26.4	19.8	33.2	23.6	24.1	26.8	32.3	24.8	31.6	31.5	23.0	25.7
Washington, D. C	35.3	36.6	30.1	38.8	34.2	32.8	36.8	37.2	32.7	39.0	38.6	32.6	34.2
Lynchburg, Va	40.3	40.2	35.2	42.2	38.8	36.9	41.2	39.8	35.4	41.4	42.0	37.8	37.8
Norfolk, Va	42.7	43.0	38.6	45.4	41.1	38.8	43.7	42.6	38.0	45.0	44.8	39.2	40.5
Parkersburg, W. Va	34.2	32.2	27.6	39.7	30.0	30.8	36.8	35.8	32.1	38.2	38.4	31.2	33.4
Charlotte, N. C	43.9	44.4	39.6	45.7	43.6	42.9	48.6	42.8	39.8	45.5	48.4	42.2	40.6
Charleston, S. C	52.4	54.0	48.6	51.5	52.0	50.8	55.2	51.6	48.2	53.6	56.4	50.3	49.5
Atlanta, Ga	45.3	45.4	43.1	45.8	44.1	44.4	50.8	44.4	41.8	48.1	50.1	43.7	42.2
Thomasville, Ga	55.0	54.0	51.4	52.8	54.4	53.2	60.5	53.8	50.6	56.4	61.2	55.6	52.6
Jacksonville, Fla	58.0	58.4	55.3	.....	57.2	56.8	62.8	57.6	53.9	59.6	62.0	58.0	54.6
Miami, Fla	68.8	70.8	67.4	65.6	65.7	64.8	70.4	66.6	64.2	68.8	70.3	69.8	64.0
Cincinnati, Ohio	32.8	32.0	27.4	40.1	29.6	29.0	34.5	34.4	30.6	37.0	36.0	28.3	31.6
Cleveland, Ohio	27.4	24.4	19.8	32.8	23.0	21.3	28.2	31.3	24.5	32.1	31.7	23.8	25.4
Evansville, Ind	36.3	33.6	29.9	41.2	34.3	32.5	37.3	37.7	35.0	40.0	38.9	32.6	35.6
Indianapolis, Ind	31.1	27.4	21.8	37.0	28.0	25.1	31.9	33.2	29.2	36.2	33.4	26.0	30.5
Chicago, Ill	27.4	21.8	20.2	34.5	25.0	19.8	27.2	30.5	25.8	33.4	29.4	22.3	28.8
Peoria, Ill	25.9	24.4	19.3	35.4	24.4	20.8	27.9	30.8	27.6	34.4	29.9	23.2	28.0
Grand Rapids, Mich	25.5	21.0	15.8	31.1	21.1	17.4	22.4	28.5	21.2	30.0	27.5	19.6	24.0
Marquette, Mich	16.3	11.1	11.6	25.4	13.9	6.4	12.8	23.3	15.6	23.5	17.0	12.4	21.0
Madison, Wis	19.1	15.6	12.1	27.7	17.1	11.1	19.5	23.7	18.4	26.4	20.3	15.0	23.2
Duluth, Minn	11.4	5.6	2.7	20.6	7.6	1.8	10.8	13.8	12.4	19.0	7.6	5.4	17.7
St. Paul, Minn	15.8	12.9	8.0	25.5	11.5	6.2	17.4	17.0	15.5	23.8	11.0	9.8	21.2
Des Moines, Iowa	23.7	22.4	19.7	31.6	21.3	18.2	26.4	26.5	25.3	33.2	26.4	22.4	27.2
Dubuque, Iowa	22.2	20.4	15.8	30.2	20.1	14.2	23.0	25.7	21.1	29.8	23.8	18.3	25.7
St. Louis, Mo	34.5	31.9	27.4	40.5	32.8	30.4	35.6	36.7	34.8	42.1	36.4	30.4	35.6
Springfield, Mo	35.2	31.0	31.2	39.8	34.0	33.0	37.6	35.8	36.9	42.4	38.2	32.0	36.4
Bismarck, N. Dak	10.3	13.0	5.3	20.6	11.8	1.8	14.2	10.0	17.2	22.8	2.2	7.2	24.5
Devils Lake, N. Dak	4.5	4.1	−3.6	15.4	3.2	−3.8	8.6	3.6	8.0	15.4	−0.4	2.0	16.4
Pierre, S. Dak	18.6	18.6	10.4	23.4	19.2	10.4	20.2	14.0	26.1	32.3	9.8	18.7	26.4
North Platte, Nebr	26.6	20.6	23.3	29.7	28.8	26.8	29.1	23.6	29.6	34.3	24.3	26.2	32.4
Omaha, Nebr	25.5	23.6	21.4	31.0	23.6	21.6	27.5	27.8	28.9	35.8	24.8	25.6	29.8
Concordia, Kans	29.8	25.4	26.6	35.1	28.2	28.6	32.6	30.9	33.9	39.6	31.0	30.0	34.2
Dodge City, Kans	33.2	24.8	30.0	39.0	34.9	32.1	37.5	31.0	35.1	38.7	34.0	32.0	35.9
Iola, Kans	32.2	27.8	30.0	39.6	32.2	31.8	34.8	35.1	36.8	41.8	36.4	32.2	36.0
Memphis, Tenn	44.3	42.0	40.2	46.0	42.5	43.2	46.8	44.6	43.6	47.6	47.2	41.0	42.8
Nashville, Tenn	41.6	39.6	38.0	44.0	39.1	39.8	44.7	41.2	39.4	45.1	45.0	38.5	38.8
Birmingham, Ala	48.0	46.0	44.4	47.8	45.6	47.8	52.6	46.0	44.5	50.0	52.8	45.8	46.2
Mobile, Ala	55.2	54.0	52.0	53.3	53.0	54.4	59.4	53.6	53.2	56.0	59.4	53.6	52.4
New Orleans, La	57.3	54.6	53.2	56.2	56.6	58.8	63.0	56.6	56.6	60.2	62.7	57.0	55.2
Shreveport, La	50.9	47.4	46.4	51.4	50.6	51.6	55.1	49.6	51.8	53.6	54.0	48.4	49.0
Amarillo, Tex	38.1	31.6	38.2	41.4	43.5	40.6	44.0	37.9	40.5	41.6	40.8	36.3	40.6
Brownsville, Tex	62.6	59.6	62.8	64.3	64.8	66.3	65.2	62.6	65.4	63.8	66.7	62.5	62.0
El Paso, Tex	49.0	45.7	49.0	47.8	53.4	48.8	51.8	46.0	53.4	49.4	50.5	46.2	48.9
Fort Worth, Tex	46.3	43.8	44.3	52.2	48.8	49.9	52.0	47.3	50.4	52.0	52.5	46.4	47.4
Galveston, Tex	56.3	55.0	52.8	56.9	58.3	57.2	57.0	55.4	58.8	58.0	59.9	56.3	55.6
San Antonio, Tex	55.4	52.0	53.2	58.4	58.6	57.6	56.6	53.0	57.7	58.4	58.2	52.0	54.4
Oklahoma City, Okla	39.6	32.4	36.7	43.8	39.3	39.1	43.1	40.2	42.2	44.2	42.8	38.0	40.7
Little Rock, Ark	44.9	42.4	41.8	46.4	44.0	44.8	48.0	45.0	46.2	49.0	48.2	42.4	44.1
Havre, Mont	13.6	13.7	7.6	16.6	14.2	6.8	17.8	14.9	21.3	28.8	0.4	13.6	29.4
Kalispell, Mont	23.3	17.0	22.3	28.4	24.4	22.0	21.7	23.0	25.9	30.2	15.4	17.0	33.0
Cheyenne, Wyo	27.3	18.6	25.6	31.2	31.8	27.2	29.4	25.6	26.8	30.2	23.9	23.9	31.6
Sheridan, Wyo	22.4	12.0	20.6	22.5	22.0	20.5	23.1	21.6	27.0	31.9	11.4	18.8	28.1
Pueblo, Colo	32.9	24.6	32.0	36.5	36.0	35.4	37.4	30.9	34.8	38.2	33.2	29.6	38.8
Santa Fe, N. Mex	33.1	29.2	32.6	32.4	36.9	32.8	35.8	27.2	37.5	34.8	32.2	32.2	35.4
Phoenix, Ariz	55.1	53.1	55.1	53.8	59.6	53.8	55.2	51.2	57.6	57.6	54.4	55.3	58.8
Modena, Utah	31.0	27.6	32.6	31.8	36.1	26.2	31.8	29.4	31.8	34.6	29.0	22.0	37.3
Salt Lake City, Utah	33.8	31.8	34.5	38.2	36.0	28.6	31.7	34.2	37.4	36.8	29.8	26.6	39.2
Winnemucca, Nev	33.5	31.6	36.4	37.6	37.4	28.9	32.1	33.4	34.5	36.8	25.9	27.7	39.9
Boise, Idaho	34.8	31.3	36.0	40.8	38.6	30.5	36.0	35.8	35.4	35.3	31.9	30.7	42.0
Seattle, Wash	41.1	40.0	42.3	44.5	41.9	39.3	40.0	40.8	40.3	42.9	39.4	37.3	46.0
Walla Walla, Wash	37.1	29.8	36.3	42.0	32.6	36.9	38.7	39.0	37.1	40.7	33.4	29.8	46.4
Portland, Oreg	42.1	39.7	43.4	45.4	42.2	41.5	41.6	42.6	42.2	45.2	39.9	37.4	48.0
Roseburg, Oreg	43.4	40.4	44.5	45.0	48.8	41.2	43.4	43.2	41.2	46.4	41.2	41.8	48.1
Eureka, Calif	47.2	44.6	47.9	48.4	50.4	44.2	47.0	47.0	46.0	47.8	45.0	45.7	50.3
Fresno, Calif	51.1	50.6	52.2	52.2	54.9	51.4	51.4	49.5	52.2	51.5	49.6	50.2	56.4
Los Angeles, Calif	55.5	53.8	59.4	54.7	58.7	55.3	56.0	53.6	57.6	57.4	54.0	56.6	62.6
Sacramento, Calif	50.1	50.0	51.1	51.0	53.8	50.0	49.3	48.4	50.4	50.9	47.1	50.2	55.2
San Diego, Calif	55.1	53.4	57.4	55.4	56.4	54.7	55.1	53.6	56.8	55.2	53.7	55.2	59.0
San Francisco, Calif	52.2	52.4	54.0	52.8	55.8	52.0	51.8	51.6	52.8	52.9	50.2	52.2	57.0

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Mar.	March monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me.	23.5	28.0	25.2	23.2	18.8	25.0	23.3	28.7	27.5	32.2	28.5	17.6	27.0
Boston, Mass.	35.6	42.4	36.7	35.8	30.6	37.2	36.7	40.8	39.2	46.2	39.8	33.9	37.4
Buffalo, N. Y.	31.1	34.8	30.1	27.8	27.1	33.2	34.7	35.5	36.0	41.6	35.2	29.2	31.2
Canton, N. Y.	27.7	31.8	26.0	25.2	19.0	28.4	28.4	29.8	30.7	37.3	32.0	20.6	28.8
Trenton, N. J.	39.1	46.1	35.6	36.0	32.2	39.2	41.8	43.0	40.4	50.0	41.2	38.3	39.3
Pittsburgh, Pa.	39.6	43.4	36.8	33.2	34.1	40.6	44.6	42.2	42.6	50.7	43.0	38.6	37.0
Scranton, Pa.	36.2	42.0	34.1	31.6	28.9	36.4	39.6	39.1	38.2	45.8	38.7	34.2	35.8
Washington, D. C.	42.6	49.0	39.4	38.8	37.9	43.4	48.4	46.4	45.5	55.5	45.4	45.4	42.6
Lynchburg, Va.	47.3	50.2	42.6	41.2	44.6	46.6	52.3	49.4	47.4	57.1	48.8	47.9	45.5
Norfolk, Va.	48.2	54.7	42.4	42.4	44.1	47.2	52.6	50.4	50.0	58.1	51.2	49.6	46.8
Parkersburg, W. Va.	42.8	46.0	38.9	35.4	39.4	42.2	47.8	44.6	45.2	53.3	46.7	42.1	40.0
Charlotte, N. C.	50.4	53.6	46.2	43.1	49.8	50.3	55.8	52.0	49.8	59.6	53.2	52.6	48.6
Charleston, S. C.	57.4	60.0	51.2	49.6	55.2	59.4	62.0	59.5	54.6	65.1	59.0	59.6	54.0
Atlanta, Ga.	52.0	53.0	48.6	43.6	50.7	52.6	59.2	54.0	49.6	61.1	53.6	52.1	48.9
Thomasville, Ga.	60.2	61.4	55.8	52.2	58.2	62.8	65.0	63.0	57.4	68.2	62.0	61.0	56.4
Jacksonville, Fla.	62.6	64.8	57.7	55.8	59.5	65.6	67.6	63.8	59.5	70.0	64.8	64.6	58.2
Miami, Fla.	72.0	75.4	65.4	63.0	65.8	72.4	72.4	71.7	67.6	73.8	72.8	73.8	66.8
Cincinnati, Ohio	40.9	44.8	40.6	37.5	38.9	43.0	47.6	43.7	44.0	52.4	44.8	40.4	37.7
Cleveland, Ohio	34.6	38.0	34.0	30.4	30.1	37.3	40.2	37.1	40.0	45.6	38.8	34.8	33.0
Evansville, Ind.	45.9	44.4	42.0	39.0	43.6	47.2	52.2	47.7	46.6	55.6	48.6	43.0	40.0
Indianapolis, Ind.	40.0	39.4	37.7	35.5	37.9	41.6	47.4	42.6	42.3	49.9	43.6	38.2	35.6
Chicago, Ill.	36.3	35.2	35.7	34.8	34.6	38.8	42.2	38.5	40.2	45.8	39.4	33.0	34.6
Peoria, Ill.	37.0	35.4	36.8	34.1	37.4	40.0	45.6	40.8	41.5	47.3	41.2	34.2	34.8
Grand Rapids, Mich.	35.0	32.8	32.0	31.4	28.8	35.0	38.4	35.4	36.1	41.0	36.7	28.7	32.2
Marquette, Mich.	24.8	21.9	25.0	26.5	19.6	25.3	31.7	28.6	28.0	28.4	29.8	17.8	27.7
Madison, Wis.	30.6	29.6	30.4	29.6	28.6	31.8	37.9	33.2	34.0	37.4	34.1	24.7	29.0
Duluth, Minn.	23.7	17.0	23.2	25.0	18.9	23.2	31.4	23.9	25.3	24.6	26.2	13.5	25.3
St. Paul, Minn.	29.1	26.0	30.8	28.0	26.2	27.3	38.3	30.6	30.6	33.7	32.3	21.0	30.4
Des Moines, Iowa	35.9	34.4	37.2	31.2	37.6	37.5	45.0	39.0	39.8	44.2	40.6	31.5	33.2
Dubuque, Iowa	34.0	32.8	34.6	32.0	33.6	34.8	41.6	36.6	37.2	41.2	37.4	27.6	32.0
St. Louis, Mo.	43.8	42.1	43.5	38.5	45.0	46.6	52.6	47.1	46.6	54.0	46.2	41.4	39.8
Springfield, Mo.	45.2	41.3	44.0	35.1	47.8	47.0	52.6	48.4	45.6	52.8	45.2	41.6	38.2
Bismarck, N. Dak.	24.2	20.8	27.6	24.0	24.7	24.3	36.5	19.1	26.0	27.8	27.3	21.4	26.8
Devils Lake, N. Dak.	18.5	13.2	23.0	23.8	17.0	21.8	34.2	14.4	19.1	21.0	25.6	12.4	24.2
Pierre, S. Dak.	31.5	27.0	32.3	20.8	34.6	29.6	42.7	29.4	32.0	38.0	33.8	29.4	29.2
North Platte, Nebr.	36.6	32.8	38.3	26.8	43.0	33.0	45.4	37.0	37.9	43.4	38.8	34.2	29.0
Omaha, Nebr.	37.0	35.0	37.4	30.0	39.5	38.5	47.1	40.5	41.6	45.6	40.6	32.7	33.8
Concordia, Kans.	41.0	38.6	41.3	30.6	44.5	41.6	48.4	42.0	44.8	47.6	41.8	37.9	35.2
Dodge City, Kans.	42.8	40.0	43.7	32.6	48.1	41.8	49.4	43.8	45.0	49.1	41.0	40.0	33.6
Iola, Kans.	42.4	39.8	45.4	34.6	47.1	45.8	51.0	47.8	46.4	52.1	45.6	41.7	39.0
Memphis, Tenn.	52.3	51.0	49.3	42.7	52.0	53.5	58.1	53.6	51.8	61.4	52.9	49.8	46.0
Nashville, Tenn.	49.2	48.8	46.0	41.3	47.2	49.9	56.3	50.4	48.5	59.0	51.3	47.6	43.6
Birmingham, Ala.	55.4	54.6	50.1	45.4	52.8	56.2	61.8	55.5	52.1	64.0	55.4	54.0	50.2
Mobile, Ala.	60.0	60.2	55.1	52.4	59.9	63.4	65.9	61.6	57.8	66.8	60.2	58.8	56.0
New Orleans, La.	62.8	61.3	57.6	55.0	63.8	66.1	68.9	64.0	60.3	70.6	62.5	61.6	58.7
Shreveport, La.	58.3	54.2	55.0	47.2	60.6	58.4	62.5	58.2	56.9	65.7	57.1	55.0	53.3
Amarillo, Tex.	46.9	43.3	47.3	37.2	53.7	46.2	52.6	46.4	47.2	52.0	45.3	42.8	38.9
Brownsville, Tex.	68.2	65.2	63.4	59.0	71.4	69.5	71.2	69.2	66.4	74.3	68.7	65.0	65.6
El Paso, Tex.	55.8	52.0	53.1	49.3	60.4	53.3	56.2	54.6	53.6	59.3	53.6	51.2	51.6
Fort Worth, Tex.	57.7	53.2	55.5	46.8	62.4	58.3	62.2	56.1	56.4	63.4	56.4	53.6	50.8
Galveston, Tex.	62.4	59.4	57.2	53.8	65.8	63.3	66.6	60.7	60.0	68.0	61.6	59.6	58.8
San Antonio, Tex.	62.8	59.4	58.8	53.2	68.6	63.6	66.6	61.0	60.4	67.0	61.6	58.6	58.6
Oklahoma City, Okla.	50.0	44.2	50.0	38.4	54.4	51.0	55.8	51.0	50.1	56.6	49.0	46.2	41.8
Little Rock, Ark.	53.0	51.4	51.0	43.2	54.8	54.0	58.8	53.8	53.0	61.3	52.4	49.6	47.3
Havre, Mont.	27.1	21.6	33.8	24.9	34.0	22.0	35.6	17.4	27.6	28.6	26.8	30.6	28.0
Kalispell, Mont.	32.9	26.6	35.4	37.1	35.4	26.2	36.1	32.8	31.2	33.3	29.9	32.6	34.1
Cheyenne, Wyo.	33.1	30.8	34.0	27.6	38.6	25.6	40.8	33.7	31.5	37.6	33.8	28.2	21.6
Sheridan, Wyo.	32.7	25.0	34.6	30.2	38.0	24.0	37.4	33.0	30.4	35.6	32.2	28.9	23.2
Pueblo, Colo.	41.6	39.7	41.2	35.0	48.5	37.6	46.8	41.6	40.5	47.0	41.6	37.0	31.8
Santa Fe, N. Mex.	39.7	36.0	39.4	35.8	43.6	35.6	42.8	37.6	37.4	42.6	36.4	34.6	33.7
Phoenix, Ariz.	60.7	56.7	63.6	58.6	64.0	56.2	62.4	57.5	58.4	64.7	57.0	58.9	56.6
Modena, Utah.	38.2	35.2	41.8	39.8	42.6	31.0	40.5	36.8	35.3	42.0	36.4	34.8	30.6
Salt Lake City, Utah.	41.7	38.2	45.0	45.1	46.3	33.0	45.4	42.6	39.2	46.2	38.8	37.0	36.6
Winnemucca, Nev.	40.0	37.4	44.6	43.2	44.2	32.8	42.2	39.2	38.5	43.8	38.9	37.5	35.7
Boise, Idaho.	42.7	38.9	46.0	47.2	46.0	33.2	45.5	42.8	40.8	45.2	38.8	40.6	36.0
Seattle, Wash.	44.9	41.9	47.6	50.0	44.4	41.0	44.0	44.7	44.4	44.6	41.5	44.0	44.4
Walla Walla, Wash.	46.1	42.1	49.4	49.7	47.7	39.8	49.0	46.8	45.2	47.2	43.2	46.6	44.4
Portland, Oreg.	46.9	44.6	51.1	52.6	47.0	42.6	46.7	48.2	45.8	48.0	43.3	47.2	45.8
Roseburg, Oreg.	47.1	45.6	51.8	51.5	48.4	42.6	48.0	47.4	44.8	48.4	45.2	47.2	45.6
Eureka, Calif.	48.3	45.6	49.3	52.1	48.6	43.8	48.5	47.6	47.0	49.8	47.1	47.4	46.6
Fresno, Calif.	55.0	54.8	58.9	58.4	57.4	51.3	56.4	52.7	52.7	56.8	52.6	56.8	54.4
Los Angeles, Calif.	57.5	57.8	63.0	61.4	62.0	56.7	59.1	55.6	56.8	59.4	55.6	61.0	58.4
Sacramento, Calif.	54.3	52.6	58.1	57.4	56.6	50.8	53.6	51.2	51.0	55.0	50.8	56.4	52.6
San Diego, Calif.	56.7	55.1	61.4	59.4	59.2	54.6	58.5	55.0	55.6	57.5	54.6	58.4	56.6
San Francisco, Calif.	54.2	52.6	58.4	57.9	56.6	51.7	54.9	52.6	52.6	54.6	52.4	56.8	54.8

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for April	April monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	36.4	39.6	31.5	40.8	29.2	35.1	39.7	36.4	36.0	43.0	39.4	34.9	35.6
Boston, Mass	46.4	48.0	45.3	50.8	45.6	44.0	47.8	46.8	45.0	51.8	48.7	48.2	47.2
Buffalo, N. Y	42.8	45.0	40.2	46.8	42.8	40.4	42.4	42.5	39.8	51.3	44.8	40.4	41.1
Canton, N. Y	42.5	45.4	39.5	50.0	43.8	40.5	42.3	39.3	40.2	48.5	43.6	39.6	40.5
Trenton, N. J	49.8	52.6	48.5	54.9	48.8	49.1	50.1	49.9	47.8	56.6	51.6	50.2	49.4
Pittsburgh, Pa	51.2	51.6	49.4	55.5	49.2	49.6	49.3	51.0	47.0	56.9	52.6	49.8	49.8
Scranton, Pa	47.9	51.2	46.2	53.9	47.2	47.6	48.1	47.9	45.4	55.6	48.6	48.3	46.2
Washington, D. C	53.3	55.5	53.5	59.4	53.4	54.2	53.2	53.8	52.6	59.2	55.6	53.6	51.9
Lynchburg, Va	57.3	57.4	56.7	59.8	54.7	57.4	53.3	55.6	54.3	59.1	57.8	55.8	54.1
Norfolk, Va	56.8	58.6	55.8	60.2	56.4	57.6	56.4	56.9	57.3	61.2	59.7	57.2	55.4
Parkersburg, W. Va	53.4	53.0	53.9	57.3	52.5	52.6	51.6	52.9	50.6	57.6	56.2	52.6	53.6
Charlotte, N. C	59.8	59.2	60.6	61.8	59.0	62.3	57.4	60.0	57.8	61.6	61.0	59.0	58.8
Charleston, S. C	64.5	62.6	65.2	63.3	64.0	67.2	63.5	64.4	64.0	66.3	68.2	64.4	64.0
Atlanta, Ga	61.0	59.4	61.8	64.4	60.0	63.7	57.9	61.7	58.6	61.0	62.8	60.2	59.2
Thomasville, Ga	66.7	65.1	68.6	66.4	65.9	68.1	64.5	66.4	66.4	66.4	69.8	67.7	67.4
Jacksonville, Fla	68.7	67.3	70.1	66.9	67.0	69.6	67.0	67.3	68.8	67.8	71.4	69.2	67.7
Miami, Fla	74.2	71.6	74.6	69.5	70.2	72.0	73.6	72.6	73.0	74.0	75.8	74.9	74.6
Cincinnati, Ohio	52.4	54.0	53.9	58.4	51.6	51.2	50.9	52.6	48.0	56.2	55.6	51.7	53.8
Cleveland, Ohio	46.2	47.4	45.4	51.8	45.9	45.4	45.8	47.0	42.6	53.9	48.6	45.8	45.2
Evansville, Ind	56.7	55.7	55.4	61.9	54.2	55.9	53.0	57.6	52.8	58.8	59.2	55.9	58.4
Indianapolis, Ind	52.1	52.0	51.9	58.0	50.5	49.2	48.9	52.2	46.8	55.8	54.2	49.9	53.4
Chicago, Ill	47.7	48.8	48.3	56.3	48.0	44.8	44.0	48.0	43.0	54.2	48.7	46.6	49.0
Peoria, Ill	50.9	51.7	51.2	58.8	49.8	47.4	45.8	51.3	44.2	54.3	52.5	49.4	53.5
Grand Rapids, Mich	46.2	48.3	45.6	53.8	46.7	43.1	44.0	45.6	41.1	52.6	48.0	45.0	45.6
Marquette, Mich	37.8	41.2	35.1	47.4	38.4	33.4	37.5	39.2	32.9	44.6	37.9	36.6	36.6
Madison, Wis	45.4	47.2	45.1	54.0	45.3	42.4	41.6	45.8	40.4	50.6	45.8	44.0	45.2
Duluth, Minn	37.0	40.4	33.6	45.4	38.0	33.2	36.3	39.2	31.6	40.8	37.2	37.5	36.6
St. Paul, Minn	45.6	49.2	44.4	55.8	43.8	42.2	43.6	45.5	38.8	50.4	45.2	43.7	43.6
Des Moines, Iowa	50.1	52.0	50.4	59.4	48.6	46.8	46.8	49.3	43.9	52.8	50.8	50.2	52.3
Dubuque, Iowa	48.6	51.0	48.5	57.7	48.2	46.4	44.2	49.0	42.8	52.2	48.8	47.0	49.4
St. Louis, Mo	55.8	56.1	56.4	63.2	54.4	53.7	51.1	57.5	51.2	58.1	58.2	55.0	58.4
Springfield, Mo	56.0	56.7	54.8	61.8	52.8	54.0	51.8	56.4	51.6	55.6	57.6	55.2	56.2
Bismarck, N. Dak	42.1	48.1	43.1	51.5	41.0	38.5	43.0	43.4	34.6	43.4	44.8	41.1	41.0
Devils Lake, N. Dak	38.2	45.6	37.4	48.3	37.8	36.1	41.2	40.5	31.2	39.2	41.8	37.4	37.1
Pierre, S. Dak	46.8	50.8	47.4	54.8	44.6	42.6	45.2	46.2	38.1	48.1	49.2	47.0	46.9
North Platte, Nebr	48.6	51.0	50.0	55.0	47.8	44.8	42.7	47.5	40.5	48.6	48.1	48.1	50.0
Omaha, Nebr	51.2	55.4	51.8	60.0	49.5	47.9	47.4	49.1	44.2	54.2	52.6	51.2	53.4
Concordia, Kans	53.5	56.2	54.2	59.6	50.2	51.0	47.6	51.0	45.6	54.6	54.4	53.7	54.6
Dodge City, Kans	53.6	55.8	54.2	58.8	50.2	51.4	47.8	52.6	48.8	53.8	53.0	54.1	53.4
Iola, Kans	54.2	58.4	55.0	61.0	52.6	53.8	51.7	55.8	52.1	56.2	57.2	56.5	57.0
Memphis, Tenn	61.8	61.2	61.1	65.9	60.2	61.7	60.0	61.7	59.4	61.0	64.0	61.5	62.0
Nashville, Tenn	59.0	58.6	58.6	63.5	57.2	59.7	57.0	59.2	56.2	59.2	61.6	58.3	59.3
Birmingham, Ala	63.3	61.3	62.8	66.0	61.2	64.0	60.4	62.8	61.2	62.6	66.2	62.2	62.0
Mobile, Ala	66.2	65.6	67.8	66.5	64.8	66.6	64.8	65.6	66.4	65.8	70.2	67.8	66.6
New Orleans, La	68.8	67.5	68.9	68.8	67.8	68.2	67.8	68.1	69.1	68.2	73.3	69.7	69.1
Shreveport, La	65.8	64.2	64.7	67.3	63.5	63.8	63.8	65.2	64.4	63.1	67.8	66.0	65.4
Amarillo, Tex	55.8	56.2	56.0	57.0	52.9	54.8	53.2	54.5	51.0	55.0	54.8	56.0	55.1
Brownsville, Tex	73.7	69.3	71.6	71.4	72.5	74.4	76.2	74.3	75.8	74.4	78.4	75.7	73.6
El Paso, Tex	63.4	60.6	64.0	62.7	62.7	62.3	62.0	65.0	60.1	61.0	61.6	63.6	61.4
Fort Worth, Tex	65.0	64.8	63.2	66.2	62.3	63.8	63.4	65.0	63.6	62.8	65.3	66.0	65.2
Galveston, Tex	68.7	67.2	66.7	66.1	67.0	67.8	68.3	68.4	67.3	67.4	71.6	69.4	67.2
San Antonio, Tex	69.1	66.9	66.8	67.5	67.6	69.0	68.9	68.4	69.4	67.5	70.2	69.2	69.2
Oklahoma City, Okla	59.8	60.6	58.0	63.0	55.4	57.6	56.0	58.8	56.2	58.7	60.0	59.3	60.0
Little Rock, Ark	62.1	61.8	61.8	65.5	60.6	61.2	60.7	61.6	60.2	60.4	64.2	62.4	62.6
Havre, Mont	43.7	46.1	44.9	53.6	43.8	39.4	42.8	47.2	36.0	43.1	42.7	43.2	42.8
Kalispell, Mont	43.0	42.9	44.8	49.2	43.5	39.6	42.6	46.4	39.2	42.1	40.1	42.6	42.9
Cheyenne, Wyo	40.9	43.1	40.2	46.0	40.2	36.4	34.8	41.7	31.6	38.8	38.2	39.6	39.4
Sheridan, Wyo	43.4	45.6	43.2	52.0	43.2	40.1	37.2	45.2	36.4	43.0	40.3	40.2	41.5
Pueblo, Colo	50.1	50.8	49.0	53.4	48.6	46.8	45.8	50.6	43.6	48.0	48.8	51.0	48.4
Santa Fe, N. Mex	46.7	47.2	48.0	47.7	46.6	46.1	45.0	48.0	40.8	43.4	44.3	45.6	45.6
Phoenix, Ariz	67.0	67.2	68.5	66.4	68.2	64.2	67.5	69.2	64.6	66.1	63.2	66.6	65.0
Modena, Utah	46.0	45.3	46.8	48.2	48.2	42.6	44.6	49.0	43.1	43.0	40.2	44.4	45.8
Salt Lake City, Utah	49.6	51.0	51.8	56.4	51.6	45.6	47.6	52.1	44.0	47.0	44.4	47.1	49.6
Winnemucca, Nev	46.7	46.6	48.6	50.4	49.0	44.4	45.5	48.8	43.6	45.1	41.4	45.2	46.8
Boise, Idaho	50.4	50.6	51.2	55.3	51.4	46.4	48.8	51.8	45.4	47.0	45.0	49.4	49.8
Seattle, Wash	49.4	49.0	51.4	52.6	49.0	46.8	50.0	49.6	45.6	47.5	46.6	51.0	49.0
Walla Walla, Wash	53.1	53.2	53.4	56.9	53.1	49.0	53.2	54.0	49.0	50.2	49.2	54.1	52.8
Portland, Oreg	51.8	51.0	53.8	55.6	53.0	49.4	52.8	53.4	48.2	50.8	48.7	54.2	53.0
Roseburg, Oreg	51.0	50.3	53.5	54.4	52.6	50.0	52.0	53.0	49.2	50.8	48.6	52.8	53.3
Eureka, Calif	49.9	49.3	51.9	52.3	50.2	49.0	50.7	50.5	48.0	48.4	46.1	50.5	49.7
Fresno, Calif	60.2	60.7	60.8	60.0	62.4	59.3	61.8	62.4	59.4	59.2	57.4	59.3	62.0
Los Angeles, Calif	59.4	59.8	62.8	60.4	62.4	57.9	61.7	60.9	58.8	59.0	57.6	58.4	60.4
Sacramento, Calif	58.1	58.0	58.8	58.3	61.0	57.8	59.2	58.8	57.1	57.6	56.4	57.1	60.6
San Diego, Calif	58.5	58.0	61.4	59.7	60.2	57.0	60.4	59.2	57.6	57.4	56.3	59.0	59.4
San Francisco, Calif	55.0	55.4	58.2	57.1	57.6	55.1	57.2	56.0	54.9	55.0	53.5	56.1	57.4

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal [1] and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for May	May monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	49.5	47.6	52.1	47.6	49.9	43.2	54.4	51.0	50.0	53.4	52.6	48.6	47.2
Boston, Mass	57.1	55.2	60.4	56.6	58.6	50.7	63.2	59.1	54.6	58.0	61.4	57.6	56.2
Buffalo, N. Y	54.6	53.7	54.2	54.1	52.8	47.4	58.0	54.0	53.2	56.8	60.2	52.6	48.3
Canton, N. Y	56.2	52.8	57.2	50.7	53.9	46.8	58.2	54.8	55.0	57.6	58.5	51.1	49.2
Trenton, N. J	61.1	60.8	64.1	58.4	62.2	54.6	65.2	62.0	58.0	60.3	64.2	60.6	57.2
Pittsburgh, Pa	62.4	60.6	62.8	58.0	63.2	54.6	67.6	60.8	59.6	62.4	65.0	60.1	55.4
Scranton, Pa	59.5	57.6	61.5	54.6	60.4	51.6	64.6	60.0	57.2	60.1	62.2	58.1	55.0
Washington, D. C	67.7	64.4	67.0	62.5	66.7	59.6	69.6	64.6	60.0	62.3	66.8	63.4	60.0
Lynchburg, Va	67.3	66.6	68.4	65.4	69.0	60.7	70.6	65.0	61.8	63.2	67.2	63.8	61.4
Norfolk, Va	66.2	67.6	68.3	66.0	69.2	62.4	70.5	67.9	61.4	63.0	67.3	65.6	65.2
Parkersburg, W. Va	63.8	63.4	64.8	61.6	65.9	57.6	69.0	63.0	61.4	64.2	66.0	62.2	57.7
Charlotte, N. C	68.9	69.9	70.6	69.2	72.6	63.6	72.3	69.0	65.6	66.0	69.4	66.2	66.0
Charleston, S. C	72.7	72.6	72.5	75.5	74.4	70.2	73.2	74.2	68.8	70.5	73.6	70.7	72.4
Atlanta, Ga	69.9	70.8	71.2	71.5	72.6	64.0	72.2	67.7	67.1	68.4	69.0	65.8	65.8
Thomasville, Ga	74.6	75.3	75.2	77.8	76.4	70.3	74.3	72.7	72.8	72.2	75.3	72.2	71.9
Jacksonville, Fla	75.0	74.3	74.8	77.8	75.6	73.1	74.2	74.8	71.9	72.9	76.4	72.3	74.0
Miami, Fla	78.6	76.0	77.6	78.0	76.7	75.6	76.2	76.4	76.2	74.6	77.2	76.0	77.7
Cincinnati, Ohio	63.1	65.8	66.8	60.2	64.5	56.6	68.8	60.1	60.8	64.6	66.8	61.2	57.2
Cleveland, Ohio	57.9	57.8	60.6	54.2	58.0	51.2	64.4	56.4	55.6	59.8	61.3	54.5	52.4
Evansville, Ind	66.7	67.6	67.9	65.2	68.6	60.4	71.9	63.8	65.6	68.1	70.4	64.8	60.2
Indianapolis, Ind	62.9	63.7	65.6	59.7	63.4	56.6	68.8	59.4	61.0	65.3	67.5	60.6	56.6
Chicago, Ill	58.5	57.6	62.3	54.1	59.3	52.6	63.7	55.2	58.4	61.7	63.8	54.4	54.1
Peoria, Ill	61.7	62.4	65.0	58.6	61.4	55.6	66.4	58.2	60.8	65.1	65.6	61.0	55.5
Grand Rapids, Mich	59.0	57.4	60.0	53.3	57.8	51.7	61.8	56.4	57.1	62.2	64.0	56.8	50.7
Marquette, Mich	49.0	47.6	51.4	45.6	48.7	44.8	50.8	50.2	50.4	51.6	54.9	49.4	44.1
Madison, Wis	57.6	56.6	60.3	54.8	57.2	52.0	61.0	55.2	56.6	60.4	63.6	57.0	51.2
Duluth, Minn	47.5	46.2	53.2	44.2	47.4	46.0	46.9	50.5	51.0	50.5	51.4	48.9	45.8
St. Paul, Minn	57.9	55.2	59.9	52.2	56.6	54.8	59.8	58.0	59.0	59.8	62.5	58.6	49.8
Des Moines, Iowa	61.3	61.3	64.0	57.5	61.7	57.3	67.2	59.8	61.2	65.4	64.3	60.7	55.7
Dubuque, Iowa	60.3	59.2	62.6	54.8	60.0	54.8	64.9	57.8	58.8	63.6	64.8	60.0	53.8
St. Louis, Mo	66.9	67.3	69.4	64.6	68.0	60.6	70.8	63.0	64.8	68.5	69.4	64.1	59.4
Springfield, Mo	64.7	66.2	65.6	63.2	65.8	59.1	68.6	62.0	65.0	65.4	66.4	62.4	57.7
Bismarck, N. Dak	54.5	52.4	55.6	51.6	52.8	52.6	54.2	56.0	54.8	54.8	57.6	56.2	49.2
Devils Lake, N. Dak	52.7	50.2	54.8	50.7	50.3	51.0	48.9	55.7	54.4	54.2	56.8	54.5	45.6
Pierre, S. Dak	58.0	56.1	59.0	53.6	56.9	54.8	59.2	58.4	56.9	58.2	60.3	58.5	53.2
North Platte, Nebr	58.7	60.0	59.8	55.2	58.2	52.6	61.6	58.2	57.8	61.0	59.5	57.2	55.2
Omaha, Nebr	62.4	62.9	64.4	58.9	63.0	57.6	67.8	61.6	61.7	65.9	64.6	60.9	55.7
Concordia, Kans	63.2	65.8	64.4	64.0	63.2	57.6	67.8	61.1	61.4	65.8	64.2	60.2	57.4
Dodge City, Kans	63.5	67.3	62.8	59.4	63.6	57.0	67.6	61.2	61.6	64.8	63.6	60.8	57.0
Iola, Kans	64.5	67.0	65.6	62.4	66.6	58.8	68.8	63.3	66.2	67.6	67.6	63.6	60.0
Memphis, Tenn	70.6	70.9	70.6	71.2	73.0	64.2	74.6	67.0	70.5	70.7	72.4	68.0	64.8
Nashville, Tenn	68.2	68.8	68.2	70.1	70.5	61.8	71.0	66.0	67.0	68.4	69.9	65.6	62.4
Birmingham, Ala	71.1	70.6	70.6	73.1	72.7	65.0	73.2	68.0	69.8	71.0	71.6	69.0	66.7
Mobile, Ala	73.9	73.7	74.8	76.2	76.4	69.9	74.6	72.4	75.1	72.3	74.1	72.6	71.9
New Orleans, La	75.4	74.8	75.5	77.4	77.1	72.2	76.0	74.0	78.0	74.3	75.7	74.3	74.2
Shreveport, La	73.6	72.0	72.5	74.6	73.8	67.7	75.2	70.1	75.2	73.6	75.3	71.4	68.9
Amarillo, Tex	64.1	68.2	63.2	61.5	67.0	58.2	67.5	61.8	64.1	65.4	65.0	63.8	60.7
Brownsville, Tex	78.6	74.7	78.7	78.8	80.3	77.6	79.4	80.2	80.8	78.2	81.4	80.6	77.4
El Paso, Tex	71.5	71.8	71.2	69.6	72.9	66.6	69.8	72.0	73.1	71.9	73.0	74.0	72.2
Fort Worth, Tex	72.3	73.6	70.2	72.7	72.8	66.8	75.2	69.8	73.4	73.4	74.1	73.4	69.0
Galveston, Tex	74.8	74.0	74.6	75.5	75.0	71.6	75.2	73.0	76.6	74.8	77.3	76.0	72.0
San Antonio, Tex	75.1	75.6	74.4	75.6	76.1	71.6	75.9	73.4	76.8	75.4	77.0	77.2	71.6
Oklahoma City, Okla	67.7	69.4	65.8	65.3	69.1	62.4	71.0	65.7	68.6	69.6	68.8	66.3	63.3
Little Rock, Ark	70.3	70.0	70.6	70.4	72.2	64.0	74.1	67.1	71.0	70.9	71.5	67.4	65.6
Havre, Mont	53.4	51.6	54.7	52.7	49.4	52.8	51.6	56.7	53.7	53.8	53.8	55.4	53.0
Kalispell, Mont	51.4	50.9	53.0	51.4	47.1	51.3	48.3	51.0	48.0	53.0	50.4	50.8	55.4
Cheyenne, Wyo	50.3	52.0	51.1	46.4	48.6	43.0	50.7	51.2	49.4	50.4	48.8	50.3	46.8
Sheridan, Wyo	50.7	52.4	52.4	50.5	49.0	48.3	50.6	54.8	51.2	53.4	52.4	53.4	49.8
Pueblo, Colo	59.2	62.4	60.4	55.6	59.0	53.2	61.2	59.7	59.2	62.2	59.4	58.4	56.2
Santa Fe, N. Mex	55.7	58.6	56.2	52.3	55.6	48.9	55.7	56.0	56.2	56.0	55.9	55.8	54.0
Phoenix, Ariz	75.0	73.8	75.6	70.8	74.0	69.0	72.2	76.9	75.9	73.6	76.4	77.6	78.8
Modena, Utah	53.5	54.4	56.6	50.8	51.7	48.0	51.0	58.8	54.4	52.0	53.2	55.2	57.3
Salt Lake City, Utah	57.4	60.8	62.4	56.7	54.8	53.7	56.4	62.5	57.8	59.1	57.6	59.4	62.0
Winnemucca, Nev	53.9	57.0	59.4	52.3	50.3	50.1	51.6	59.4	54.2	54.1	54.4	54.8	60.6
Boise, Idaho	57.1	59.0	61.2	55.0	52.5	55.0	54.8	59.3	55.0	57.2	56.4	56.8	63.8
Seattle, Wash	54.5	54.1	57.3	56.0	52.0	52.4	52.4	53.6	51.6	53.6	54.5	54.1	57.4
Walla Walla, Wash	59.6	60.2	62.2	58.0	55.8	57.0	56.8	59.4	57.9	60.4	59.0	60.0	66.4
Portland, Oreg	56.9	57.6	61.1	57.7	54.8	54.6	55.6	57.2	55.1	57.1	58.0	57.6	61.2
Roseburg, Oreg	56.0	57.4	59.7	56.4	54.2	51.5	54.8	57.0	55.0	55.9	57.7	57.0	61.6
Eureka, Calif	52.0	52.4	53.0	53.6	50.4	50.0	50.6	52.1	49.3	50.8	51.0	51.7	52.4
Fresno, Calif	67.1	68.4	68.8	63.0	64.2	62.4	63.8	69.8	68.2	63.6	68.6	67.1	72.6
Los Angeles, Calif	62.2	60.9	60.3	61.5	61.3	58.7	61.2	61.6	62.1	58.8	62.6	64.6	64.8
Sacramento, Calif	63.3	64.8	62.8	59.8	61.4	59.8	61.8	65.2	65.0	60.7	65.9	63.3	68.5
San Diego, Calif	60.8	59.7	60.2	60.6	60.8	58.4	60.8	61.0	59.8	58.4	60.3	64.2	63.0
San Francisco, Calif	56.8	56.6	56.2	57.6	55.8	54.0	54.6	57.2	55.8	54.4	58.0	57.2	59.1

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924.*—Continued

Station	Normal for June	June monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Mo	58.9	57.4	59.3	58.8	57.5	58.1	55.6	63.8	59.8	60.0	61.1	60.1	57.8
Boston, Mass	60.5	67.5	67.3	63.9	62.6	65.8	63.9	67.2	65.8	68.2	68.6	69.3	66.6
Buffalo, N. Y	64.4	63.4	63.2	64.0	61.4	60.2	61.9	72.4	64.0	66.6	66.0	64.8	62.4
Canton, N. Y	65.8	62.0	61.0	63.0	61.2	62.0	58.6	69.4	63.6	65.7	64.6	63.8	62.0
Trenton, N. J	69.5	70.6	69.4	67.8	65.8	70.5	67.2	70.8	69.0	71.1	71.8	73.5	67.8
Pittsburgh, Pa	70.7	70.5	71.0	67.1	65.3	67.6	68.0	75.0	68.5	73.0	71.2	71.6	68.6
Scranton, Pa	66.7	67.5	66.8	65.8	63.0	60.8	65.4	71.7	66.9	69.4	68.7	70.2	65.4
Washington, D. C	72.2	72.8	73.8	70.6	69.7	72.6	70.8	73.2	71.6	74.2	74.5	75.6	71.3
Lynchburg, Va	74.6	73.3	76.6	71.6	71.0	72.8	71.2	73.4	71.9	74.3	74.8	75.6	72.1
Norfolk, Va	74.4	73.2	75.0	71.3	72.1	74.2	72.6	73.4	74.3	74.8	95.7	77.2	73.9
Parkersburg, W. Va	71.4	72.1	73.4	69.6	67.6	68.6	70.0	76.0	70.2	75.0	72.2	73.0	71.0
Charlotte, N. C	75.5	75.0	79.8	73.1	74.1	75.2	76.2	75.8	75.6	78.0	77.6	77.0	77.0
Charleston, S. C	78.9	76.2	80.6	78.0	78.0	77.6	78.6	77.4	78.4	80.0	79.8	78.6	81.2
Atlanta, Ga	76.0	75.8	80.8	75.3	75.2	75.0	76.8	76.8	76.1	78.8	76.8	75.0	77.6
Thomasville, Ga	79.5	76.9	83.2	81.1	78.5	79.1	80.3	78.6	79.0	80.6	80.0	77.6	80.6
Jacksonville, Fla	79.9	78.3	82.8	79.8	79.4	79.2	79.8	77.4	78.6	80.0	80.0	78.8	81.2
Miami, Fla	80.4	78.8	83.2	79.4	79.4	79.1	79.4	79.0	79.2	79.7	79.5	79.8	81.1
Cincinnati, Ohio	71.2	74.8	73.2	69.3	67.3	69.0	70.4	75.3	70.4	75.4	73.7	72.0	71.4
Cleveland, Ohio	67.1	68.2	68.3	63.9	62.8	64.8	67.4	73.4	67.4	69.8	68.6	70.8	64.8
Evansville, Ind	75.1	78.1	80.9	73.2	71.9	73.4	75.9	78.2	74.2	80.0	77.8	75.4	75.4
Indianapolis, Ind	71.6	74.2	74.8	69.5	67.2	68.8	71.2	75.8	71.1	76.0	73.8	72.8	70.4
Chicago, Ill	68.2	70.5	70.2	63.8	63.5	63.8	66.9	72.6	69.1	73.8	70.8	70.8	64.5
Peoria, Ill	70.9	73.3	71.2	67.8	65.8	67.7	71.4	74.8	72.0	76.8	73.2	73.0	69.2
Grand Rapids, Mich	68.1	69.8	67.6	63.4	62.5	62.6	66.2	74.2	69.2	73.4	69.6	71.8	65.2
Marquette, Mich	58.9	61.6	58.8	55.2	52.9	52.0	57.2	62.3	58.9	65.2	60.0	60.2	56.0
Madison, Wis	67.2	69.0	66.6	62.0	61.8	61.8	65.9	71.2	69.0	72.2	68.6	71.2	63.8
Duluth, Minn	57.2	59.3	57.0	53.2	53.8	53.0	57.4	58.1	57.9	62.6	59.9	60.8	55.9
St. Paul, Minn	67.1	70.0	66.2	62.4	62.7	62.8	66.3	70.0	64.0	73.5	68.3	70.0	63.6
Des Moines, Iowa	70.6	73.1	74.4	67.0	66.5	67.9	72.7	73.4	72.5	76.3	74.0	72.0	69.0
Dubuque, Iowa	69.4	71.4	69.8	64.7	64.0	65.2	68.7	72.8	70.9	75.0	71.2	72.7	66.0
St. Louis, Mo	74.8	78.4	81.4	72.0	71.5	73.3	77.1	77.3	75.2	78.4	78.2	75.2	73.4
Springfield, Mo	72.5	74.2	78.8	70.3	70.0	70.9	76.0	73.6	71.8	74.2	75.7	72.8	72.4
Bismarck, N. Dak	63.7	67.3	66.0	58.2	59.2	61.9	65.8	69.0	64.4	71.2	66.2	66.6	60.4
Devils Lake, N. Dak	62.6	65.3	64.6	55.4	57.5	59.2	61.2	66.1	62.4	66.9	63.8	67.0	59.0
Pierre, S. Dak	68.5	73.4	68.8	63.1	63.5	65.3	71.7	71.0	66.6	76.0	70.5	68.7	64.2
North Platte, Nebr	67.5	70.6	72.1	63.8	64.6	67.0	75.8	69.3	68.4	71.8	72.8	69.2	67.4
Omaha, Nebr	71.6	74.4	75.2	67.6	68.0	69.6	76.1	73.4	73.1	77.4	75.6	72.4	69.0
Concordia, Kans	73.0	75.2	78.6	68.3	69.2	72.6	78.9	72.8	73.3	75.8	76.0	73.0	72.4
Dodge City, Kans	72.5	72.5	77.3	68.8	70.6	73.4	77.9	70.7	72.6	72.8	74.5	71.8	75.2
Iola, Kans	73.4	75.0	79.6	71.1	71.4	73.2	79.2	74.6	73.0	76.4	76.6	75.2	75.3
Memphis, Tenn	77.6	78.0	81.2	76.6	75.9	76.1	80.4	78.8	76.5	80.6	79.8	77.0	78.6
Nashville, Tenn	75.6	77.3	81.8	74.6	72.9	73.0	77.0	78.2	73.8	80.0	77.0	74.9	77.0
Birmingham, Ala	77.9	77.4	81.9	77.4	76.2	77.0	79.1	78.2	76.7	82.0	78.1	77.0	78.9
Mobile, Ala	79.6	78.6	83.7	81.6	79.6	79.9	82.6	80.0	79.8	81.2	80.8	78.6	81.5
New Orleans, La	80.6	78.8	84.2	83.8	81.6	80.4	83.2	80.0	80.8	81.2	81.8	79.9	83.3
Shreveport, La	80.7	79.0	83.9	80.7	79.4	80.2	83.6	77.8	78.5	80.4	80.8	79.7	82.5
Amarillo, Tex	72.8	70.2	76.2	72.4	74.6	73.6	77.3	68.9	72.4	70.2	73.4	72.4	78.0
Brownsville, Tex	82.4	78.2	82.6	84.4	84.4	83.5	84.5	82.6	81.5	82.6	82.8	83.0	82.6
El Paso, Tex	79.6	76.8	78.9	81.6	83.8	80.8	80.4	77.6	77.4	79.6	81.4	81.4	84.8
Fort Worth, Tex	79.9	79.4	83.0	80.3	80.2	80.6	84.4	76.7	78.3	78.8	80.2	80.6	83.4
Galveston, Tex	80.7	78.5	82.3	82.6	81.0	80.3	82.8	77.4	79.6	80.6	81.2	81.4	81.5
San Antonio, Tex	81.0	79.2	82.0	83.8	84.0	83.0	83.6	77.5	78.4	81.0	79.4	83.2	81.2
Oklahoma City, Okla	76.0	75.6	80.8	73.7	74.6	76.9	81.3	73.8	74.6	76.0	77.9	76.9	80.4
Little Rock, Ark	77.4	78.2	84.0	76.2	76.6	76.2	80.5	77.2	75.4	79.0	79.4	77.8	79.3
Harve, Mont	62.0	65.1	60.7	59.8	59.3	59.6	67.2	67.6	61.8	67.8	65.6	63.8	58.9
Kalispell, Mont	57.7	60.7	57.3	55.8	55.3	55.5	62.2	60.2	55.6	60.9	63.8	58.1	56.5
Cheyenne, Wyo	60.4	60.8	61.4	54.6	58.4	58.2	65.1	62.6	59.4	61.6	62.8	59.4	60.2
Sheridan, Wyo	61.1	64.0	61.1	55.6	59.0	58.0	67.0	68.0	60.8	66.6	64.6	61.8	56.2
Pueblo, Colo	69.0	68.8	70.6	66.0	69.6	67.2	74.0	68.4	68.4	68.9	71.8	69.4	69.5
Santa Fe, N. Mex	64.8	62.8	67.0	64.0	66.2	66.0	68.4	63.1	63.6	62.9	66.4	65.2	68.6
Phoenix, Ariz	84.5	81.9	84.6	83.4	83.9	84.4	88.0	85.4	84.4	84.8	86.2	80.8	87.5
Modena, Utah	63.3	61.8	61.6	60.8	63.0	62.8	70.4	64.3	62.0	64.8	65.7	59.1	65.8
Salt Lake City, Utah	67.4	67.5	64.9	64.2	65.9	65.8	75.4	74.0	68.0	71.2	73.0	64.2	70.7
Winnemucca, Nev	62.8	61.6	61.2	61.0	61.6	63.3	70.6	64.2	62.1	65.2	67.4	57.8	64.8
Boise, Idaho	65.3	65.0	63.0	61.8	61.8	62.6	73.2	66.4	64.1	68.2	70.3	62.6	66.8
Seattle, Wash	59.0	59.5	58.9	59.8	58.8	57.2	61.6	57.5	58.6	59.8	60.8	60.6	59.9
Walla Walla, Wash	66.5	66.9	64.9	66.1	64.4	64.8	73.1	66.4	65.0	70.4	73.9	65.0	69.2
Portland, Oreg	62.4	62.9	61.4	62.6	62.0	61.8	67.1	60.6	62.1	64.4	65.5	62.5	64.3
Roseburg, Oreg	62.5	61.7	61.3	62.0	61.4	62.1	67.4	60.6	62.4	64.8	67.0	60.0	65.2
Eureka, Calif	54.3	55.3	52.8	54.0	52.8	52.6	54.3	53.6	54.3	57.2	55.6	54.3	54.1
Fresno, Calif	75.8	72.0	73.6	75.0	73.2	77.0	82.5	75.6	74.9	76.0	76.5	69.4	77.4
Los Angeles, Calif	66.4	64.4	64.8	66.7	63.6	68.6	69.8	68.7	65.8	65.6	67.7	63.6	68.2
Sacramento, Calif	69.4	66.5	67.1	69.8	68.0	72.6	76.0	59.4	70.2	71.9	71.0	65.9	71.0
San Diego, Calif	63.9	62.8	63.8	64.8	61.4	63.7	66.8	66.2	63.6	63.1	64.3	62.8	65.5
San Francisco, Calif	58.5	58.2	56.6	58.9	57.4	58.6	59.2	57.8	60.2	61.4	60.0	57.2	59.8

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924.*—Continued

Station	Normal for July	July monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me.	65.4	64.4	63.4	63.6	67.4	66.4	66.0	66.6	63.6	70.6	64.6	62.0	65.2
Boston, Mass.	71.7	73.8	68.6	70.1	72.6	73.3	71.0	74.0	72.4	73.2	72.0	70.0	73.8
Buffalo, N. Y.	69.8	69.2	70.0	67.8	74.7	69.5	68.8	70.4	66.1	76.2	70.1	69.8	67.6
Canton, N. Y.	70.5	68.2	66.6	67.2	72.5	70.0	69.1	69.1	66.0	76.4	68.7	66.2	67.4
Trenton, N. J.	74.5	75.6	72.0	73.7	74.9	75.1	73.2	75.1	73.0	76.8	73.4	73.0	73.2
Pittsburgh, Pa.	74.6	73.6	74.0	72.0	76.6	73.6	72.0	75.4	70.4	77.6	73.9	73.3	71.1
Scranton, Pa.	72.1	71.6	70.4	70.4	74.2	72.7	70.4	72.4	69.6	76.0	71.4	70.8	69.8
Washington, D. C.	76.8	77.6	75.9	76.1	77.8	76.6	74.4	77.2	75.0	79.3	76.6	75.7	75.0
Lynchburg, Va.	77.5	78.6	76.0	76.2	76.4	76.4	72.8	77.2	74.8	78.8	76.4	76.5	74.0
Norfolk, Va.	78.7	78.2	76.7	77.4	77.4	77.2	75.0	77.8	76.4	79.8	78.0	77.0	76.6
Parkersburg, W. Va.	75.4	77.0	76.0	73.7	77.7	74.4	72.6	77.2	72.0	78.6	75.3	74.7	72.6
Charlotte, N. C.	78.4	80.4	78.4	79.4	76.0	77.4	76.0	78.6	77.8	79.5	78.8	78.6	77.0
Charleston, S. C.	81.4	82.6	81.0	82.2	79.1	80.8	79.4	80.6	80.0	80.6	82.3	80.1	81.2
Atlanta, Ga.	78.1	79.6	79.1	78.6	76.4	78.0	76.6	77.3	77.3	78.8	77.8	77.1	78.2
Thomasville, Ga.	81.8	82.3	81.8	82.6	79.4	80.4	79.2	79.6	80.4	80.0	80.9	78.4	80.4
Jacksonville, Fla.	82.1	82.3	82.0	81.8	80.4	81.0	79.0	81.0	80.2	79.4	82.0	80.0	81.2
Miami, Fla.	81.9	81.3	81.2	81.9	80.8	81.0	80.4	80.8	81.2	81.2	80.6	80.7	82.0
Cincinnati, Ohio	75.1	80.0	79.2	73.5	78.7	74.0	72.4	77.0	72.8	79.7	75.4	75.6	72.4
Cleveland, Ohio	71.4	71.8	71.8	69.8	75.6	71.4	70.3	73.2	69.2	76.8	71.6	71.2	69.2
Evansville, Ind.	78.9	81.4	82.2	77.6	82.0	78.2	76.6	82.1	77.8	84.0	78.5	80.2	75.6
Indianapolis, Ind.	75.7	77.9	78.5	73.0	80.6	74.0	73.0	78.6	73.4	81.1	74.6	76.2	72.9
Chicago, Ill.	73.9	74.9	75.0	70.2	78.4	72.2	71.2	77.0	71.5	81.2	73.3	74.4	70.2
Peoria, Ill.	75.4	78.5	78.8	71.9	81.0	75.0	72.8	78.4	73.6	79.8	74.7	77.6	71.0
Grand Rapids, Mich.	72.6	72.8	73.8	69.4	78.8	71.6	71.6	75.7	68.9	79.8	71.2	73.4	68.9
Marquette, Mich.	64.9	63.1	66.4	60.2	70.4	64.6	62.9	68.4	62.2	72.4	63.0	65.0	61.8
Madison, Wis.	72.1	71.4	73.8	67.7	78.1	71.8	70.3	74.8	69.1	78.1	69.6	74.2	68.3
Duluth, Minn.	63.9	60.4	65.4	59.8	68.0	64.5	63.3	67.1	62.8	70.8	63.6	64.6	62.4
St. Paul, Minn.	72.1	69.9	74.6	67.1	78.2	72.4	69.9	73.6	70.2	76.7	68.8	75.2	69.0
Des Moines, Iowa	75.4	78.2	78.6	71.0	81.4	76.6	75.6	79.8	73.8	79.6	73.0	78.2	71.9
Dubuque, Iowa	74.1	75.0	76.4	69.6	80.3	73.8	72.3	76.6	71.2	79.0	71.0	76.8	70.0
St. Louis, Mo.	78.6	80.8	83.1	76.4	84.2	78.9	78.4	81.6	78.8	83.2	78.8	80.6	75.0
Springfield, Mo.	76.8	79.2	78.8	74.0	80.6	76.5	76.2	78.6	76.0	79.2	76.4	77.2	73.2
Bismarck, N. Dak.	69.8	67.6	73.3	62.6	75.0	73.2	68.0	73.3	71.0	74.2	67.9	73.3	67.5
Devils Lake, N. Dak.	68.1	64.2	71.8	62.4	72.9	70.0	63.2	70.0	67.2	70.0	65.7	71.8	66.2
Pierre, S. Dak.	75.3	74.8	78.7	67.5	80.1	78.2	73.2	76.8	73.1	77.3	72.0	77.0	71.6
North Platte, Nebr.	72.9	74.4	76.0	69.4	80.0	76.2	74.7	77.2	74.8	76.8	72.7	75.9	72.6
Omaha, Nebr.	76.7	79.8	79.4	71.3	83.0	79.0	77.2	81.8	76.4	79.6	74.0	79.5	73.2
Concordia, Kans.	78.0	83.2	82.1	73.7	81.2	81.1	78.2	81.6	77.4	79.2	75.4	78.8	75.4
Dodge City, Kans.	78.4	80.7	79.3	74.3	80.3	80.4	78.5	79.6	77.9	78.4	77.2	79.3	75.1
Iola, Kans.	78.1	81.6	80.4	75.0	82.4	80.5	78.9	80.6	77.7	80.8	77.6	80.2	74.8
Memphis, Tenn.	80.7	81.0	83.2	79.8	82.2	79.0	79.0	82.1	79.4	82.6	80.0	80.2	79.8
Nashville, Tenn.	79.1	81.5	81.4	78.6	78.8	77.2	76.2	80.6	77.6	82.0	78.2	78.5	76.5
Birmingham, Ala.	80.2	80.6	80.8	79.4	77.8	79.5	77.6	79.0	78.8	81.8	79.5	78.5	79.8
Mobile, Ala.	80.7	81.4	81.8	82.9	80.0	81.4	81.0	81.6	81.0	82.2	81.0	79.8	82.0
New Orleans, La.	82.4	81.6	82.6	84.7	82.3	82.6	83.1	82.6	82.3	83.1	82.4	80.2	84.0
Shreveport, La.	83.2	83.3	85.5	81.4	83.4	83.3	84.2	82.6	81.5	82.8	81.8	82.4	83.8
Amarillo, Tex.	76.8	78.7	77.8	74.6	79.0	79.4	78.3	76.2	78.1	74.8	78.8	78.3	75.4
Brownsville, Tex.	83.6	81.4	85.0	85.0	83.4	84.2	85.6	83.5	84.9	83.2	84.6	83.6	83.1
El Paso, Tex.	81.1	81.5	78.0	81.1	81.3	83.9	81.0	79.4	82.6	79.8	81.9	82.1	81.0
Fort Worth, Tex.	83.6	85.1	86.6	81.9	84.8	84.6	85.1	81.4	82.8	83.4	85.0	85.2	83.6
Galveston, Tex.	83.4	83.2	83.0	83.0	82.8	83.3	83.6	82.0	82.2	82.2	82.2	81.8	82.7
San Antonio, Tex.	83.8	84.5	85.6	84.8	82.8	84.8	85.2	80.7	83.8	83.6	84.1	83.6	82.5
Oklahoma City, Okla.	80.6	81.7	85.2	78.2	82.0	82.6	82.8	81.4	80.0	80.3	82.0	84.0	79.2
Little Rock, Ark.	80.9	81.6	82.7	80.0	83.6	80.1	80.4	82.2	80.4	82.2	80.6	80.0	79.9
Havre, Mont.	68.3	65.3	72.0	62.4	68.3	73.7	68.0	71.8	72.4	69.8	67.2	71.2	68.6
Kalispell, Mont.	64.1	61.8	66.7	60.0	62.7	67.4	64.7	67.0	69.6	65.0	64.6	68.0	65.6
Cheyenne, Wyo.	66.7	65.2	66.6	62.3	69.1	67.4	65.7	69.8	65.8	66.8	65.5	67.5	65.8
Sheridan, Wyo.	67.3	64.9	70.4	61.2	70.8	71.2	66.4	72.6	68.6	69.9	66.0	72.9	66.0
Pueblo, Colo.	74.2	74.7	73.2	71.1	76.1	76.0	73.8	76.0	74.4	74.2	74.9	75.0	74.2
Santa Fe, N. Mex.	69.0	69.6	67.0	67.6	68.8	71.5	69.3	67.8	68.7	67.1	70.2	69.7	67.8
Phoenix, Ariz.	89.8	86.3	88.8	87.3	89.0	90.0	88.3	88.2	90.6	89.2	90.6	89.2	90.2
Modena, Utah.	70.6	69.8	69.0	69.2	69.2	74.5	68.8	73.4	69.8	71.9	72.1	72.0	70.4
Salt Lake City, Utah.	75.7	73.5	75.2	75.2	76.8	79.0	75.6	80.3	78.6	77.4	76.6	78.3	77.5
Winnemucca, Nev.	70.6	69.2	72.0	69.7	69.3	75.9	70.4	74.0	70.6	72.0	71.4	72.2	72.1
Boise, Idaho.	72.9	70.2	75.2	70.6	70.8	77.4	74.4	75.6	76.2	74.1	75.6	75.4	74.0
Seattle, Wash.	63.1	63.4	64.2	64.3	61.1	63.4	63.0	63.0	64.2	60.8	62.9	64.4	63.5
Walla Walla, Wash.	74.0	73.9	77.2	73.0	69.8	77.2	75.1	76.4	76.5	73.8	78.0	76.0	75.4
Portland, Oreg.	66.7	67.8	68.6	67.2	64.2	69.0	67.8	68.0	68.0	65.7	68.2	67.8	67.0
Roseburg, Oreg.	67.4	67.5	69.6	67.8	64.8	71.2	67.0	69.3	67.8	66.9	71.0	68.6	68.3
Eureka, Calif.	55.5	57.2	54.1	56.8	56.4	54.8	55.4	54.2	56.9	53.8	55.1	58.2	54.6
Fresno, Calif.	82.1	80.9	80.5	80.3	79.5	86.0	79.9	82.9	79.4	83.9	83.8	79.8	80.5
Los Angeles, Calif.	70.2	70.5	66.8	70.0	66.8	72.3	69.9	71.0	71.2	71.8	69.5	70.0	69.4
Sacramento, Calif.	73.2	74.4	71.0	72.8	74.2	78.6	72.2	72.8	71.6	75.3	75.9	73.6	72.2
San Diego, Calif.	67.2	68.2	65.8	67.3	65.0	68.9	68.0	68.6	67.0	68.4	67.7	67.0	67.0
San Francisco, Calif.	58.5	60.6	57.0	60.2	60.0	59.8	58.8	57.0	57.8	59.2	60.2	60.8	59.0

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Aug.	August monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	62.5	62.2	61.9	61.4	65.2	64.7	62.6	60.8	66.6	61.0	63.2	59.2	**63.6**
Boston, Mass	69.9	70.8	70.4	69.1	71.8	72.8	70.4	68.8	72.0	69.8	70.4	69.4	**71.8**
Buffalo, N. Y	68.6	68.6	68.8	66.2	71.6	68.2	70.6	66.9	70.2	68.3	68.2	67.2	**67.8**
Canton, N. Y	67.8	65.8	65.6	64.5	69.2	67.8	67.0	65.2	69.0	66.8	66.2	64.5	**65.8**
Trenton, N. J	73.0	72.8	74.4	70.9	74.0	74.8	75.4	70.6	72.4	70.2	71.0	71.6	**73.4**
Pittsburgh, Pa	72.9	73.2	73.2	69.1	74.2	72.2	76.6	70.0	71.6	70.2	70.8	71.0	**72.2**
Scranton, Pa	69.2	70.6	70.8	67.4	71.8	71.5	73.3	67.6	70.8	67.8	68.7	68.4	**69.3**
Washington, D. C	75.0	74.2	76.4	74.0	75.2	75.9	77.6	73.6	74.8	72.8	73.1	74.4	**74.8**
Lynchburg, Va	75.6	75.1	76.3	74.2	75.3	75.4	77.6	73.9	73.7	74.5	72.8	74.8	**76.0**
Norfolk, Va	77.4	75.9	78.2	78.0	76.9	77.8	79.6	76.6	76.8	76.4	75.0	77.4	**77.6**
Parkersburg, W. Va	73.9	75.6	74.9	69.8	75.2	73.6	78.6	72.4	72.9	72.4	72.3	73.0	**74.9**
Charlotte, N. C	77.1	77.2	77.7	76.0	77.6	76.8	78.8	77.0	74.9	76.1	74.9	78.4	**80.0**
Charleston, S. C	81.0	80.1	81.3	82.0	81.8	80.2	82.2	81.0	80.2	80.8	78.1	81.8	**82.2**
Atlanta, Ga	77.0	78.6	76.8	77.2	78.0	75.4	78.8	76.4	75.1	76.7	75.8	77.4	**80.4**
Thomasville, Ga	81.0	80.0	81.0	82.2	81.0	80.4	80.4	80.8	80.0	81.0	79.4	79.9	**82.6**
Jacksonville, Fla	81.7	80.8	82.0	82.8	81.6	81.2	81.2	81.5	80.6	80.5	78.8	81.9	**82.2**
Miami, Fla	82.0	81.6	81.6	82.6	80.6	81.3	81.5	82.6	80.0	81.1	81.2	81.6	**82.0**
Cincinnati, Ohio	73.6	78.1	76.7	68.6	76.3	73.2	78.6	73.2	71.2	72.8	73.7	74.0	**74.3**
Cleveland, Ohio	70.0	71.2	71.8	67.1	72.4	69.8	74.5	69.8	69.4	69.3	69.6	69.0	**70.0**
Evansville, Ind	77.4	80.8	78.0	71.4	79.0	76.6	82.4	77.2	75.6	77.0	77.8	78.4	**78.2**
Indianapolis, Ind	73.7	76.3	74.6	67.5	76.6	72.5	78.4	73.4	72.0	73.2	74.4	73.2	**73.4**
Chicago, Ill	72.8	74.3	74.2	66.6	76.6	70.4	75.7	73.4	71.0	72.8	73.2	70.8	**71.0**
Peoria, Ill	72.5	77.8	75.4	67.2	76.0	70.8	77.5	71.9	72.2	73.8	74.5	73.4	**72.7**
Grand Rapids, Mich	70.0	72.5	71.0	65.2	72.8	68.6	74.1	69.8	69.9	70.6	71.2	68.2	**68.0**
Marquette, Mich	63.8	64.2	63.0	60.4	66.7	60.4	63.6	65.2	62.8	64.2	64.8	60.8	**63.4**
Madison, Wis	69.8	70.6	70.3	63.8	72.8	67.0	72.6	69.0	68.8	70.0	71.2	67.9	**68.2**
Duluth, Minn	62.6	62.2	62.0	61.6	65.1	59.8	64.6	65.0	63.6	63.6	64.2	60.3	**61.9**
St. Paul, Minn	69.4	72.2	68.8	65.4	71.6	66.5	70.4	68.5	69.2	70.0	72.0	66.9	**67.0**
Des Moines, Iowa	73.1	78.7	75.9	67.3	75.8	70.9	78.7	73.4	71.4	73.2	74.8	71.4	**73.6**
Dubuque, Iowa	71.7	74.2	72.8	65.6	75.0	68.6	74.6	70.8	69.6	71.6	72.5	69.6	**70.0**
St. Louis, Mo	77.3	83.0	78.9	70.4	78.7	75.3	82.6	77.1	75.1	77.5	79.1	77.9	**78.2**
Springfield, Mo	75.7	82.0	76.4	68.8	78.8	72.8	80.0	77.2	72.4	77.0	77.0	78.6	**77.0**
Bismarck, N. Dak	67.3	71.2	64.5	65.2	67.4	66.6	68.8	70.6	70.4	70.2	72.6	65.4	**65.9**
Devils Lake, N. Dak	65.1	67.6	63.2	64.6	65.6	64.4	65.2	67.0	68.4	65.5	70.0	62.0	**63.4**
Pierre, S. Dak	72.8	76.8	71.9	68.0	71.6	71.0	74.2	75.1	70.8	74.0	76.6	69.8	**72.4**
North Platte, Nebr	70.8	77.3	74.0	68.2	74.0	69.4	74.0	73.0	70.0	73.0	76.8	70.2	**74.6**
Omaha, Nebr	74.4	82.4	77.0	68.4	76.5	71.8	80.8	75.0	72.6	75.6	77.7	72.9	**76.0**
Concordia, Kans	76.5	85.0	79.3	70.1	78.7	72.8	82.5	77.0	72.4	78.9	80.6	76.2	**79.5**
Dodge City, Kans	77.7	82.4	77.1	70.0	78.6	73.6	80.6	79.4	72.4	77.8	80.0	77.9	**79.0**
Iola, Kans	76.3	84.4	78.4	70.0	80.9	74.1	83.8	78.4	74.0	78.4	79.4	80.8	**78.4**
Memphis, Tenn	79.4	81.0	78.7	75.9	80.8	77.8	82.6	80.4	77.4	80.8	79.7	80.5	**81.6**
Nashville, Tenn	77.8	80.6	77.6	74.1	78.4	75.6	81.2	77.6	75.0	78.0	76.8	76.4	**79.6**
Birmingham, Ala	79.2	80.2	78.0	77.6	79.2	77.8	81.5	78.6	77.2	80.3	79.4	78.4	**82.6**
Mobile, Ala	80.5	82.4	80.6	81.4	82.0	81.0	81.2	81.9	80.2	82.5	81.1	80.6	**83.8**
New Orleans, La	82.2	82.8	81.8	82.7	83.4	82.6	82.0	83.2	81.3	84.2	83.0	82.0	**85.8**
Shreveport, La	82.0	82.4	80.5	78.4	83.2	80.6	83.4	82.6	79.8	84.0	82.1	83.0	**86.0**
Amarillo, Tex	75.7	80.0	75.6	71.4	76.6	74.0	78.0	77.6	71.6	76.4	81.6	77.2	**78.2**
Brownsville, Tex	83.9	83.4	85.1	86.0	82.6	85.4	85.7	86.2	86.2	84.2	84.8	84.4	**85.0**
El Paso, Tex	79.2	78.6	78.5	77.7	77.8	79.2	77.4	81.0	77.0	80.4	82.6	78.8	**82.7**
Fort Worth, Tex	83.0	85.9	80.0	79.1	83.6	84.2	87.0	82.0	78.1	86.4	85.2	85.2	**87.0**
Galveston, Tex	83.0	82.9	82.2	84.3	83.0	83.5	82.7	83.4	82.4	83.6	83.1	82.4	**85.2**
San Antonio, Tex	83.5	84.0	82.6	82.5	82.0	85.6	85.1	82.2	82.9	85.2	85.8	84.2	**86.0**
Oklahoma City, Okla	79.7	84.8	79.6	73.4	83.0	77.7	85.6	82.0	75.3	82.9	84.4	83.6	**83.0**
Little Rock, Ark	79.8	82.1	78.2	75.3	81.3	77.7	82.8	81.0	77.4	81.4	81.5	81.5	**82.8**
Havre, Mont	65.4	66.9	64.4	70.0	64.9	65.5	66.6	70.4	69.6	69.0	70.0	65.0	**64.8**
Kalispell, Mont	62.8	63.3	63.1	69.1	61.6	63.5	60.1	65.0	63.6	64.0	65.8	64.0	**61.2**
Cheyenne, Wyo	65.6	68.4	65.4	61.0	63.8	61.4	65.0	68.0	62.8	65.6	69.0	63.7	**66.4**
Sheridan, Wyo	65.4	68.0	65.1	65.4	65.9	64.0	65.8	68.2	67.0	68.0	71.1	64.4	**64.5**
Pueblo, Colo	72.7	75.2	72.6	67.9	71.9	70.4	73.9	74.6	69.8	72.8	76.5	70.8	**74.6**
Santa Fe, N. Mex	67.4	68.6	66.8	65.4	66.8	67.8	67.8	69.0	65.0	66.0	70.7	65.8	**68.0**
Phoenix, Ariz	88.5	86.7	89.2	89.1	87.0	87.2	84.6	88.6	86.4	87.1	89.4	87.2	**89.4**
Modena, Utah	69.2	68.8	69.8	69.7	65.8	69.4	66.5	71.3	69.0	68.4	69.6	67.2	**68.8**
Salt Lake City, Utah	74.5	75.8	75.6	78.0	72.9	73.9	72.4	77.4	73.7	74.6	76.2	73.0	**75.4**
Winnemucca, Nev	69.3	71.0	70.6	72.0	66.4	71.0	65.7	71.2	68.6	69.8	67.8	67.8	**68.1**
Boise, Idaho	71.8	73.2	72.8	78.2	70.4	74.0	67.3	74.4	72.2	74.0	74.4	73.1	**70.4**
Seattle, Wash	63.1	64.8	63.2	66.8	63.6	65.2	62.6	63.0	64.4	62.0	62.7	65.7	**62.4**
Walla Walla, Wash	72.7	74.9	75.2	79.3	74.0	76.8	70.0	75.6	73.8	74.6	74.2	75.4	**72.8**
Portland, Oreg	66.7	68.6	68.0	71.2	68.0	70.3	67.4	68.0	69.3	67.0	67.2	70.6	**66.5**
Roseburg, Oreg	68.0	68.6	68.6	70.7	68.2	69.4	67.4	69.6	70.0	67.6	66.6	70.0	**68.0**
Eureka, Calif	56.0	57.8	54.6	57.9	56.0	54.0	56.6	55.9	56.1	55.8	56.9	59.7	**56.4**
Fresno, Calif	80.7	83.0	80.3	81.9	78.2	81.2	79.2	81.2	81.5	79.9	79.1	79.0	**79.8**
Los Angeles, Calif	71.1	71.9	68.2	72.6	68.6	70.0	71.7	70.2	72.4	70.6	73.3	69.6	**69.1**
Sacramento, Calif	72.9	76.9	71.2	75.0	71.8	72.6	74.0	72.8	76.0	72.1	72.8	73.5	**72.2**
San Diego, Calif	68.7	68.9	66.2	69.5	67.0	68.6	69.8	68.4	70.4	68.2	70.7	67.8	**67.0**
San Francisco, Calif	59.1	62.1	58.2	61.3	58.5	57.6	60.9	58.4	60.1	59.6	60.4	61.7	**59.1**

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Sept.	September monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	55.0	53.1	56.8	58.4	56.2	53.4	52.2	53.4	56.6	57.2	55.4	56.2	53.5
Boston, Mass	63.2	62.0	64.6	66.8	65.0	60.2	61.2	63.9	65.2	68.5	65.2	64.2	62.2
Buffalo, N. Y	62.4	60.8	61.6	64.6	62.0	59.4	56.0	63.1	64.3	67.6	64.4	62.9	58.3
Canton, N. Y	59.3	56.4	57.4	61.4	60.1	56.6	54.4	58.8	61.4	63.2	61.2	59.4	55.9
Trenton, N. J	66.9	65.2	65.2	69.4	66.1	62.0	62.6	66.0	67.2	70.6	67.2	67.6	63.1
Pittsburgh, Pa	66.4	65.0	63.6	68.8	64.2	62.1	59.8	66.4	66.8	70.8	69.6	67.4	61.4
Scranton, Pa	63.0	62.4	60.9	65.8	62.2	59.4	58.6	63.9	63.9	68.1	65.6	64.0	59.0
Washington, D. C	68.1	67.4	66.0	71.0	66.6	65.8	64.2	69.4	68.8	74.4	69.9	69.6	64.3
Lynchburg, Va	69.0	67.5	66.7	70.6	66.8	64.9	64.3	69.8	69.5	75.5	70.9	70.0	64.0
Norfolk, Va	71.6	70.8	69.4	74.2	70.3	68.2	69.1	72.6	73.9	77.8	73.6	73.6	68.8
Parkersburg, W. Va	67.3	66.4	65.5	69.4	64.2	64.0	61.0	68.6	68.8	72.8	70.4	68.4	62.8
Charlotte, N. C	71.5	68.6	69.2	73.2	70.0	67.6	67.0	72.7	72.7	79.2	73.5	73.7	67.6
Charleston, S. C	76.6	75.0	74.4	79.2	75.1	73.4	73.2	76.3	77.8	81.9	76.8	77.8	74.6
Atlanta, Ga	72.4	70.4	71.4	74.9	71.4	70.0	68.2	74.2	73.9	79.4	75.3	74.6	68.2
Thomasville, Ga	76.8	75.6	75.5	80.3	76.0	75.2	74.0	77.6	78.8	82.2	78.1	78.6	75.6
Jacksonville, Fla	78.3	77.3	77.2	79.8	76.8	75.9	75.8	77.4	78.8	81.6	76.8	78.6	77.2
Miami, Fla	81.5	80.3	78.8	81.0	79.6	79.2	79.5	80.4	80.4	80.9	80.1	80.0	80.8
Cincinnati, Ohio	67.1	68.4	68.4	68.4	65.2	64.9	63.9	69.6	67.8	72.3	70.6	68.3	62.5
Cleveland, Ohio	63.9	62.6	62.6	67.0	63.8	60.5	58.2	66.4	65.8	69.0	67.0	64.7	60.4
Evansville, Ind	70.7	70.4	69.6	72.6	69.4	70.4	69.5	74.4	72.8	75.6	74.6	70.8	66.2
Indianapolis, Ind	65.9	66.0	66.4	68.1	65.4	65.2	59.8	73.3	69.4	70.8	71.2	67.0	61.7
Chicago, Ill	66.3	65.4	66.5	67.2	64.4	63.7	59.6	68.9	69.3	70.0	69.5	65.1	60.3
Peoria, Ill	64.3	66.8	66.2	67.3	63.6	63.7	58.2	68.2	68.5	70.6	69.6	65.4	60.4
Grand Rapids, Mich	61.8	63.2	62.6	64.4	61.4	60.3	56.2	65.3	63.9	67.8	65.2	63.0	58.2
Marquette, Mich	57.5	56.2	58.2	57.6	55.1	55.8	49.3	59.2	60.8	62.2	61.6	59.8	55.2
Madison, Wis	62.4	61.2	62.5	62.6	59.4	60.0	55.9	64.2	65.5	66.0	65.1	61.7	56.8
Duluth, Minn	55.1	53.9	55.0	55.6	52.0	55.6	50.4	55.8	60.3	58.2	58.2	56.4	52.7
St. Paul, Minn	61.3	60.8	61.8	60.0	59.2	59.4	54.6	63.9	65.0	63.2	65.0	62.4	56.7
Des Moines, Iowa	65.0	65.9	65.3	65.6	64.3	64.0	60.2	68.9	68.0	69.4	68.0	65.2	60.5
Dubuque, Iowa	64.0	63.6	64.4	64.4	62.2	61.8	57.4	66.1	66.4	66.9	65.9	62.8	58.2
St. Louis, Mo	70.1	69.9	69.6	72.4	68.3	69.0	65.6	73.6	72.5	74.4	73.8	69.0	65.0
Springfield, Mo	68.9	68.4	70.6	70.7	68.2	68.0	62.8	72.6	70.0	74.3	72.7	69.2	63.8
Bismarck, N. Dak	58.1	59.6	61.0	56.0	56.8	57.6	53.9	61.0	60.3	59.2	61.4	61.0	57.2
Devils Lake, N. Dak	55.6	56.4	58.4	55.0	55.0	55.2	50.4	57.1	59.4	56.6	59.4	58.2	54.3
Pierre, S. Dak	63.8	65.0	66.0	61.2	62.2	62.6	58.9	66.4	64.5	63.4	67.6	64.4	61.9
North Platte, Nebr	62.1	62.8	65.5	62.1	62.8	63.6	58.9	67.8	64.2	65.0	67.8	63.8	60.5
Omaha, Nebr	66.8	67.5	68.2	66.4	65.4	66.2	62.4	70.8	68.8	71.4	71.0	67.4	62.2
Concordia, Kans	68.3	68.0	72.4	68.6	67.2	68.4	63.2	71.4	69.7	73.8	73.0	69.6	64.4
Dodge City, Kans	69.4	68.8	72.6	68.4	67.0	69.4	63.4	73.1	69.4	73.0	72.4	69.6	66.0
Iola, Kans	68.6	68.9	71.8	70.6	68.4	69.8	63.8	73.0	71.0	75.0	72.8	71.9	65.7
Memphis, Tenn	73.6	72.8	73.8	76.0	72.0	72.2	67.6	76.2	74.8	80.0	76.3	73.8	69.2
Nashville, Tenn	71.8	72.2	71.0	75.8	69.2	70.3	65.4	72.8	72.2	78.9	74.2	71.8	67.9
Birmingham, Ala	74.8	72.8	72.5	76.3	73.6	72.6	70.0	75.9	76.5	81.6	78.8	75.8	72.1
Mobile, Ala	77.9	76.6	76.8	79.8	77.0	76.8	74.3	78.6	79.9	82.2	79.4	79.6	76.3
New Orleans, La	79.2	78.6	78.8	81.2	79.3	78.2	76.9	80.2	81.5	83.4	80.8	81.2	79.4
Shreveport, La	76.9	73.4	77.2	77.6	76.2	74.1	72.2	76.4	78.6	81.7	78.8	75.6	75.0
Amarillo, Tex	69.3	64.8	72.8	68.8	67.8	69.4	65.4	71.2	76.8	73.5	73.1	69.8	67.6
Brownsville, Tex	80.6	79.2	80.9	82.2	80.0	78.8	80.8	82.3	84.4	83.0	80.7	83.0	80.2
El Paso, Tex	73.9	69.2	74.3	73.6	73.0	73.8	73.6	72.6	75.1	76.5	75.6	73.5	74.6
Fort Worth, Tex	76.9	72.9	77.4	77.1	77.4	75.8	73.5	75.6	77.9	81.9	79.4	78.5	74.3
Galveston, Tex	80.1	76.8	80.2	81.2	79.4	79.4	77.0	80.9	81.4	82.6	80.2	79.8	80.2
San Antonio, Tex	79.0	75.6	79.6	79.8	78.0	79.3	76.4	77.8	82.1	81.7	79.6	79.2	78.4
Oklahoma City, Okla	72.8	70.1	75.5	73.8	72.2	73.3	68.0	74.3	73.8	78.0	77.0	74.0	70.1
Little Rock, Ark	74.1	71.7	74.6	76.0	72.8	72.5	69.0	75.3	75.2	79.6	77.7	73.2	69.8
Havre, Mont	56.4	57.0	56.8	51.8	55.4	56.6	55.2	57.0	58.7	52.6	60.8	57.8	57.0
Kalispell, Mont	53.5	53.4	52.6	51.4	53.0	56.8	56.8	54.0	54.2	48.8	57.8	57.0	53.6
Cheyenne, Wyo	57.0	54.0	58.0	54.6	55.8	58.6	53.1	59.0	57.1	58.4	60.8	55.8	54.6
Sheridan, Wyo	56.3	55.8	57.2	52.8	55.2	57.9	55.0	59.6	57.5	55.0	60.8	56.6	54.8
Pueblo, Colo	64.6	61.0	66.8	64.2	63.2	65.5	60.8	67.5	64.2	66.7	68.3	63.0	63.4
Santa Fe, N. Mex	60.9	57.2	65.0	59.6	60.8	62.6	60.4	61.4	60.4	63.5	63.8	58.6	60.4
Phoenix, Ariz	82.7	81.7	84.5	79.9	80.9	83.2	82.4	81.5	80.4	82.6	85.0	80.2	85.6
Modena, Utah	60.0	59.7	60.6	58.8	60.4	60.3	50.8	61.2	59.0	60.2	65.1	58.2	60.6
Salt Lake City, Utah	64.4	63.5	64.4	62.4	65.3	66.4	60.6	66.8	64.7	62.6	69.2	64.2	64.4
Winnemucca, Nev	59.2	61.8	57.8	57.1	59.1	61.4	61.6	59.4	60.0	57.4	62.4	60.4	58.5
Boise, Idaho	61.9	62.2	61.4	60.4	62.5	66.0	65.2	62.2	63.2	57.6	66.0	65.7	63.8
Seattle, Wash	58.1	58.8	56.7	59.1	58.8	58.9	62.2	59.6	57.8	57.0	59.8	60.8	59.5
Walla Walla, Wash	63.8	64.8	61.6	63.4	64.2	66.8	66.8	63.0	63.4	59.6	68.4	67.1	65.2
Portland, Oreg	61.7	62.3	59.4	62.4	62.5	65.1	67.4	62.5	61.2	60.5	63.8	64.5	63.4
Roseburg, Oreg	62.9	62.0	60.1	61.7	62.6	63.5	66.8	61.0	61.2	60.5	65.1	64.3	62.4
Eureka, Calif	55.9	56.2	55.0	54.5	55.8	56.4	56.6	56.5	57.2	55.4	56.0	57.2	56.9
Fresno, Calif	73.4	76.6	71.6	73.0	73.2	75.4	72.5	73.2	72.2	72.8	79.1	76.4	75.2
Los Angeles, Calif	69.0	73.6	67.9	68.0	65.2	70.8	72.2	68.3	68.4	69.3	73.1	70.4	70.0
Sacramento, Calif	69.3	73.0	67.5	68.9	70.2	71.4	67.4	69.7	67.5	70.6	75.6	72.7	70.6
San Diego, Calif	67.1	70.3	66.0	66.4	64.4	68.2	70.6	66.5	66.2	66.8	70.0	68.2	66.4
San Francisco, Calif	60.9	64.6	60.8	62.4	62.2	64.0	62.2	62.0	60.4	63.3	63.2	64.0	64.4

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Oct.	October monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me	45.6	49.6	46.6	46.7	45.7	42.1	45.4	43.0	60.4	45.4	43.0	47.0	**46.5**
Boston, Mass	53.6	56.4	57.0	55.7	55.5	51.9	56.2	55.1	59.8	55.2	55.1	55.5	**54.6**
Buffalo, N. Y	51.9	53.4	55.2	52.8	52.6	45.5	53.4	55.2	57.2	52.2	51.9	50.3	**52.7**
Canton, N. Y	47.2	50.8	50.4	50.4	48.2	42.8	48.0	47.5	52.8	47.8	46.3	46.6	**47.3**
Trenton, N. J	55.6	58.2	59.0	56.6	56.1	51.6	58.1	58.5	59.6	55.0	57.7	54.8	**56.2**
Pittsburgh, Pa	55.7	55.4	58.4	56.2	54.8	48.9	58.2	60.6	59.6	54.0	56.4	52.3	**56.4**
Scranton, Pa	52.2	55.8	55.8	53.4	52.2	47.4	55.4	55.6	57.5	52.6	54.3	51.6	**51.8**
Washington, D. C	57.4	58.8	60.2	58.6	56.6	52.0	60.6	63.2	61.2	57.0	59.4	56.1	**57.4**
Lynchburg, Va	58.5	59.7	60.9	60.6	57.7	53.0	61.0	65.4	60.8	57.6	60.6	56.6	**58.4**
Norfolk, Va	62.5	62.2	65.9	64.4	63.0	58.2	65.2	70.0	64.6	62.0	64.3	61.0	**62.0**
Parkersburg, W. Va	56.1	55.8	59.2	57.8	55.3	50.0	59.2	63.4	59.8	55.7	57.6	54.4	**57.6**
Charlotte, N. C	61.7	61.0	62.2	64.4	61.6	57.0	64.0	69.9	62.7	60.8	62.8	61.3	**60.9**
Charleston, S. C	67.8	66.1	68.4	70.8	67.4	63.7	70.7	76.8	67.5	66.6	68.7	66.4	**65.8**
Atlanta, Ga	63.6	60.0	62.4	65.3	62.3	59.6	65.8	70.8	64.7	61.0	63.2	62.1	**63.4**
Thomasville, Ga	68.2	65.0	68.2	70.6	68.9	64.4	73.0	78.5	67.1	67.0	69.7	67.0	**66.3**
Jacksonville, Fla	71.1	69.2	71.5	73.4	69.5	67.6	74.5	78.6	68.8	69.2	72.6	69.0	**68.4**
Miami, Fla	77.8	75.2	76.0	78.9	77.2	77.4	78.9	80.1	75.2	77.2	78.0	75.8	**76.8**
Cincinnati, Ohio	55.7	57.2	60.5	58.0	54.9	48.0	59.0	61.8	60.2	55.2	57.9	53.8	**59.4**
Cleveland, Ohio	53.6	55.5	56.8	55.4	52.7	46.5	56.0	58.8	59.0	53.6	55.4	52.2	**55.6**
Evansville, Ind	59.4	57.6	60.8	61.8	60.0	51.5	62.4	64.2	64.2	58.6	62.4	57.6	**65.0**
Indianapolis, Ind	55.7	55.0	58.4	57.6	56.1	46.9	58.3	60.4	61.6	54.9	59.1	53.1	**61.0**
Chicago, Ill	51.1	53.3	59.4	55.4	54.4	45.6	57.4	57.2	61.9	54.8	57.6	52.5	**59.8**
Peoria, Ill	52.0	52.9	57.2	55.6	54.2	44.2	56.2	55.8	60.2	55.6	58.9	50.4	**59.2**
Grand Rapids, Mich	50.1	51.8	56.5	52.8	51.1	42.9	53.8	54.6	58.8	52.0	53.0	49.6	**56.4**
Marquette, Mich	46.7	46.4	52.9	47.5	45.6	38.5	47.8	45.0	56.0	47.6	46.6	46.4	**53.0**
Madison, Wis	50.3	48.3	55.4	51.8	49.2	40.0	52.9	50.2	57.4	50.8	53.9	48.2	**56.6**
Duluth, Minn	44.1	40.7	49.2	44.8	42.0	33.8	45.4	39.4	51.8	45.6	46.0	44.4	**50.8**
St. Paul, Minn	48.6	45.8	55.4	50.6	46.4	38.3	50.2	44.2	55.6	50.6	52.3	47.2	**55.8**
Des Moines, Iowa	53.4	51.2	57.4	56.8	53.2	44.7	56.6	52.1	60.2	56.5	57.4	50.0	**59.6**
Dubuque, Iowa	51.9	49.8	56.7	54.0	51.6	41.9	54.0	52.0	58.6	52.9	55.4	48.4	**57.5**
St. Louis, Mo	58.4	56.2	60.8	61.7	59.2	51.1	62.3	60.8	64.0	59.6	62.2	54.9	**64.6**
Springfield, Mo	58.2	55.0	58.8	60.4	59.4	50.5	61.6	59.9	61.3	58.8	61.0	53.8	**63.7**
Bismarck, N. Dak	44.9	41.1	51.0	48.6	41.8	36.4	47.5	34.6	50.6	48.9	47.6	45.6	**53.0**
Devils Lake, N. Dak	40.5	37.9	50.8	45.4	38.4	32.4	44.4	31.8	48.9	46.4	44.7	42.8	**50.4**
Pierre, S. Dak	49.8	46.0	54.9	53.5	47.8	42.9	53.4	40.8	55.2	53.0	52.2	49.3	**57.1**
North Platte, Nebr	49.7	46.9	53.4	54.6	49.4	45.1	54.4	45.3	55.3	54.9	53.6	47.1	**56.8**
Omaha, Nebr	54.3	50.9	57.8	58.2	55.8	46.6	57.7	50.6	61.0	58.6	59.8	51.8	**61.4**
Concordia, Kans	55.9	53.4	58.6	58.4	56.1	49.0	59.6	52.1	60.8	59.4	59.8	51.6	**61.5**
Dodge City, Kans	56.1	52.8	57.8	58.0	56.2	50.2	59.8	53.3	59.8	59.6	59.6	51.0	**59.4**
Iola, Kans	56.9	54.6	58.9	59.4	58.9	50.6	61.6	57.4	61.9	60.0	60.4	54.4	**62.4**
Memphis, Tenn	63.3	60.6	65.3	65.6	64.0	56.6	66.6	68.0	66.5	62.9	65.3	60.8	**67.2**
Nashville, Tenn	61.0	58.8	61.9	63.0	60.8	53.2	64.0	68.2	62.6	58.5	62.4	59.2	**63.6**
Birmingham, Ala	64.8	60.4	63.8	66.9	65.6	57.9	68.2	74.5	66.4	62.8	65.8	63.6	**66.6**
Mobile, Ala	69.4	65.5	68.8	70.9	68.8	63.7	73.8	77.5	68.8	68.0	68.7	67.5	**68.4**
New Orleans, La	74.0	68.0	70.3	73.4	71.6	66.4	74.6	79.5	71.4	71.2	71.6	70.2	**72.0**
Shreveport, La	66.6	63.6	66.8	67.9	67.4	61.6	68.8	71.4	66.9	66.8	67.0	64.5	**69.4**
Amarillo, Tex	57.7	55.2	56.0	59.0	57.2	55.7	60.0	57.6	60.7	62.8	60.1	52.1	**60.0**
Brownsville, Tex	74.9	75.8	75.1	75.2	74.8	75.2	77.1	80.2	75.8	75.8	75.7	75.8	**74.9**
El Paso, Tex	63.5	63.6	63.5	63.9	64.7	64.6	64.6	65.1	63.2	66.5	64.9	63.1	**66.8**
Fort Worth, Tex	66.7	62.6	66.2	67.6	68.1	64.0	68.0	68.4	67.6	67.9	67.6	62.5	**69.4**
Galveston, Tex	72.7	69.6	71.7	74.2	72.5	68.6	72.7	77.6	72.3	72.2	71.0	71.1	**73.7**
San Antonio, Tex	70.5	67.0	70.2	72.2	70.9	68.6	71.6	73.8	71.0	70.4	71.4	68.0	**72.0**
Oklahoma City, Okla	61.5	57.4	61.6	62.8	62.4	57.3	65.2	59.7	63.9	64.0	63.3	56.5	**66.3**
Little Rock, Ark	63.6	60.6	62.2	65.4	63.3	57.9	66.5	66.6	65.4	62.9	65.2	60.8	**67.2**
Havre, Mont	44.5	40.8	46.2	49.2	39.9	41.8	48.9	34.4	46.7	50.6	47.9	44.2	**49.0**
Kalispell, Mont	43.5	39.4	43.2	46.2	40.5	43.5	47.0	36.4	42.4	46.4	47.6	44.0	**44.7**
Cheyenne, Wyo	44.8	41.5	47.6	48.0	42.9	43.3	48.2	40.5	46.0	50.8	47.5	38.7	**47.8**
Sheridan, Wyo	43.7	40.6	46.6	48.4	39.6	41.0	48.5	35.7	44.5	49.2	47.3	41.0	**47.8**
Pueblo, Colo	52.0	49.3	53.6	54.0	51.6	49.9	55.8	49.9	53.2	55.5	51.2	47.6	**55.4**
Santa Fe, N. Mex	50.4	47.8	49.4	52.0	50.8	51.9	52.0	47.1	48.5	53.0	51.4	45.8	**51.2**
Phoenix, Ariz	70.6	69.6	71.2	73.8	66.2	72.7	71.8	66.7	67.0	73.8	71.6	67.3	**71.2**
Modena, Utah	48.0	46.5	49.9	50.6	45.0	51.1	51.1	42.2	44.3	54.0	49.5	44.8	**45.5**
Salt Lake City, Utah	52.5	50.4	55.8	56.3	49.8	54.2	55.0	44.6	49.4	58.6	55.9	48.7	**52.4**
Winnemucca, Nev	48.3	47.4	50.2	50.2	44.9	51.7	51.6	42.0	44.6	51.9	49.0	46.6	**47.0**
Boise, Idaho	51.1	48.0	54.4	54.4	48.7	53.2	53.6	44.9	48.4	55.6	56.2	50.2	**52.8**
Seattle, Wash	51.4	50.1	54.6	53.7	49.1	52.5	53.4	48.5	50.1	53.2	53.5	54.6	**52.8**
Walla Walla, Wash	53.5	51.4	54.4	56.8	52.4	56.6	57.0	50.2	52.0	57.0	56.5	52.7	**55.3**
Portland, Oreg	54.2	53.2	57.4	55.8	53.2	57.3	56.4	50.9	53.1	57.0	55.4	57.1	**54.6**
Roseburg, Oreg	53.9	53.4	56.3	54.6	50.9	54.9	56.4	49.4	52.2	57.1	55.2	54.2	**53.8**
Eureka, Calif	53.3	53.2	54.8	52.3	50.2	51.6	54.2	50.6	54.6	54.5	54.8	54.4	**54.4**
Fresno, Calif	64.0	66.7	64.6	67.4	59.8	69.3	66.7	62.0	60.0	66.6	64.2	64.0	**61.9**
Los Angeles, Calif	65.3	67.9	68.6	65.2	59.7	68.2	71.0	68.8	63.2	66.7	65.4	66.8	**62.6**
Sacramento, Calif	62.9	65.2	62.2	65.2	58.2	68.0	64.2	60.6	58.6	64.0	61.9	63.1	**59.5**
San Diego, Calif	63.7	65.5	66.0	62.8	59.3	64.6	68.1	62.0	61.4	64.6	64.0	64.4	**60.5**
San Francisco, Calif	60.5	61.5	62.0	61.3	56.9	62.3	64.0	60.7	60.2	61.5	60.6	62.4	**59.4**

[1] Normals are based on records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal* [1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Nov.	November monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me.	30.7	34.0	28.4	32.6	29.2	27.2	32.6	30.6	28.4	27.2	31.2	34.8	33.0
Boston, Mass.	42.0	46.5	42.7	45.4	42.6	39.4	45.0	42.8	41.7	41.6	43.8	44.6	44.6
Buffalo, N. Y.	39.4	43.4	40.0	42.4	39.2	35.0	43.0	38.4	38.4	37.6	42.0	40.2	39.8
Canton, N. Y.	33.9	40.0	34.6	37.7	33.8	28.0	37.4	34.2	32.0	30.8	37.0	36.8	36.2
Trenton, N. J.	44.4	46.2	43.5	44.5	43.7	40.6	44.8	43.8	43.2	44.6	45.0	44.0	44.1
Pittsburgh, Pa.	43.2	45.1	42.9	45.2	44.5	39.8	43.8	42.6	42.2	44.6	45.3	43.2	42.8
Scranton, Pa.	40.6	44.9	40.2	42.1	40.8	36.8	42.4	41.0	40.2	41.2	42.4	41.4	40.9
Washington, D. C.	45.2	47.8	45.4	46.2	46.3	42.8	46.3	46.8	45.9	47.5	47.9	45.1	46.0
Lynchburg, Va.	47.2	49.9	46.6	48.1	48.4	45.2	46.8	48.2	46.4	50.6	48.4	46.1	47.7
Norfolk, Va.	51.4	52.5	51.0	52.4	52.4	47.8	52.0	53.0	52.6	55.8	51.8	50.6	51.6
Parkersburg, W. Va.	43.8	46.5	45.4	47.0	45.5	40.6	44.2	44.8	43.0	47.2	46.0	44.0	44.6
Charlotte, N. C.	50.6	51.8	50.5	53.3	53.0	49.2	50.7	52.9	49.4	54.0	51.6	49.0	52.2
Charleston, S. C.	58.1	57.0	57.0	61.4	59.2	54.4	56.6	62.2	57.4	62.0	60.1	55.0	58.8
Atlanta, Ga.	52.1	54.8	52.4	54.2	52.4	51.3	51.6	54.7	50.2	54.7	52.9	49.8	54.6
Thomasville, Ga.	58.5	59.8	58.1	61.7	59.8	55.9	57.8	64.2	56.8	63.8	62.2	56.4	60.2
Jacksonville, Fla.	62.2	63.2	61.6	66.0	63.1	58.0	60.4	66.6	61.6	65.8	64.8	59.6	62.4
Miami, Fla.	72.0	71.4	70.6	73.2	71.9	67.0	72.2	73.4	72.2	73.5	73.1	68.4	71.6
Cincinnati, Ohio	42.5	49.6	46.7	46.6	45.4	41.4	43.4	42.2	42.3	45.8	46.4	43.8	43.6
Cleveland, Ohio	40.9	44.6	41.8	43.9	42.3	38.2	43.2	41.1	41.2	42.0	44.2	42.0	41.2
Evansville, Ind.	46.6	52.0	49.2	50.4	49.5	46.8	47.2	46.3	44.7	49.7	49.3	47.6	47.4
Indianapolis, Ind.	42.3	47.6	44.3	45.5	45.0	43.0	43.2	41.6	41.5	44.5	45.4	44.2	42.6
Chicago, Ill.	41.2	47.2	44.4	44.2	43.2	43.0	43.5	39.2	40.2	40.8	44.6	43.8	41.5
Peoria, Ill.	37.5	47.2	43.4	43.8	42.4	41.8	41.9	37.9	38.6	39.9	43.2	42.2	41.2
Grand Rapids, Mich.	38.1	43.8	39.6	41.6	39.8	38.2	42.2	37.2	38.2	36.7	42.4	40.4	39.7
Marquette, Mich.	33.3	38.7	33.7	35.6	32.4	35.4	37.4	30.0	33.8	29.9	37.6	38.2	33.8
Madison, Wis.	35.2	41.9	38.2	38.8	35.8	38.2	39.4	32.6	34.2	31.9	41.0	38.9	36.0
Duluth, Minn.	30.0	35.6	29.8	29.8	29.2	34.4	33.6	21.6	28.4	23.2	34.2	35.8	27.2
St. Paul, Minn.	32.5	40.0	36.0	35.3	33.8	38.2	37.3	26.6	32.6	27.0	38.8	38.3	32.2
Des Moines, Iowa	38.4	46.6	43.2	42.6	39.7	43.0	41.6	35.8	37.6	35.8	44.0	42.2	40.4
Dubuque, Iowa	37.0	44.2	40.6	41.2	37.6	40.2	41.2	34.6	35.6	34.2	42.7	40.0	38.4
St. Louis, Mo.	45.1	52.4	50.3	50.9	49.2	47.7	46.2	44.8	43.7	47.3	48.8	47.9	47.6
Springfield, Mo.	45.7	53.0	50.6	50.7	48.3	47.4	45.3	44.4	41.6	48.4	48.1	47.0	48.5
Bismarck, N. Dak.	28.5	35.2	34.6	32.6	30.6	40.2	31.4	18.2	29.6	22.6	33.2	38.8	30.8
Devils Lake, N. Dak.	22.6	32.6	29.0	26.3	26.8	35.6	27.1	12.8	27.2	18.6	31.8	35.6	23.8
Pierre, S. Dak.	33.6	40.6	41.3	38.2	35.4	43.4	36.2	25.3	32.2	29.4	36.7	42.6	37.5
North Platte, Nebr.	36.6	42.6	43.7	41.2	35.8	45.5	36.8	28.2	34.6	38.0	38.8	42.5	39.6
Omaha, Nebr.	38.5	46.4	45.4	43.9	40.6	45.8	41.6	36.0	37.2	36.9	44.2	43.8	42.0
Concordia, Kans.	41.4	48.7	47.5	47.0	42.8	47.3	42.9	38.2	38.2	41.1	44.8	44.9	44.8
Dodge City, Kans.	42.6	48.0	48.4	47.4	42.0	48.6	41.7	38.7	39.4	43.6	45.5	45.2	45.9
Iola, Kans.	43.0	52.4	49.5	49.8	46.8	47.5	45.6	43.0	41.6	45.6	47.8	47.2	47.4
Memphis, Tenn.	51.7	57.6	53.6	55.9	54.0	51.8	51.0	52.1	48.7	55.8	54.8	52.6	53.8
Nashville, Tenn.	49.0	53.8	49.6	52.8	50.2	47.9	48.0	49.7	46.7	52.4	51.3	48.9	50.0
Birmingham, Ala.	53.9	57.8	53.0	56.1	54.9	51.8	52.4	56.0	50.8	57.6	56.4	52.0	55.9
Mobile, Ala.	59.0	61.4	59.0	61.8	60.0	56.6	59.0	63.8	56.2	63.3	62.8	57.2	61.6
New Orleans, La.	61.6	64.8	61.2	66.2	62.6	59.0	61.7	66.4	58.2	66.6	66.6	59.9	65.5
Shreveport, La.	56.0	62.7	56.8	59.3	56.4	55.1	54.1	57.8	52.2	62.6	58.3	55.6	59.2
Amarillo, Tex.	45.5	50.3	50.4	49.5	44.4	50.8	42.6	42.6	42.8	51.0	47.2	45.4	50.8
Brownsville, Tex.	67.2	71.7	67.2	70.2	66.5	68.7	65.8	70.5	64.5	71.8	67.6	63.8	72.2
El Paso, Tex.	52.7	54.8	54.7	52.8	51.2	55.4	49.1	52.4	51.6	54.4	50.1	51.2	56.4
Fort Worth, Tex.	55.5	62.4	57.1	60.1	55.4	57.4	53.6	53.6	51.9	61.6	57.5	56.0	59.2
Galveston, Tex.	63.3	66.4	63.1	67.0	62.9	62.6	60.9	65.4	59.2	67.7	65.6	60.0	67.4
San Antonio, Tex.	60.3	66.2	61.2	63.8	59.0	63.4	57.4	60.8	57.4	65.6	61.9	58.7	66.5
Oklahoma City, Okla.	48.8	55.8	53.6	53.8	49.7	52.4	48.2	45.4	45.2	51.5	51.3	50.2	52.8
Little Rock, Ark.	52.1	58.2	54.2	55.5	53.5	52.9	51.0	52.8	48.4	55.8	54.2	52.6	54.2
Havre, Mont.	31.2	34.7	36.7	32.4	31.5	41.0	29.9	21.2	33.6	25.8	30.8	37.8	29.5
Kalispell, Mont.	32.4	35.4	36.4	32.2	28.0	36.2	32.8	26.7	32.6	30.3	30.0	33.7	31.1
Cheyenne, Wyo.	34.8	39.1	41.4	37.0	31.2	40.8	30.9	30.6	31.8	38.6	31.4	37.4	38.5
Sheridan, Wyo.	32.8	36.8	36.6	32.6	28.9	41.8	29.4	24.4	28.3	29.6	32.8	38.4	34.6
Pueblo, Colo.	39.4	42.8	43.5	42.8	38.3	44.8	36.3	36.8	37.8	42.8	37.6	41.3	43.0
Santa Fe, N. Mex.	38.9	42.4	43.0	39.8	38.9	45.1	35.0	38.6	37.7	43.0	35.8	38.8	41.3
Phoenix, Ariz.	59.7	61.6	63.9	59.2	55.8	60.9	57.2	57.0	58.6	60.9	55.0	59.1	62.8
Modena, Utah.	36.4	39.2	38.4	38.0	33.6	39.0	33.9	34.8	36.1	41.7	34.2	39.0	36.7
Salt Lake City, Utah.	41.1	44.0	43.4	43.6	36.2	44.0	38.8	38.4	40.4	45.9	38.0	43.2	40.4
Winnemucca, Nev.	38.4	39.0	37.8	37.2	33.0	41.9	34.2	36.0	37.6	41.0	33.6	39.7	37.3
Boise, Idaho.	41.0	43.5	41.8	39.5	36.5	44.4	39.6	37.0	40.8	44.7	37.0	42.6	40.7
Seattle, Wash.	45.6	46.2	47.2	43.7	43.0	49.6	45.8	44.9	47.0	45.4	43.6	47.4	44.6
Walla Walla, Wash.	42.8	46.0	44.6	42.7	36.5	46.6	42.7	40.5	41.8	43.9	36.9	44.8	39.6
Portland, Oreg.	46.8	47.5	47.0	45.4	43.7	50.6	46.6	45.0	46.8	48.8	43.6	50.4	45.6
Roseburg, Oreg.	45.9	47.4	46.8	47.4	42.8	49.0	45.8	44.8	45.6	49.8	44.3	49.2	46.2
Eureka, Calif.	51.1	50.8	50.8	49.8	47.5	52.8	50.0	48.2	51.2	52.0	48.2	53.6	51.6
Fresno, Calif.	54.2	55.2	57.4	53.8	51.2	56.7	52.8	53.0	54.0	57.0	51.0	58.2	55.1
Los Angeles, Calif.	60.9	61.8	67.0	61.8	59.4	63.7	60.8	61.5	60.1	63.2	59.8	66.4	64.1
Sacramento, Calif.	53.6	53.6	55.6	53.0	50.5	55.2	50.6	52.4	51.0	54.8	49.8	58.5	51.8
San Diego, Calif.	59.7	60.8	64.4	59.6	56.5	60.8	59.8	58.6	58.2	60.4	58.0	64.0	60.0
San Francisco, Calif.	56.3	55.2	59.0	56.1	54.4	58.7	55.6	56.0	55.4	57.8	54.3	60.8	56.7

[1] Normals are based upon records of 30 or more years of observations.

TABLE 780.—*Temperature: Monthly normal*[1] *and mean temperature at selected points in the United States, 1913–1924*—Continued

Station	Normal for Dec.	December monthly mean temperature											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	°	°	°	°	°	°	°	°	°	°	°	°	°
Greenville, Me.	18.0	22.2	15.8	22.0	17.8	7.8	20.6	11.4	20.2	16.4	15.1	26.8	14.2
Boston, Mass.	32.5	37.8	30.4	34.2	32.6	23.7	34.7	28.7	35.6	31.4	30.9	40.4	31.2
Buffalo, N. Y.	29.8	33.6	26.0	27.8	28.4	20.8	35.0	23.3	32.7	29.0	28.9	37.6	25.2
Canton, N. Y.	22.7	27.0	20.6	23.1	18.6	8.6	24.0	17.2	23.3	21.8	21.4	31.7	17.4
Trenton, N. J.	34.4	38.3	30.6	32.4	32.2	24.7	38.4	28.9	37.4	33.0	32.9	42.0	34.8
Pittsburgh, Pa.	34.2	35.8	29.9	31.8	32.9	24.5	41.0	28.2	35.6	34.0	35.6	43.0	31.4
Scranton, Pa.	30.0	34.7	28.0	29.4	30.4	21.3	36.2	24.9	33.6	29.6	30.8	38.7	28.8
Washington, D. C.	36.6	40.4	32.8	35.2	35.5	27.9	41.6	32.6	39.3	37.9	37.6	45.0	36.4
Lynchburg, Va.	39.5	43.5	35.0	38.0	38.6	29.0	42.9	36.1	40.2	42.3	42.5	47.4	40.2
Norfolk, Va.	43.1	45.5	40.0	40.5	42.7	33.8	47.4	40.5	45.6	44.2	46.6	51.1	44.4
Parkersburg, W. Va.	35.2	36.1	30.6	34.2	34.2	24.8	43.3	30.4	37.8	37.4	37.4	45.2	33.6
Charlotte, N. C.	43.0	44.6	38.4	41.4	43.3	33.4	47.2	41.6	43.0	47.1	46.6	50.2	44.1
Charleston, S. C.	51.7	52.0	48.8	48.2	53.0	42.0	53.5	51.4	54.4	55.0	56.3	56.9	52.8
Atlanta, Ga.	44.7	45.9	40.3	43.7	45.0	36.2	48.2	44.8	43.1	48.3	50.5	51.3	45.6
Thomasville, Ga.	52.5	54.0	50.4	50.8	54.6	46.0	54.8	53.0	54.4	57.8	59.5	59.4	55.6
Jacksonville, Fla.	56.3	58.2	54.6	53.8	58.0	48.4	58.2	56.1	55.4	59.7	61.6	61.8	58.4
Miami, Fla.	68.0	67.9	69.5	65.6	69.0	63.6	67.8	68.8	68.0	69.6	71.8	70.6	72.2
Cincinnati, Ohio	33.4	39.1	30.2	32.7	31.6	22.3	41.8	27.4	35.4	36.4	35.2	43.5	31.0
Cleveland, Ohio	31.2	35.4	27.0	30.8	29.0	22.4	38.7	25.7	33.6	32.6	31.8	40.4	27.6
Evansville, Ind.	37.1	40.4	31.0	36.8	35.2	26.6	44.7	32.2	38.4	41.0	39.4	46.6	33.3
Indianapolis, Ind.	32.2	37.2	25.8	31.0	29.5	22.8	40.3	26.1	33.2	35.2	33.4	42.4	28.2
Chicago, Ill.	30.0	37.4	24.1	29.1	26.0	22.4	37.7	21.4	32.4	32.5	29.9	39.7	23.4
Peoria, Ill.	28.1	35.7	20.8	27.8	25.2	19.8	36.6	20.6	30.8	32.2	28.8	38.0	21.8
Grand Rapids, Mich.	28.8	35.1	24.6	27.0	25.4	21.1	34.5	21.4	32.0	30.2	27.7	36.6	23.2
Marquette, Mich.	22.6	31.6	18.4	24.6	18.6	14.6	28.8	15.7	27.0	22.9	19.1	31.4	14.6
Madison, Wis.	22.8	32.0	16.4	23.9	18.0	13.9	31.4	12.6	26.2	24.4	21.6	32.5	15.0
Duluth, Minn.	15.9	26.7	9.4	18.6	8.8	4.4	23.6	5.6	19.3	14.8	11.8	24.0	3.6
St. Paul, Minn.	19.0	30.2	12.1	22.6	12.2	10.1	28.7	10.2	23.0	20.2	17.8	29.4	8.8
Des Moines, Iowa	26.1	34.0	18.7	27.8	22.0	16.7	34.2	16.6	28.8	30.0	25.6	35.8	17.7
Dubuque, Iowa	24.7	34.2	18.4	25.5	19.3	15.8	33.0	14.4	27.3	27.2	23.8	34.4	16.4
St. Louis, Mo.	34.8	41.2	28.6	35.4	33.6	26.8	43.0	29.6	37.5	38.6	36.7	44.4	30.0
Springfield, Mo.	36.2	38.4	27.4	37.6	33.2	26.5	41.3	32.6	38.1	38.4	39.2	42.8	30.4
Bismarck, N. Dak.	14.7	24.6	7.4	19.8	3.6	3.2	21.6	11.5	17.8	18.6	13.0	25.4	5.5
Devils Lake, N. Dak.	8.0	21.1	3.6	12.4	0.8	3.6	14.9	5.0	11.6	15.2	6.0	20.4	0.7
Pierre, S. Dak.	21.8	28.6	15.1	25.8	12.5	13.1	25.5	18.6	24.9	25.9	16.4	29.7	12.6
North Platte, Nebr.	26.7	28.6	18.0	28.2	19.4	23.7	28.5	19.4	27.0	30.7	27.8	30.4	15.2
Omaha, Nebr.	26.4	34.2	18.2	29.6	22.2	18.0	34.8	19.4	28.7	31.7	27.2	35.2	17.4
Concordia, Kans.	30.7	35.0	19.9	33.4	25.6	23.5	35.0	24.4	32.1	34.3	31.4	35.6	21.7
Dodge City, Kans.	32.6	33.6	23.4	34.6	29.0	28.2	34.0	29.6	35.1	33.4	33.7	34.5	24.0
Iola, Kans.	32.5	37.6	26.2	36.8	30.2	25.4	38.8	28.6	37.0	36.6	36.0	38.6	28.0
Memphis, Tenn.	43.6	45.0	36.2	45.0	43.4	34.0	50.2	40.4	44.6	48.1	48.4	51.5	41.8
Nashville, Tenn.	41.0	42.6	35.8	42.4	38.8	31.4	47.4	38.8	41.6	44.8	46.0	49.4	39.6
Birmingham, Ala.	46.4	47.2	41.9	46.7	46.8	39.2	50.4	45.8	45.6	50.2	53.2	53.3	46.8
Mobile, Ala.	52.9	53.8	49.4	53.8	53.9	48.2	55.0	55.0	51.0	57.4	60.1	58.2	53.6
New Orleans, La.	55.6	55.0	50.8	56.7	57.4	51.4	57.5	57.0	54.1	60.8	63.5	60.9	55.7
Shreveport, La.	49.1	47.8	41.5	50.4	49.8	43.2	52.0	48.8	48.6	54.6	54.8	54.9	47.8
Amarillo, Tex.	37.0	33.2	30.4	40.2	36.6	36.1	32.4	37.0	39.0	43.5	41.8	33.9	31.9
Brownsville, Tex.	61.2	61.4	54.2	65.2	65.3	62.9	61.7	60.8	64.1	67.7	67.4	61.8	57.9
El Paso, Tex.	44.9	41.8	42.8	44.8	45.0	49.6	41.2	47.2	43.4	49.4	49.2	42.6	42.6
Fort Worth, Tex.	47.5	45.6	39.7	50.9	48.0	41.6	49.8	44.4	48.3	51.2	52.8	50.8	44.9
Galveston, Tex.	56.4	55.6	50.2	57.9	57.7	52.8	56.8	57.2	56.0	60.2	62.4	58.8	54.6
San Antonio, Tex.	53.8	52.4	46.3	56.8	54.6	50.4	54.7	51.7	54.7	59.0	59.6	55.6	52.6
Oklahoma City, Okla.	39.3	39.4	31.4	43.4	37.6	31.6	40.8	33.8	40.8	42.7	42.6	42.2	32.6
Little Rock, Ark.	44.2	44.8	36.9	46.0	43.4	35.4	49.6	40.6	44.6	48.0	48.4	41.2	41.8
Havre, Mont.	20.4	23.6	10.8	24.4	7.0	8.4	26.4	16.9	22.6	20.0	11.4	25.6	8.8
Kalispell, Mont.	24.9	24.8	19.0	23.3	14.9	26.2	28.1	17.6	27.9	21.0	18.3	24.5	14.7
Cheyenne, Wyo.	28.5	22.0	20.2	28.8	21.0	30.4	26.7	28.0	27.9	30.2	29.5	27.4	21.3
Sheridan, Wyo.	22.1	24.4	14.2	24.8	14.6	21.2	28.0	13.7	24.6	22.6	17.0	23.6	15.8
Pueblo, Colo.	31.5	22.1	24.6	32.6	29.8	35.4	30.2	30.9	33.8	34.2	30.5	32.2	23.5
Santa Fe, N. Mex.	30.7	26.4	26.0	32.1	27.9	38.2	27.0	34.2	27.4	36.6	34.0	29.1	25.4
Phoenix, Ariz.	52.0	50.7	50.3	51.6	41.7	54.6	49.6	54.2	49.7	56.0	55.0	52.0	52.0
Modena, Utah.	28.1	24.9	21.2	28.8	23.4	36.1	26.6	26.1	27.6	34.4	33.2	26.9	20.2
Salt Lake City, Utah.	31.9	30.6	29.0	33.7	27.8	41.8	31.2	24.6	31.7	36.4	33.1	29.3	24.2
Winnemucca, Nev.	30.0	27.4	18.9	30.7	26.6	37.2	24.9	28.2	31.2	31.6	30.9	25.2	17.2
Boise, Idaho.	32.1	28.9	24.0	33.6	28.4	43.2	29.6	23.6	34.3	32.9	30.0	31.6	21.8
Seattle, Wash.	41.7	42.4	39.7	42.0	38.0	45.0	40.9	38.6	43.4	39.1	38.4	42.2	37.2
Walla Walla, Wash.	35.5	31.6	26.0	38.2	30.5	46.1	37.8	22.6	39.8	31.3	30.8	38.0	26.6
Portland, Oreg.	41.2	40.7	36.8	42.0	38.1	48.4	42.3	33.6	44.1	39.1	38.0	41.5	36.6
Roseburg, Oreg.	41.8	41.5	37.0	43.2	39.0	48.4	40.4	39.6	42.7	39.0	42.2	40.6	35.5
Eureka, Calif.	48.2	48.4	45.3	48.4	43.2	51.2	46.3	48.1	48.4	48.4	47.6	45.3	45.5
Fresno, Calif.	64.2	46.9	44.7	48.2	45.4	49.7	45.0	47.1	47.5	50.4	49.8	46.2	45.4
Los Angeles, Calif.	56.6	55.4	53.4	57.4	52.6	62.5	57.2	58.9	55.8	60.2	58.3	58.8	55.4
Sacramento, Calif.	46.2	45.7	43.8	47.5	44.2	49.2	43.4	44.1	45.4	49.0	47.4	45.6	42.2
San Diego, Calif.	56.0	55.4	54.6	55.6	52.4	58.6	54.8	56.6	54.8	59.3	58.0	57.4	54.0
San Francisco, Calif.	51.3	50.6	48.7	52.2	48.9	54.6	50.2	48.8	51.0	52.9	50.6	51.0	47.8

Weather Bureau.

[1] Normals are based on records of 30 or more years of observations.

TABLE 781.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1913–1924*

Station	Normal for Jan.	January total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	2.85	2.15	3.39	3.03	2.35	3.95	2.49	2.85	2.84	1.48	2.02	4.58	2.55
Boston, Mass	3.82	2.38	3.26	6.33	1.23	2.82	3.11	2.62	2.72	2.24	1.41	6.07	3.27
Buffalo, N. Y	3.30	5.56	3.06	5.02	2.96	2.79	5.64	1.28	2.58	.89	1.44	3.27	2.18
Canton, N. Y	3.16	4.93	1.70	3.05	2.52	3.33	2.37	1.37	1.69	1.22	1.82	2.86	4.12
Trenton, N. J	3.17	3.12	2.72	5.15	1.26	3.10	3.09	3.28	2.40	2.41	2.41	4.13	4.71
Pittsburgh, Pa	2.87	5.28	2.41	4.66	3.51	4.33	2.82	1.42	2.80	3.35	1.56	3.49	3.53
Scranton, Pa	2.80	2.50	2.11	4.09	2.07	3.15	4.71	2.44	2.79	2.02	1.96	4.24	3.73
Washington, D. C	3.37	2.85	4.60	6.34	1.77	2.57	4.29	3.47	2.30	2.30	5.56	4.24	3.21
Lynchburg, Va	3.72	1.91	3.00	3.86	.90	2.69	4.42	4.11	1.64	2.60	3.90	2.25	3.37
Norfolk, Va	3.37	3.39	2.32	5.66	2.07	2.28	2.77	3.10	2.14	1.55	3.49	1.74	1.96
Parkersburg, W. Va	3.19	8.22	1.55	3.68	5.34	5.71	2.23	2.48	5.83	3.17	1.91	4.14	4.70
Charlotte, N. C	4.29	3.70	2.78	5.67	1.66	5.08	3.82	5.45	3.81	5.22	5.24	3.67	3.98
Charleston, S. C	3.45	.99	2.40	7.44	1.84	2.69	1.13	1.68	1.69	1.58	2.48	2.21	3.24
Atlanta, Ga	5.31	5.76	1.35	6.19	2.53	5.11	6.12	5.40	7.69	5.53	5.03	1.94	4.54
Thomasville, Ga	4.13	1.65	4.89	9.70	2.05	6.01	3.73	2.32	3.24	2.39	2.72	3.94	6.50
Jacksonville, Fla	3.12	1.53	5.51	4.10	.90	.41	2.78	1.75	1.21	2.01	3.21	1.37	5.09
Miami, Fla	2.72	4.42	1.35	3.64	1.44	.11	.85	1.07	.41	.75	.55	.21	2.80
Cincinnati, Ohio	3.36	9.02	2.37	5.85	5.84	4.74	4.30	1.44	3.48	1.72	2.07	4.64	4.09
Cleveland, Ohio	2.45	5.66	1.61	2.52	2.40	2.55	2.69	.63	1.96	1.53	1.52	2.61	3.38
Evansville, Ind	3.69	10.27	1.92	6.65	8.78	4.93	5.00	1.14	3.64	1.80	1.47	5.43	3.16
Indianapolis, Ind	2.81	7.63	2.76	3.37	6.55	3.40	2.89	.91	2.01	2.86	1.26	2.73	3.13
Chicago, Ill	2.00	1.33	3.01	1.99	4.84	1.55	4.12	.26	1.11	.97	1.16	.92	1.32
Peoria, Ill	2.20	2.18	1.63	1.89	5.95	1.86	1.58	.07	.93	1.39	1.69	1.10	1.72
Grand Rapids, Mich	2.78	1.86	3.24	1.57	3.90	1.40	3.21	.39	1.19	.59	.71	1.25	2.00
Marquette, Mich	2.93	2.03	2.63	2.41	3.05	1.20	4.77	2.21	1.84	2.28	1.94	2.84	3.65
Madison, Wis	1.56	1.64	.59	2.05	3.07	1.04	2.09	.26	.84	.22	.63	1.25	.56
Duluth, Minn	.98	.75	1.75	1.84	3.48	.80	.94	.46	1.13	.18	.51	1.66	.25
St. Paul, Minn	.90	.53	1.05	1.19	2.60	1.79	.51	.44	1.80	.59	.90	1.12	.97
Des Moines, Iowa	1.21	1.10	.85	1.96	2.66	.55	.78	.08	.44	.59	.85	.88	1.02
Dubuque, Iowa	1.49	1.11	.78	2.01	2.46	.85	1.83	.17	.63	.18	1.16	.63	.63
St. Louis, Mo	2.27	4.34	2.24	2.83	8.53	1.72	1.31	.13	1.85	1.10	.74	2.98	1.15
Springfield, Mo	2.66	5.40	1.80	2.75	9.31	1.46	1.96	.34	2.36	1.36	1.38	3.43	1.50
Bismarck, N. Dak	.51	.37	.25	.08	.81	.65	.62	.09	.52	.12	.34	.29	.04
Devils Lake, N. Dak	.60	.38	.61	.11	.71	.55	.24	.22	.74	.13	.58	.42	.35
Pierre, S. Dak	.46	T.	.43	.73	1.66	.84	1.08	.04	.16	.21	.68	.14	.15
North Platte, Nebr	.47	.16	.18	.51	.85	.74	.54	.03	.07	.68	.60	.11	.08
Omaha, Nebr	.75	.69	.56	1.87	2.20	.58	.65	.10	.28	.43	.94	.87	.62
Concordia, Kans	.72	.55	.17	.76	1.34	.60	.85	.02	.12	.50	.38	.01	.95
Dodge City, Kans	.47	.28	.18	1.08	.58	.22	.80	.66	.07	.24	.45	.03	.17
Iola, Kans	.98	.85	.39	2.14	5.12	.48	.90	.02	.76	1.77	.96	1.16	.81
Memphis, Tenn	5.21	7.71	1.60	5.69	7.16	5.37	5.02	8.77	6.01	1.84	2.26	5.05	6.15
Nashville, Tenn	4.85	12.30	1.56	5.89	7.62	7.27	7.43	4.71	7.35	3.11	2.90	5.89	5.40
Birmingham, Ala	5.32	8.25	1.85	6.44	7.40	6.79	8.94	6.21	5.37	3.72	6.20	3.82	5.42
Mobile, Ala	4.89	4.58	1.98	7.54	8.06	3.04	3.87	6.57	11.70	1.89	6.79	2.65	8.21
New Orleans, La	4.63	5.71	1.02	8.42	4.16	4.12	4.43	8.03	5.66	1.16	5.22	5.26	6.17
Shreveport, La	4.42	4.21	.73	4.22	6.29	3.29	2.67	3.28	7.06	4.18	5.73	4.32	4.24
Amarillo, Tex	.60	.11	.06	.72	.36	.69	1.01	T.	1.11	2.10	.78	0	.18
Brownsville, Tex	1.35	2.05	.10	3.35	.19	.28	.08	4.56	1.13	2.26	1.51	.13	3.42
El Paso, Tex	.51	.49	.03	1.01	.66	.32	1.20	.08	1.06	.09	.36	.64	.40
Fort Worth, Tex	.93	2.30	.43	1.32	4.01	1.43	1.36	5.43	3.48	2.87	1.63	4.60	.89
Galveston, Tex	3.62	2.92	.34	4.52	.86	2.21	.54	6.22	7.09	2.77	4.84	6.99	5.87
San Antonio, Tex	1.08	.90	.09	.53	2.25	.95	.10	3.78	3.36	1.40	1.53	.46	.97
Oklahoma City, Okla	1.34	.56	.05	.78	4.28	.37	.95	.29	2.09	2.29	1.15	2.74	.18
Little Rock, Ark	4.79	11.29	1.35	4.62	8.45	2.53	5.51	2.72	9.19	1.52	1.90	7.42	3.56
Havre, Mont	.69	1.46	.64	.67	1.75	.97	1.19	.40	1.14	.12	.42	1.12	.48
Kalispell, Mont	1.59	2.69	1.31	1.19	1.95	1.05	1.82	.72	.85	1.29	.74	1.07	.91
Cheyenne, Wyo	.40	.55	.10	.08	.63	.30	.47	T.	.20	1.47	.47	.06	.38
Sheridan, Wyo	.90	1.91	.35	2.08	.92	.84	2.21	.33	.81	.54	1.27	.57	.98
Pueblo, Colo	.35	.31	.18	.18	.22	.22	.61	.03	.29	.30	.39	T.	.41
Santa Fe, N. Mex	.59	.57	.19	1.95	3.02	.55	1.63	.12	.31	1.35	.64	.12	.13
Phoenix, Ariz	1.17	.38	.30	1.79	2.34	2.20	1.14	.22	1.42	.13	1.29	.28	0
Modena, Utah	.73	.32	1.42	1.12	3.47	1.06	.11	.32	.44	1.27	1.72	1.40	.17
Salt Lake City, Utah	1.35	.81	3.08	.72	1.96	.91	3.89	T.	1.24	1.44	1.42	1.90	.49
Winnemucca, Nev	1.04	.59	1.99	.49	2.21	.90	1.04	.10	.39	.46	1.15	.91	.09
Boise, Idaho	1.89	1.34	1.06	1.06	1.93	1.10	2.27	.85	.66	1.57	.90	1.62	.40
Seattle, Wash	4.84	4.89	9.82	6.35	4.32	2.02	2.94	7.95	3.92	5.56	1.89	7.51	4.10
Walla Walla, Wash	2.01	2.52	2.62	.75	2.79	1.05	2.29	2.12	1.55	1.87	1.74	1.85	1.16
Portland, Oreg	6.59	6.25	11.53	5.90	5.69	2.54	4.68	9.08	4.84	7.82	3.08	9.57	3.94
Roseburg, Oreg	5.70	5.76	7.19	2.93	6.15	2.25	3.56	7.33	1.51	4.12	3.68	5.69	1.43
Eureka, Calif	7.63	8.10	9.75	9.75	13.02	5.53	2.55	7.84	1.87	8.37	2.54	3.86	1.95
Fresno, Calif	1.60	1.22	4.94	2.78	5.17	1.40	.47	.40	.69	2.63	2.46	1.10	.54
Los Angeles, Calif	2.84	2.01	10.55	5.42	13.30	2.68	.50	.96	.59	3.22	4.64	1.76	.30
Sacramento, Calif	3.69	2.52	5.97	3.76	9.35	1.30	.97	1.77	.29	4.61	2.16	2.05	1.60
San Diego, Calif	2.90	1.19	3.59	4.91	7.56	4.32	1.64	.61	.43	2.02	3.45	1.84	.26
San Francisco, Calif	4.83	3.84	9.70	6.74	14.59	1.88	.81	2.57	.26	6.60	2.41	2.84	2.75

[1] Normals are based on records of 20 or more years of observations.

T—Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Feb.	February total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	2.75	1.52	1.82	4.36	3.34	1.90	2.47	2.27	4.52	2.22	2.77	2.15	2.24
Boston, Mass	3.44	2.99	3.07	3.47	5.18	2.67	2.30	2.66	5.88	2.64	2.64	1.48	2.61
Buffalo, N. Y	2.85	1.94	1.95	2.30	3.64	1.97	2.46	1.61	2.35	2.50	2.01	1.24	2.65
Canton, N. Y	2.57	1.43	1.16	2.43	4.12	1.63	3.73	1.65	2.21	1.59	2.92	1.67	2.02
Trenton, N. J	3.19	2.17	3.00	4.40	3.16	1.47	1.84	3.25	4.27	3.14	2.25	2.68	3.44
Pittsburgh, Pa	2.66	2.11	3.13	2.24	2.61	.99	1.87	1.58	1.62	1.80	1.57	2.18	2.59
Scranton, Pa	2.72	1.50	5.22	2.70	4.48	1.84	1.26	2.13	4.74	2.84	1.55	1.58	2.67
Washington, D. C	3.42	1.37	3.05	3.60	2.84	1.97	.83	2.01	3.47	2.29	2.86	2.19	3.05
Lynchburg, Va	3.49	1.99	2.77	2.88	2.92	1.66	.53	2.23	4.03	2.60	3.32	2.38	1.87
Norfolk, Va	3.75	1.67	3.67	1.71	4.03	1.88	.26	2.15	6.33	3.02	4.85	2.01	3.15
Parkersburg, W. Va	3.24	1.76	3.74	1.80	2.75	2.44	2.81	1.76	2.10	2.38	1.57	2.32	3.07
Charlotte, N. C	4.39	2.52	4.03	2.89	5.87	3.78	1.92	4.85	3.54	4.61	7.12	4.25	4.18
Charleston, S. C	3.41	5.53	6.87	2.53	1.47	2.67	1.31	5.51	2.61	1.26	5.63	1.03	1.57
Atlanta, Ga	4.65	3.30	3.34	4.59	5.19	5.81	1.82	4.41	5.67	7.37	1.55	7.47	2.97
Thomasville, Ga	4.48	6.51	12.12	3.44	1.88	3.74	2.27	8.86	5.77	1.27	4.64	3.35	4.31
Jacksonville, Fla	3.43	4.87	4.55	2.44	.19	1.46	.21	3.77	6.16	.62	5.56	1.93	2.65
Miami, Fla	2.15	1.86	1.21	3.01	3.69	.45	2.51	3.20	1.60	1.15	3.14	.24	1.69
Cincinnati, Ohio	3.24	1.86	4.80	.91	1.73	1.50	1.63	1.05	1.30	2.25	1.68	1.81	1.70
Cleveland, Ohio	2.61	1.66	1.84	2.02	1.52	1.22	1.48	1.14	1.12	2.19	1.31	1.39	1.50
Evansville, Ind	3.06	2.15	4.56	1.24	1.64	1.13	.58	1.30	.82	4.69	2.38	4.15	1.55
Indianapolis, Ind	3.08	1.85	2.92	1.01	1.16	1.15	2.49	1.21	1.35	1.98	1.46	1.70	1.44
Chicago, Ill	2.16	1.97	.95	1.92	.87	.67	2.81	2.78	.13	.38	.71	1.05	1.68
Peoria, Ill	2.69	3.00	1.36	2.77	.29	.27	1.61	2.52	.27	.29	1.98	.83	1.64
Grand Rapids, Mich	1.99	1.27	.75	2.59	.74	.67	3.81	2.16	.85	1.13	2.25	.99	1.41
Marquette, Mich	1.72	2.28	1.55	2.47	1.31	1.59	2.12	1.50	1.05	1.29	3.00	1.21	2.18
Madison, Wis	1.47	1.12	.92	2.30	.39	.64	1.30	2.12	.51	.32	3.90	.93	1.06
Duluth, Minn	.99	1.09	.61	1.50	.36	.81	.28	.94	.45	.45	4.24	.92	.60
St. Paul, Minn	.84	.71	.49	2.21	.39	.44	.69	2.52	.57	.46	3.69	.50	.58
Des Moines, Iowa	1.08	.65	1.24	3.20	.61	.52	1.45	3.00	.74	.52	.64	.36	1.08
Dubuque, Iowa	1.38	.82	1.16	2.48	.76	.17	1.37	2.87	.47	.29	1.44	.40	.74
St. Louis, Mo	2.75	1.20	4.63	2.30	1.78	.35	2.60	1.54	.73	1.08	1.52	1.50	1.29
Springfield, Mo	2.27	2.48	2.26	2.66	.57	.47	.64	2.44	.42	.85	2.02	1.27	1.23
Bismarck, N. Dak	.50	.65	.36	.03	.39	.44	.28	.63	.29	.15	1.55	.46	.28
Devils Lake, N. Dak	.59	.62	.16	.24	.32	.68	.14	.70	.12	.46	.64	.73	.39
Pierre, S. Dak	.44	.25	1.35	1.87	.31	.37	.63	1.29	.26	.05	.49	.04	.89
North Platte, Nebr	.80	.94	.96	1.11	.81	.35	.23	1.50	.72	.36	.65	.14	.36
Omaha, Nebr	.76	.64	.87	2.62	.54	.20	1.05	2.07	.83	.69	.91	.08	.98
Concordia, Kans	.75	1.30	.82	2.34	.41	.67	.63	2.26	.73	.06	1.12	.38	.26
Dodge City, Kans	.71	.68	.47	1.37	.06	.04	.29	1.50	.09	.09	1.73	.03	.71
Iola, Kans	1.11	2.93	3.60	4.26	.97	.07	.94	.95	.15	.09	1.26	.43	1.18
Memphis, Tenn	4.35	5.25	3.15	3.31	2.27	1.97	2.24	2.66	2.07	6.09	3.30	4.61	2.52
Nashville, Tenn	4.52	4.71	2.93	4.01	1.19	2.76	1.54	2.19	1.92	4.70	3.89	5.36	5.44
Birmingham, Ala	4.77	6.77	2.66	1.95	3.25	5.89	1.94	5.22	5.06	7.32	5.62	5.37	5.89
Mobile, Ala	5.36	3.40	7.59	4.91	3.29	4.95	2.33	7.43	4.93	1.41	5.65	4.58	4.37
New Orleans, La	4.47	2.19	6.43	4.23	2.76	3.19	2.21	6.52	3.60	1.91	3.25	2.33	5.53
Shreveport, La	3.64	3.95	4.85	4.13	.01	2.10	.16	3.46	1.45	1.91	5.40	6.21	3.82
Amarillo, Tex	.88	.55	.10	1.60	.02	.22	.26	.73	.18	1.19	1.44	1.71	.56
Brownsville, Tex	1.27	1.00	2.28	.04	.08	.20	.81	1.08	.75	.65	3.17	7.64	.87
El Paso, Tex	.46	1.26	.53	.59	.02	T.	.01	.20	.82	.26	T.	1.41	.13
Fort Worth, Tex	1.27	.87	1.17	2.18	.01	1.47	.01	2.05	.76	2.62	2.00	2.05	1.97
Galveston, Tex	3.10	3.27	3.31	2.05	.19	2.51	1.11	2.43	1.80	.30	3.03	5.09	5.67
San Antonio, Tex	1.78	1.01	1.38	1.81	.01	.49	1.10	1.56	.27	.23	1.26	5.47	3.02
Oklahoma City, Okla	.98	2.72	.86	3.10	.39	.84	.07	1.52	.19	1.23	.64	.20	.54
Little Rock, Ark	4.18	3.78	2.85	2.52	2.05	1.72	.98	3.55	1.16	6.86	3.95	5.42	1.61
Havre, Mont	.47	.06	1.04	.44	.47	.90	.29	.97	.42	.15	.70	.32	.43
Kalispell, Mont	1.46	.33	1.68	1.01	1.06	1.82	.98	1.69	.26	.66	.60	.94	.51
Cheyenne, Wyo	.56	.74	.23	.97	.30	.80	.80	.26	.69	.36	.85	.57	1.14
Sheridan, Wyo	.74	.55	1.25	.17	1.17	.37	.19	.20	.94	.11	.21	.50	1.09
Pueblo, Colo	.47	1.00	.26	.57	T.	.49	.79	.86	.39	.07	.37	.76	.12
Santa Fe, N. Mex	.84	1.15	.63	.77	.20	.23	1.14	.69	1.12	.33	.51	.25	.24
Phoenix, Ariz	.69	1.93	.71	1.21	.13	.05	.45	.75	1.46	.11	.42	.46	T.
Modena, Utah	1.20	1.29	.98	2.56	.52	.82	.97	1.19	1.67	.16	.89	.95	.09
Salt Lake City, Utah	1.58	1.67	.98	2.00	1.18	1.22	1.47	2.11	1.14	1.06	2.36	.35	.78
Winnemucca, Nev	.93	.15	.51	1.13	1.44	.20	.79	1.52	.24	.37	2.10	.13	.57
Boise, Idaho	1.42	.20	.98	1.96	3.21	1.21	.88	1.79	.35	1.23	1.00	.21	1.13
Seattle, Wash	5.77	1.34	1.93	2.76	6.85	1.43	4.81	3.77	.34	3.82	1.74	2.72	5.66
Walla Walla, Wash	1.58	1.46	1.59	1.70	3.34	1.12	1.30	1.93	.10	2.21	.07	1.80	1.96
Portland, Oreg	5.42	1.13	4.19	3.07	7.87	3.32	6.77	8.36	.16	7.21	3.20	1.81	5.21
Roseburg, Oreg	4.56	.57	2.21	3.33	5.01	4.90	4.96	8.05	.17	4.31	3.70	1.41	1.89
Eureka, Calif	7.03	.87	4.20	12.39	5.18	5.10	6.29	8.18	2.11	7.45	9.75	.50	3.19
Fresno, Calif	1.33	1.71	1.31	3.47	1.67	1.07	4.59	1.36	1.54	.61	2.19	.74	.31
Los Angeles, Calif	2.91	9.16	7.04	5.09	1.82	4.40	6.14	1.02	2.37	.86	3.47	.75	.03
Sacramento, Calif	3.14	.16	2.96	4.26	2.45	4.97	3.36	6.29	.81	.54	4.18	.30	2.90
San Diego, Calif	1.90	2.40	1.90	3.62	.66	1.84	1.52	1.46	2.87	.35	1.86	1.53	T.
San Francisco, Calif	3.70	.43	5.04	7.36	3.77	3.81	5.79	9.81	1.23	4.38	5.15	.77	2.30

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure

TABLE 781.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1913–1924*

Station	Normal for Jan.	January total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	2.85	2.15	3.39	3.03	2.35	3.05	2.49	2.85	2.84	1.48	2.02	4.58	2.55
Boston, Mass	3.82	2.38	3.26	6.33	1.23	2.82	3.11	3.62	2.72	2.24	1.43	6.07	3.27
Buffalo, N. Y	3.30	5.56	3.96	5.02	2.96	2.79	5.64	1.28	2.58	.80	1.44	3.27	2.18
Canton, N. Y	3.16	4.93	1.70	3.05	2.52	3.33	2.37	1.37	1.69	1.22	1.82	2.86	4.12
Trenton, N. J	3.17	3.12	2.72	5.15	1.26	3.10	3.00	3.28	2.40	2.41	2.41	4.13	4.71
Pittsburgh, Pa	2.87	5.28	2.41	4.66	3.51	4.33	2.82	1.42	2.80	3.35	1.56	3.49	3.53
Scranton, Pa	2.80	2.50	2.11	4.09	2.07	3.15	4.71	2.44	2.79	2.02	1.96	4.24	3.73
Washington, D. C	3.37	2.85	4.60	6.34	1.57	2.57	4.29	3.47	2.30	2.30	5.56	4.24	3.21
Lynchburg, Va	3.72	1.91	3.00	3.86	.99	2.69	4.42	4.11	1.64	2.60	3.90	2.25	3.37
Norfolk, Va	3.37	3.39	2.32	5.66	2.07	2.28	2.57	3.10	2.14	1.55	3.49	1.74	1.96
Parkersburg, W. Va	2.19	5.22	1.55	3.68	5.84	5.71	2.24	2.48	3.83	3.17	1.91	4.14	4.70
Charlotte, N. C	4.29	3.70	2.78	5.67	1.66	5.09	3.82	5.45	3.81	5.22	5.24	3.67	3.98
Charleston, S. C	3.45	.99	2.10	7.44	1.34	2.69	1.13	1.68	1.69	1.58	2.48	2.21	3.24
Atlanta, Ga	5.31	5.76	1.55	6.19	2.53	5.14	6.12	5.40	7.69	5.53	5.03	1.94	4.54
Thomasville, Ga	4.13	1.65	4.89	9.70	2.05	6.61	3.73	2.32	5.24	2.39	2.72	3.94	6.30
Jacksonville, Fla	3.12	1.58	5.31	4.10	.90	.41	2.78	1.73	1.21	2.01	3.21	1.37	5.09
Miami, Fla	2.73	4.42	1.35	3.64	1.44	.11	.85	1.07	.41	.73	.55	.21	2.80
Cincinnati, Ohio	3.36	9.02	2.37	5.85	5.84	4.74	4.30	1.49	3.48	1.72	2.07	4.64	4.09
Cleveland, Ohio	2.45	5.66	1.61	2.52	2.40	2.55	2.60	.63	1.95	1.53	1.52	2.61	3.38
Evansville, Ind	3.69	10.27	1.92	6.65	8.76	4.93	5.00	1.14	5.64	1.80	1.47	5.43	3.16
Indianapolis, Ind	2.81	7.63	2.76	3.31	6.55	3.40	2.89	.91	2.01	2.86	1.26	2.73	3.13
Chicago, Ill	2.00	1.33	3.01	1.99	4.84	1.55	4.12	.26	1.11	.97	1.16	.92	1.32
Peoria, Ill	2.20	2.18	1.93	1.89	5.95	1.86	1.58	.07	.93	1.39	1.69	1.10	1.72
Grand Rapids, Mich	2.78	1.86	3.24	1.57	3.90	1.40	3.21	.39	1.19	.59	.71	1.25	2.00
Marquette, Mich	2.01	2.03	2.63	2.41	3.05	1.20	4.77	2.21	1.84	2.28	1.94	2.84	3.65
Madison, Wis	1.56	1.64	.70	2.05	3.07	1.01	2.09	.26	.84	.22	.63	1.25	.56
Duluth, Minn	.98	.75	1.75	1.84	3.48	.80	.94	.46	1.13	.18	.51	1.60	.25
St. Paul, Minn	.90	.53	1.05	1.19	2.66	1.79	.51	.44	1.80	.59	.90	1.12	.97
Des Moines, Iowa	1.21	1.10	.85	1.96	2.66	.53	.78	.08	.44	.59	.85	.88	1.02
Dubuque, Iowa	1.49	1.11	.78	2.01	2.46	.85	1.83	.17	.63	.18	1.16	.62	.63
St. Louis, Mo	2.27	4.34	2.24	2.83	8.53	1.72	1.31	.13	1.85	1.10	.74	2.08	1.15
Springfield, Mo	2.66	3.40	1.80	2.35	9.31	1.46	1.96	.34	2.36	1.36	1.38	3.43	1.50
Bismarck, N. Dak	.54	.37	.25	.08	.81	.65	.62	.09	.52	.12	.34	.29	.04
Devils Lake, N. Dak	.60	.38	.61	.11	.71	.55	.24	.22	.74	.13	.58	.42	.35
Pierre, S. Dak	.46	T.	.43	.73	1.05	.84	1.08	.01	.16	.21	.68	.14	.15
North Platte, Nebr	.47	.16	.18	.51	.85	.74	.54	.03	.07	.68	.66	.11	.08
Omaha, Nebr	.55	.69	.56	1.87	2.20	.58	.65	.10	.28	.48	.91	.87	.62
Concordia, Kans	.72	.55	.17	.76	1.34	.60	.85	.02	.12	.50	.38	.01	.95
Dodge City, Kans	.47	.28	.18	1.08	.59	.22	.80	.06	.07	.24	.45	.03	.17
Iola, Kans	.98	.85	.39	2.14	5.13	.48	.90	.02	.76	1.77	.96	1.16	.81
Memphis, Tenn	5.21	7.71	1.10	5.69	7.16	5.57	5.02	3.77	6.01	1.84	2.26	5.65	6.15
Nashville, Tenn	3.85	12.30	1.56	5.89	7.62	7.27	7.43	4.71	7.35	3.11	2.90	5.89	5.40
Birmingham, Ala	5.32	8.25	1.85	6.44	5.40	6.79	6.94	6.21	5.37	3.72	6.20	3.82	5.42
Mobile, Ala	4.85	4.29	1.98	7.54	3.06	3.04	3.87	6.77	11.70	1.89	6.79	2.65	8.21
New Orleans, La	4.63	5.71	1.02	8.42	4.46	4.12	4.43	8.03	5.66	1.16	5.22	5.26	6.17
Shreveport, La	4.42	4.21	.73	4.22	6.29	3.29	2.07	3.28	7.06	4.18	5.73	4.32	4.24
Amarillo, Tex	.69	.11	.06	.72	.36	.69	1.01	T.	1.11	2.10	.78	0	.13
Brownsville, Tex	1.35	2.05	.10	3.35	.19	.28	.08	4.56	1.13	2.26	1.51	.13	3.42
El Paso, Tex	.51	.49	.03	1.03	.66	.52	1.20	.08	1.06	.06	.30	.04	.40
Fort Worth, Tex	.93	2.30	.43	1.32	4.01	1.43	1.36	5.03	3.48	2.87	1.63	4.00	.89
Galveston, Tex	3.62	2.92	.34	4.52	.86	2.21	.54	6.22	7.09	2.77	4.84	6.99	5.87
San Antonio, Tex	1.98	.90	.09	.53	2.25	.95	.10	3.78	3.36	1.40	1.23	.46	.97
Oklahoma City, Okla	1.34	.56	.05	.78	4.28	.37	.95	.29	2.09	2.29	1.15	2.74	.18
Little Rock, Ark	4.79	11.20	1.25	4.62	8.45	2.53	5.51	2.72	9.19	1.52	1.90	7.42	3.55
Havre, Mont	.69	1.46	.64	.67	1.75	.97	1.19	.40	1.14	.12	.42	1.12	.48
Kalispell, Mont	1.59	2.69	1.31	1.19	1.05	1.05	1.82	.72	.85	1.29	.74	1.07	.91
Cheyenne, Wyo	.40	.55	.10	.08	.63	.30	.47	T.	.20	1.47	.47	.06	.38
Sheridan, Wyo	.90	1.91	.35	2.08	.92	.84	2.21	.33	.81	.54	1.27	.57	.08
Pueblo, Colo	.35	.31	.18	.18	.22	.22	.61	.03	.29	.30	.39	T.	.41
Santa Fe, N. Mex	.59	.57	.19	1.95	3.02	.55	1.63	.12	.31	1.35	.64	.12	.13
Phoenix, Ariz	1.17	.38	.30	1.79	2.34	2.20	1.14	.22	1.42	.13	1.29	.28	0
Modena, Utah	.78	.32	1.42	1.12	3.47	1.06	.11	.32	.44	1.27	1.72	1.40	.17
Salt Lake City, Utah	1.35	.81	3.08	.72	1.96	.91	3.89	T.	1.24	1.44	1.42	1.90	.49
Winnemucca, Nev	1.04	.59	1.99	.49	2.21	.90	1.04	.10	.30	.46	1.15	.91	.06
Boise, Idaho	1.89	1.34	1.06	1.06	1.93	1.10	2.27	.85	.06	1.57	.90	1.62	.40
Seattle, Wash	4.84	4.89	9.82	6.35	4.32	2.02	2.94	7.95	3.92	5.56	1.89	7.51	4.10
Walla Walla, Wash	2.01	2.52	2.62	.75	2.79	1.05	2.29	2.12	1.55	1.87	1.54	1.85	1.16
Portland, Oreg	6.59	6.25	11.53	5.90	5.69	2.54	4.68	9.08	4.84	7.82	3.08	9.57	8.94
Roseburg, Oreg	5.70	5.76	7.10	2.93	6.15	2.25	8.56	7.33	1.51	4.12	3.68	5.69	1.43
Eureka, Calif	7.63	8.10	9.75	9.75	13.02	5.53	2.55	7.84	1.87	8.37	2.64	3.88	1.95
Fresno, Calif	1.60	1.22	4.94	2.78	5.17	1.40	.47	.40	.69	2.63	2.46	1.10	.54
Los Angeles, Calif	2.84	2.01	10.35	5.42	13.30	2.08	.50	.96	.50	5.22	4.64	1.76	.36
Sacramento, Calif	3.69	2.52	5.97	3.76	9.35	1.30	.97	1.77	.29	4.61	2.16	2.05	1.60
San Diego, Calif	2.00	1.19	3.59	4.91	7.56	4.32	1.64	.61	.43	2.02	3.45	1.84	.26
San Francisco, Calif	4.33	3.84	9.76	6.74	16.59	1.83	.81	2.57	.26	6.90	2.41	2.84	2.75

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Feb.	February total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	2.75	1.52	1.82	4.36	3.84	1.90	2.47	2.27	4.52	2.22	2.77	2.15	2.24
Boston, Mass	3.44	2.99	3.07	3.47	5.18	2.67	2.30	2.66	5.88	2.64	2.64	1.48	2.61
Buffalo, N. Y	2.85	1.84	1.95	2.30	3.64	1.97	2.46	1.61	2.35	2.50	2.01	1.24	2.65
Canton, N. Y	2.57	1.43	1.16	2.43	4.12	1.63	3.73	1.65	2.21	1.39	2.92	1.67	2.02
Trenton, N. J	3.19	2.17	3.06	4.40	3.16	1.47	1.84	3.25	4.27	3.44	2.25	2.68	3.44
Pittsburgh, Pa	2.66	2.11	3.13	2.24	2.61	.99	1.87	1.58	1.62	1.80	1.57	2.18	2.59
Scranton, Pa	2.72	1.60	5.22	2.70	4.48	1.84	1.26	2.13	4.74	2.84	1.55	1.58	2.67
Washington, D. C	3.42	1.37	3.05	3.60	2.84	1.97	.83	2.01	3.47	2.29	2.86	2.19	3.05
Lynchburg, Va	3.49	1.99	2.77	2.88	2.92	1.66	.53	2.23	4.03	2.60	3.32	2.38	1.87
Norfolk, Va	3.75	1.97	3.67	1.71	4.03	1.88	.26	2.15	6.33	3.02	4.85	2.01	3.15
Parkersburg, W. Va	3.24	1.76	3.74	1.80	2.75	2.44	2.81	1.76	2.16	2.18	1.57	2.32	3.07
Charlotte, N. C	4.39	2.52	4.03	2.89	5.87	3.78	1.92	4.85	3.54	4.61	7.12	4.25	4.18
Charleston, S. C	3.41	5.53	6.87	2.53	1.47	2.67	1.31	5.51	2.61	1.26	5.63	1.03	1.57
Atlanta, Ga	4.65	3.30	3.34	4.50	5.19	5.81	1.82	4.41	5.67	7.35	6.55	7.47	2.97
Thomasville, Ga	4.48	6.51	12.12	3.44	1.88	3.74	2.27	8.86	5.77	1.27	4.64	3.35	4.31
Jacksonville, Fla	3.43	4.87	4.55	2.44	.19	1.46	.21	3.77	9.16	.62	5.56	1.93	2.65
Miami, Fla	2.15	1.86	1.21	3.01	3.69	.45	2.51	3.20	1.60	1.15	3.14	.24	1.69
Cincinnati, Ohio	3.24	1.86	4.80	.94	1.73	1.50	1.61	1.03	1.30	2.27	1.68	1.81	1.70
Cleveland, Ohio	2.61	1.66	1.84	2.02	1.52	1.22	1.48	1.11	1.12	2.19	1.31	1.39	1.50
Evansville, Ind	5.06	2.15	4.56	1.24	1.64	1.13	.38	1.30	.82	4.69	2.38	4.45	1.55
Indianapolis, Ind	3.08	1.85	2.92	1.01	1.16	1.15	2.49	1.21	1.35	1.98	1.46	1.70	1.44
Chicago, Ill	2.46	1.97	.93	1.92	.87	.67	2.81	2.78	.13	.38	.74	1.05	1.08
Peoria, Ill	2.69	3.00	1.36	2.71	.29	.27	1.61	2.32	.27	.29	1.98	.83	1.64
Grand Rapids, Mich	1.91	1.27	.75	2.59	.74	.67	3.81	2.16	.85	1.13	2.25	.99	1.41
Marquette, Mich	1.72	2.28	1.55	2.47	1.31	1.56	2.12	1.50	1.05	1.29	2.00	1.21	2.18
Madison, Wis	1.47	1.12	.92	2.30	.39	.64	1.30	2.12	.51	.32	3.90	.93	1.06
Duluth, Minn	.99	1.09	.64	1.50	.36	.81	.28	.94	.45	.45	4.24	.92	.60
St. Paul, Minn	.84	.71	.49	2.21	.39	.44	.69	2.52	.57	.46	3.69	.50	.58
Des Moines, Iowa	1.08	.65	1.24	3.20	.61	.52	1.45	3.00	.74	.52	.64	.36	1.98
Dubuque, Iowa	1.38	.82	1.16	2.48	.76	.17	1.37	2.87	.47	.29	1.44	.40	.74
St. Louis, Mo	2.79	1.20	4.63	2.30	1.78	.35	2.69	1.54	.74	1.08	1.52	1.50	1.29
Springfield, Mo	2.27	2.46	2.26	2.66	.57	.47	.64	2.43	.42	.85	2.02	1.27	1.23
Bismarck, N. Dak	.59	.05	.36	.03	.39	.44	.29	.63	.20	.15	1.55	.46	.28
Devils Lake, N. Dak	.52	.02	.16	.24	.32	.68	.14	.70	.12	.46	.64	.73	.39
Pierre, S. Dak	.44	.25	1.55	1.81	.31	.37	.63	1.29	.26	.05	.49	.04	.89
North Platte, Nebr	.40	.94	.96	1.11	.81	.35	.28	1.50	.72	.36	.05	.14	.36
Omaha, Nebr	.76	.64	.87	2.62	.54	.20	1.65	2.07	.85	.69	.91	.08	.98
Concordia, Kans	.79	1.30	.82	2.34	.41	.67	.63	2.36	.73	.06	1.12	.38	.26
Dodge City, Kans	.71	.68	.47	1.37	.06	.64	.29	1.56	.09	.69	1.73	.03	.71
Iola, Kans	1.11	2.93	3.60	4.26	.97	.07	.61	.95	.15	.09	1.26	.43	1.18
Memphis, Tenn	4.35	5.25	3.15	3.31	2.27	1.97	2.24	2.66	2.07	6.09	3.30	4.61	2.52
Nashville, Tenn	4.32	4.71	2.03	1.01	1.19	2.76	1.54	2.19	1.92	4.70	3.89	4.36	3.44
Birmingham, Ala	4.77	6.77	2.66	1.95	3.23	5.89	1.04	5.22	3.06	7.32	5.62	5.87	5.89
Mobile, Ala	5.30	3.40	7.59	4.51	3.20	4.95	3.33	7.49	4.93	1.41	5.65	4.58	4.37
New Orleans, La	4.47	2.19	6.43	4.23	2.76	3.19	2.21	6.52	3.60	1.94	3.25	2.33	5.53
Shreveport, La	3.61	3.95	4.85	4.15	.01	2.10	.16	3.46	1.43	1.91	5.40	6.21	3.83
Amarillo, Tex	.88	.55	.10	1.60	.02	.22	.25	.73	.18	1.19	1.44	1.71	.56
Brownsville, Tex	1.27	1.00	2.28	.04	.08	.20	.84	1.08	.75	.65	3.17	7.64	.87
El Paso, Tex	.46	1.26	.53	.59	.02	T.	.01	.20	.83	.26	T.	1.41	.13
Fort Worth, Tex	1.27	.87	1.17	2.18	.61	1.47	.01	2.65	.76	2.62	2.00	2.05	1.97
Galveston, Tex	3.10	8.27	3.31	2.65	.19	2.51	1.11	2.43	1.80	.30	3.03	5.09	5.67
San Antonio, Tex	1.78	1.01	1.38	1.81	.01	.49	1.10	1.56	.27	.23	1.26	5.47	3.02
Oklahoma City, Okla	.98	2.72	.86	3.10	.39	.84	.07	1.52	.19	1.23	.64	.20	.54
Little Rock, Ark	4.18	3.78	2.85	2.52	2.05	1.72	.98	3.55	1.16	6.86	3.95	6.42	1.64
Havre, Mont	.47	.06	1.04	.44	.47	.00	.49	.97	.42	.15	.70	.32	.43
Kalispell, Mont	1.46	.33	1.68	1.01	1.06	1.82	.93	1.69	.25	.65	.60	.94	.51
Cheyenne, Wyo	.56	.74	.23	.97	.30	.80	.89	.26	.69	.36	.85	.57	1.14
Sheridan, Wyo	.74	.55	1.25	.17	1.17	.37	.19	.20	.94	.11	.21	.59	1.09
Pueblo, Colo	.47	1.09	.46	.57	T.	.49	.79	.86	.39	.07	.37	.76	.12
Santa Fe, N. Mex	.84	1.15	.63	.77	.20	.23	1.14	.69	1.12	.33	.51	.25	.24
Phoenix, Ariz	.69	1.03	.71	1.21	.13	.95	.45	.75	1.46	.11	.42	.46	T.
Modena, Utah	1.20	1.20	.98	2.56	.52	.85	.97	1.19	1.67	.16	.89	.95	.09
Salt Lake City, Utah	1.38	1.67	.98	2.00	1.18	1.22	1.41	1.14	1.06	2.36	.35	.78	
Winnemucca, Nev	.93	.15	.51	1.13	1.44	.20	.79	1.52	.24	.37	2.10	.13	.57
Boise, Idaho	1.42	.20	.98	1.95	3.21	1.21	.88	1.79	.35	1.23	1.00	.21	1.13
Seattle, Wash	5.77	1.34	1.93	2.76	6.85	1.43	4.81	3.77	.34	4.82	1.74	2.72	5.66
Walla Walla, Wash	1.58	1.46	1.59	1.79	3.34	1.12	1.30	1.93	.10	2.21	.07	1.80	1.96
Portland, Oreg	5.42	1.13	4.19	3.07	7.87	3.32	6.77	8.36	.16	7.21	3.20	1.81	5.21
Roseburg, Oreg	4.56	.57	2.21	3.33	5.01	4.90	4.96	8.05	.17	4.31	3.70	1.41	1.89
Eureka, Calif	7.03	.87	4.20	12.39	5.18	5.10	6.20	8.18	2.11	7.45	9.75	.50	3.19
Fresno, Calif	1.33	1.71	1.31	3.47	1.67	1.07	4.59	1.36	1.54	.61	2.19	.74	.31
Los Angeles, Calif	2.91	0.16	7.04	5.09	1.82	4.49	6.14	1.02	2.37	.86	3.47	.75	.03
Sacramento, Calif	3.14	.16	2.96	4.26	2.45	4.97	3.36	6.29	.81	.54	4.18	.30	2.00
San Diego, Calif	1.96	2.40	1.90	3.62	.66	1.84	1.52	1.46	2.87	.35	1.86	1.53	T.
San Francisco, Calif	3.70	.43	5.04	7.36	3.77	3.81	5.79	9.31	1.23	4.38	5.15	.77	3.30

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure

TABLE 781.—*Precipitation: Normal* [1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Mar.	March total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me.	3.76	5.29	4.15	0.24	2.35	3.90	2.19	4.03	2.85	1.95	2.96	3.02	1.36
Boston, Mass.	4.08	4.81	4.16	T.	3.20	3.73	3.19	4.11	3.72	1.92	4.35	2.49	2.04
Buffalo, N. Y.	2.62	3.60	4.18	1.38	3.52	2.69	2.45	2.47	1.57	3.40	3.61	1.70	1.41
Canton, N. Y.	2.84	5.24	3.03	.51	1.60	1.98	1.37	3.97	2.26	3.32	3.21	2.07	.95
Trenton, N. J.	4.04	4.77	3.28	1.37	2.61	3.45	2.02	4.64	3.81	2.42	3.89	3.70	2.12
Pittsburgh, Pa.	3.01	4.37	2.12	1.26	3.63	3.36	1.25	1.89	1.77	3.36	5.84	2.15	4.15
Scranton, Pa.	3.12	5.00	5.05	1.21	5.74	2.99	2.23	3.02	3.50	3.17	4.02	1.65	.93
Washington, D. C.	3.85	4.67	2.27	1.07	2.80	5.12	5.04	4.02	2.39	2.76	4.74	4.47	6.17
Lynchburg, Va.	3.81	5.50	2.24	1.14	1.32	4.97	2.41	3.02	2.82	1.75	7.50	5.91	2.77
Norfolk, Va.	4.28	1.99	3.77	1.14	1.68	4.60	3.68	3.36	2.39	1.50	4.95	5.12	3.16
Parkersburg, W. Va.	3.82	4.13	2.19	1.42	4.48	4.46	3.54	2.37	2.92	4.49	6.06	3.35	3.37
Charlotte, N. C.	4.57	5.80	1.56	3.44	1.38	6.42	2.33	2.70	7.11	1.84	6.32	5.84	2.40
Charleston, S. C.	3.72	3.80	2.34	2.83	1.96	3.05	1.65	4.05	4.65	2.66	3.15	2.38	3.68
Atlanta, Ga.	5.78	9.14	3.17	2.01	1.84	9.15	.89	3.58	10.95	1.64	10.30	5.14	1.86
Thomasville, Ga.	5.09	5.83	1.22	3.17	1.62	1.98	1.41	7.36	3.21	3.30	4.12	5.23	2.15
Jacksonville, Fla.	3.52	5.87	1.84	2.47	.59	1.81	2.31	3.24	.82	.57	3.69	1.15	7.18
Miami, Fla.	2.61	4.39	.99	1.57	.28	3.03	1.48	9.74	.06	5.15	.13	.58	.46
Cincinnati, Ohio	3.64	9.09	2.40	1.64	3.34	4.06	2.28	5.27	4.20	6.60	6.56	3.50	4.16
Cleveland, Ohio	2.79	8.31	2.10	.92	2.29	2.14	2.38	2.67	1.49	4.39	4.02	1.89	1.65
Evansville, Ind.	4.60	8.71	3.12	1.08	2.56	3.03	.95	5.05	6.10	4.52	8.20	2.48	1.76
Indianapolis, Ind.	4.01	7.76	1.82	1.47	2.44	4.75	1.58	6.72	.66	7.25	7.16	4.41	4.72
Chicago, Ill.	2.55	3.44	1.87	.60	2.48	2.11	2.05	4.32	4.57	4.00	5.58	3.05	3.70
Peoria, Ill.	2.96	3.46	1.60	.67	2.33	2.26	.91	4.52	5.84	4.89	5.09	4.08	2.28
Grand Rapids, Mich.	2.52	3.57	1.59	1.13	3.16	1.87	2.37	4.93	3.42	4.77	3.18	2.36	2.08
Marquette, Mich.	2.08	4.46	2.03	1.60	3.36	2.97	1.13	.92	3.34	2.95	2.72	3.24	2.80
Madison, Wis.	2.21	2.41	1.15	.87	2.93	2.00	2.17	2.17	4.07	1.81	2.01	4.14	2.84
Duluth, Minn.	1.55	3.25	1.56	.36	2.48	4.97	.50	1.16	2.28	1.76	2.60	1.28	.42
St. Paul, Minn.	1.60	1.74	.93	.99	1.26	2.09	.88	.81	2.91	2.51	1.41	1.33	2.83
Des Moines, Iowa.	1.65	3.03	1.18	1.16	.60	2.30	.29	3.67	2.92	1.07	2.25	4.34	3.10
Dubuque, Iowa.	2.21	2.81	1.74	1.14	3.91	1.56	2.12	2.24	3.04	2.05	1.65	2.93	2.85
St. Louis, Mo.	3.43	7.97	1.25	.44	1.83	1.80	.67	1.72	3.97	6.14	4.84	4.26	3.24
Springfield, Mo.	4.07	5.09	3.37	2.23	2.42	2.31	1.33	2.23	4.90	7.35	6.45	2.40	2.77
Bismarck, N. Dak.	1.04	.49	1.23	.35	3.27	.60	.85	1.17	1.21	1.00	.70	.28	.58
Devils Lake, N. Dak.	1.01	.54	.76	.09	1.09	.30	.22	1.49	.35	.71	.62	.76	.42
Pierre, S. Dak.	1.33	.84	.70	.58	.38	.53	1.47	1.30	1.78	.49	.56	.68	1.40
North Platte, Nebr.	.87	1.68	.41	2.23	.20	1.48	.32	.44	.38	.42	.47	.38	1.93
Omaha, Nebr.	1.39	3.03	1.52	1.67	.35	1.35	.11	1.59	.47	1.08	1.47	3.95	1.93
Concordia, Kans.	1.48	.41	1.05	2.53	.37	1.49	.77	.90	.47	.47	2.59	1.32	2.56
Dodge City, Kans.	.88	.23	.09	.64	.68	.36	2.59	.94	.43	.01	3.76	.71	2.77
Iola, Kans.	2.35	2.13	2.12	2.25	2.10	3.55	1.96	1.06	5.36	3.60	7.71	3.69	1.57
Memphis, Tenn.	5.77	4.78	3.91	3.03	2.22	7.51	.70	12.41	4.72	7.41	8.24	7.03	2.32
Nashville, Tenn.	5.44	4.54	4.33	2.14	3.60	8.06	1.86	8.67	3.25	5.95	9.32	7.69	1.74
Birmingham, Ala.	5.76	5.96	5.29	3.68	3.01	11.85	.32	5.91	10.34	4.88	7.14	5.15	4.10
Mobile, Ala.	7.17	10.58	2.00	3.46	3.69	2.28	.79	5.09	2.21	6.71	11.46	6.09	1.07
New Orleans, La.	5.30	4.84	4.17	2.31	.64	3.03	1.69	3.22	3.28	5.59	8.45	4.56	2.39
Shreveport, La.	4.52	4.81	6.55	1.92	1.88	2.12	1.14	3.14	5.08	3.87	9.31	3.63	4.32
Amarillo, Tex.	.65	.59	.15	1.00	.57	.25	1.06	1.73	.51	.68	4.06	2.97	1.75
Brownsville, Tex.	1.23	1.86	1.86	1.99	.07	1.51	.94	.44	.76	.88	1.29	1.32	.12
El Paso, Tex.	.38	.29	.10	1.34	.34	.07	.08	.62	.22	.04	.16	.33	.41
Fort Worth, Tex.	1.76	1.04	2.89	1.40	3.68	2.42	.93	3.34	4.42	2.67	1.57	1.52	4.66
Galveston, Tex.	2.90	1.43	4.63	1.43	.25	.91	1.65	2.20	1.77	3.59	2.69	4.53	1.43
San Antonio, Tex.	1.68	1.36	.83	1.20	.79	.16	1.45	1.39	.83	5.91	3.29	3.07	1.29
Oklahoma City, Okla.	2.38	3.11	1.68	2.08	1.66	1.20	1.55	1.88	4.20	1.93	4.37	2.58	3.83
Little Rock, Ark.	4.94	4.47	4.63	2.94	1.59	6.43	1.49	6.44	4.80	7.03	8.30	5.00	2.70
Havre, Mont.	.48	.65	.17	.10	.59	.18	.51	.74	.46	1.89	.43	.11	1.01
Kalispell, Mont.	1.08	1.73	1.17	.59	2.43	1.09	.76	.45	.92	1.55	.77	.42	.74
Cheyenne, Wyo.	.95	.33	.72	1.61	.20	.69	.19	1.52	.66	.39	.33	1.49	1.71
Sheridan, Wyo.	1.22	.78	1.14	1.40	.92	1.31	3.32	.43	.83	.65	.34	1.89	1.99
Pueblo, Colo.	.86	.21	.32	.48	.65	.44	.35	1.43	.15	.20	.29	.67	1.20
Santa Fe, N. Mex.	.73	.87	.82	.70	1.36	.27	1.46	1.70	.57	.75	.44	1.28	1.12
Phoenix, Ariz.	.49	.07	.92	.33	.37	.15	.93	.97	1.35	.03	.99	1.08	.99
Modena, Utah.	1.30	.15	.15	.40	1.50	.68	1.60	.85	1.84	1.09	.45	.90	2.84
Salt Lake City, Utah.	2.00	2.50	1.24	1.48	3.03	2.61	1.81	.54	3.81	1.03	2.44	1.67	2.21
Winnemucca, Nev.	.95	.23	.06	.49	.62	.58	1.95	.57	1.73	.66	.79	.05	.58
Boise, Idaho	1.44	1.75	.39	.78	.71	1.75	1.78	1.82	1.89	.84	2.36	.24	.30
Seattle, Wash.	2.88	1.55	1.40	1.72	5.45	2.96	3.92	1.84	2.82	3.06	4.45	1.37	.42
Walla Walla, Wash.	1.89	2.07	.59	1.96	3.46	.52	1.26	1.91	2.14	2.24	.96	.47	.62
Portland, Oreg.	4.66	4.04	2.28	2.15	10.57	5.33	3.47	4.64	3.94	4.28	6.57	1.83	1.40
Roseburg, Oreg.	3.98	2.23	1.76	1.76	4.95	3.74	2.57	4.50	2.97	1.71	4.09	1.32	1.84
Eureka, Calif.	6.97	3.61	3.13	1.65	4.83	5.01	5.84	6.25	5.79	3.04	6.43	.80	.67
Fresno, Calif.	1.76	.63	.25	.52	1.81	.56	4.19	1.07	3.98	1.05	1.53	.06	2.89
Los Angeles, Calif.	3.00	.33	.58	.60	.90	.18	6.21	2.18	4.25	2.75	1.64	.32	3.42
Sacramento, Calif.	3.01	1.34	.59	1.20	1.06	.70	4.00	1.50	3.27	1.45	1.29	.43	1.19
San Diego, Calif.	1.70	.42	.36	.33	.98	.26	4.57	1.83	2.46	1.13	1.34	.34	2.41
San Francisco, Calif.	3.14	1.47	1.09	3.02	1.33	1.42	2.73	2.74	3.25	2.28	2.38	.03	1.96

[1] Normals are based on records of 20 or more years of observations.

T—Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for April	April total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	2.78	2.54	4.51	3.49	2.45	3.25	1.66	2.96	5.40	2.61	2.99	5.97	4.45
Boston, Mass	3.55	4.77	5.87	1.86	4.51	2.72	3.08	2.33	5.68	4.62	2.48	5.26	3.79
Buffalo, N. Y	2.45	3.78	3.24	.59	2.98	2.45	2.41	3.40	2.33	3.62	1.56	1.17	3.08
Canton, N. Y	2.26	3.35	3.56	1.30	1.83	1.92	1.84	3.39	3.45	1.53	3.46	2.41	3.32
Trenton, N. J	3.29	5.27	2.57	3.04	2.67	2.29	3.25	2.91	4.34	1.86	1.69	3.34	5.99
Pittsburgh, Pa	2.90	2.53	3.98	1.27	2.54	2.20	2.73	3.07	4.42	1.66	3.56	3.82	3.09
Scranton, Pa	2.65	3.63	3.89	1.65	4.19	1.06	3.98	2.71	2.53	2.88	3.44	2.92	3.30
Washington, D. C	3.25	5.86	3.20	.90	2.96	2.16	6.58	3.72	4.69	2.93	1.05	3.94	5.39
Lynchburg, Va	3.17	3.60	1.70	.87	1.94	3.10	4.97	2.18	3.53	2.76	1.53	2.71	3.35
Norfolk, Va	3.79	.79	1.88	.91	1.95	2.61	4.81	1.61	4.25	3.02	1.88	3.59	2.89
Parkersburg, W. Va	2.91	1.81	4.38	2.02	2.84	4.29	4.47	2.09	6.38	2.50	3.81	3.47	3.24
Charlotte, N. C	3.44	2.72	2.99	.63	2.15	2.54	5.47	3.90	5.40	1.99	6.59	4.23	6.78
Charleston, S. C	2.99	1.40	2.77	1.13	2.35	.97	2.49	.73	7.40	2.06	1.50	1.06	5.78
Atlanta, Ga	3.63	.84	3.16	.35	1.54	3.17	6.98	4.18	5.32	3.31	4.34	3.82	7.76
Thomasville, Ga	3.65	1.38	1.78	.57	2.47	1.55	5.02	2.78	7.22	3.09	.64	3.88	5.06
Jacksonville, Fla	2.72	1.32	.30	.49	.46	.82	5.96	1.26	3.42	1.43	1.39	.98	3.00
Miami, Fla	3.33	3.78	5.24	1.32	.39	3.74	4.49	3.07	3.15	2.63	.54	2.15	3.40
Cincinnati, Ohio	2.95	3.84	3.07	.84	2.51	4.07	3.38	3.29	5.78	3.19	4.32	2.96	2.40
Cleveland, Ohio	2.31	2.47	4.28	.65	2.43	3.24	2.55	2.96	5.01	2.58	2.10	2.21	2.85
Evansville, Ind	3.46	3.19	2.83	.40	1.99	5.12	5.26	3.71	2.93	3.42	4.07	4.54	3.49
Indianapolis, Ind	3.47	3.01	3.21	.99	1.81	4.25	5.36	3.35	7.26	3.73	8.55	1.94	3.28
Chicago, Ill	2.88	1.91	1.07	1.02	1.60	2.58	3.41	3.16	4.71	4.47	3.70	1.38	.84
Peoria, Ill	3.28	3.54	2.10	1.60	1.60	4.54	3.70	2.35	6.12	6.36	3.62	1.95	2.13
Grand Rapids, Mich	2.45	2.45	1.97	.85	2.52	4.03	2.22	2.60	2.95	4.39	4.50	2.19	3.29
Marquette, Mich	1.99	3.00	6.80	.99	3.51	1.75	1.37	3.24	2.28	4.10	3.79	1.43	1.57
Madison, Wis	2.38	1.54	1.84	.92	3.51	3.29	2.63	2.90	3.43	5.16	3.39	2.59	3.25
Duluth, Minn	2.14	1.75	2.90	1.23	3.27	1.39	2.02	1.82	1.41	2.10	2.83	1.11	2.96
St. Paul, Minn	2.33	1.62	3.73	2.75	3.03	1.65	.94	3.98	2.21	2.46	1.55	2.20	3.32
Des Moines, Iowa	2.98	3.41	1.52	1.36	2.44	5.52	1.81	5.30	4.09	3.72	2.84	1.76	.78
Dubuque, Iowa	2.92	1.70	1.53	.38	2.69	2.05	2.16	4.47	3.91	4.70	2.89	1.48	1.12
St. Louis, Mo	3.52	3.57	1.92	1.20	1.78	4.64	7.09	1.76	3.43	7.01	7.40	3.20	1.90
Springfield, Mo	3.86	2.05	3.63	2.78	5.15	4.63	4.25	3.55	1.53	4.79	4.94	3.33	3.22
Bismarck, N. Dak	1.88	.55	.92	1.08	.65	1.87	2.13	1.71	.45	2.40	.08	2.01	1.90
Devils Lake, N. Dak	2.03	.83	1.21	1.10	1.09	1.40	2.86	1.14	.54	2.17	.48	1.44	4.96
Pierre, S. Dak	1.98	1.17	1.78	2.63	1.06	2.39	2.60	2.98	3.37	1.33	.59	1.54	.99
North Platte, Nebr	2.15	2.07	1.48	7.10	.72	1.95	2.51	2.21	3.42	1.30	2.01	2.02	.20
Omaha, Nebr	3.01	3.00	3.13	.81	1.72	3.96	1.57	4.66	3.39	2.13	2.12	1.57	.94
Concordia, Kans	2.42	2.46	1.00	2.47	1.82	2.60	3.51	4.20	2.82	2.79	2.33	3.20	1.38
Dodge City, Kans	1.87	2.12	1.28	2.28	2.84	1.45	1.38	1.65	1.75	2.73	4.24	2.13	2.34
Iola, Kans	2.79	1.30	1.68	5.56	3.83	4.61	4.60	4.37	2.01	2.86	9.26	2.66	2.77
Memphis, Tenn	4.83	5.40	2.90	1.67	2.32	4.13	4.57	3.17	7.75	11.64	3.21	6.55	4.74
Nashville, Tenn	4.36	1.65	3.83	.72	2.49	4.05	3.39	2.66	8.58	3.50	4.53	4.26	3.55
Birmingham, Ala	3.67	2.28	4.46	1.05	2.14	4.52	7.17	1.55	10.71	4.81	6.64	7.58	5.62
Mobile, Ala	4.35	4.16	1.77	.14	6.64	2.50	11.11	6.84	5.89	4.43	.92	4.39	4.10
New Orleans, La	4.91	4.90	5.34	.04	2.55	4.11	10.73	7.88	7.84	4.87	3.81	4.48	3.10
Shreveport, La	4.58	4.17	3.35	6.42	4.61	3.34	5.28	3.93	4.01	6.24	6.97	4.40	2.87
Amarillo, Tex	1.72	1.76	.95	5.05	1.71	.71	.48	2.56	.64	.39	3.25	3.22	.87
Brownsville, Tex	1.33	.38	1.16	1.04	1.28	.43	2.59	2.39	0	.52	1.52	.35	.11
El Paso, Tex	.23	.14	.47	.20	.20	T	0	.65	.03	.01	.28	.04	.32
Fort Worth, Tex	2.65	2.47	5.99	4.98	6.99	4.11	6.21	2.06	.51	1.99	17.64	5.30	2.33
Galveston, Tex	3.13	2.46	8.54	3.37	1.37	1.45	6.63	2.17	.70	2.47	1.66	4.45	1.14
San Antonio, Tex	2.94	1.32	5.26	11.64	1.85	.28	5.14	3.60	1.09	2.78	5.46	3.24	3.36
Oklahoma City, Okla	2.80	1.88	2.41	7.50	3.15	2.11	2.45	5.04	2.11	2.39	7.67	4.27	3.67
Little Rock, Ark	4.51	11.46	5.19	2.92	2.61	3.91	8.42	4.09	6.59	7.40	3.55	7.69	5.43
Havre, Mont	1.01	1.35	.04	.24	.69	1.35	.35	.29	2.65	.92	1.11	1.24	1.00
Kalispell, Mont	1.06	.86	1.21	1.16	.73	1.26	.63	.24	1.48	1.17	1.86	.41	.01
Cheyenne, Wyo	1.85	1.35	2.58	3.29	.48	1.75	3.92	1.23	3.97	2.00	3.23	3.28	1.41
Sheridan, Wyo	1.67	.62	2.75	1.79	2.71	1.12	3.74	1.16	3.45	.62	3.47	2.47	1.92
Pueblo, Colo	1.43	.47	3.64	3.07	2.02	1.39	1.31	2.33	.86	.79	1.21	.54	.49
Santa Fe, N. Mex	.86	1.32	.44	4.82	2.59	.15	.72	1.94	.73	.55	1.43	1.60	1.26
Phoenix, Ariz	.43	.51	.10	.88	.15	1.22	.02	.17	0	.02	.24	.05	.22
Modena, Utah	.79	.37	2.17	2.38	.23	1.17	.35	.27	.44	1.33	1.02	1.22	.53
Salt Lake City, Utah	2.26	1.95	2.84	1.88	.88	1.49	.59	2.50	3.16	2.65	3.06	3.56	.91
Winnemucca, Nev	.88	1.09	1.32	2.33	.19	.68	.52	.49	.80	.06	.55	.79	.23
Boise, Idaho	1.18	.95	1.63	1.05	.80	3.13	.65	1.18	1.32	.93	1.51	1.09	.54
Seattle, Wash	2.38	.83	3.31	2.91	1.98	4.48	.96	3.20	3.46	1.76	2.53	1.67	1.13
Walla Walla, Wash	1.70	1.01	1.54	2.35	1.83	3.68	.32	1.62	2.80	.81	1.34	1.24	.13
Portland, Oreg	3.02	2.94	3.08	2.03	2.85	5.36	1.13	3.60	4.75	2.26	3.05	1.90	.91
Roseburg, Oreg	2.48	2.05	2.50	1.38	2.28	3.37	.71	2.53	2.67	1.38	2.68	2.23	.45
Eureka, Calif	3.93	3.41	3.27	1.38	1.98	3.78	1.07	4.03	3.12	1.67	2.39	2.95	2.85
Fresno, Calif	.71	1.01	.59	.81	.02	.21	T	.06	.49	.15	.10	3.93	.54
Los Angeles, Calif	1.13	.35	.47	.81	T	.46	.15	1.7	1.00	.28	.10	1.97	1.43
Sacramento, Calif	2.00	.53	.70	.50	.06	.62	1.06	.11	1.36	.39	.40	2.87	.30
San Diego, Calif	.74	.06	.85	1.15	.01	1.06	T	.30	.47	.04	.17	1.05	.77
San Francisco, Calif	.82	.60	.99	.62	0	.33	.60	.10	1.36	.54	.47	3.92	.30

[1] Normals are based on records of 20 or more years of observations.

T = Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1918–1924*—Continued

Station	Normal for May	May total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me.	3.47	3.01	1.70	2.99	4.59	3.22	3.37	4.76	1.35	1.97	3.44	2.50	4.52
Boston, Mass.	3.51	3.22	2.78	1.64	2.83	4.45	1.99	4.25	5.26	3.64	5.34	.83	2.81
Buffalo, N. Y.	3.10	2.48	3.67	1.80	4.13	2.88	2.47	4.32	1.10	2.11	2.01	3.06	2.59
Canton, N. Y.	2.85	2.64	.89	1.57	4.59	2.28	3.91	3.04	1.41	1.08	1.19	3.20	3.91
Trenton, N. J.	3.52	3.00	1.98	4.33	2.45	2.90	4.37	4.18	2.66	4.04	3.03	.89	4.65
Pittsburgh, Pa.	3.30	3.11	2.64	3.84	2.33	2.65	3.89	4.89	1.08	2.49	2.59	3.34	4.54
Scranton, Pa.	3.44	2.27	3.29	3.30	3.04	3.25	3.58	3.33	2.48	2.28	2.20	3.26	3.91
Washington, D. C.	3.83	4.56	1.72	2.18	2.30	1.84	2.35	5.27	1.42	5.82	4.27	1.50	6.73
Lynchburg, Va.	3.99	4.76	.59	1.99	5.13	2.21	2.15	3.64	.79	6.15	4.37	1.66	5.16
Norfolk, Va.	4.07	4.31	2.53	4.82	5.48	1.98	2.97	3.63	1.99	4.72	3.42	1.90	7.47
Parkersburg, W. Va.	3.46	4.80	1.51	3.47	4.65	5.06	3.51	5.00	1.64	4.19	4.09	2.31	4.05
Charlotte, N. C.	3.92	3.77	.49	5.47	4.41	2.45	2.92	6.38	1.33	4.56	3.72	4.01	2.82
Charleston, S. C.	3.47	.19	.82	8.92	1.22	3.80	3.65	1.69	1.96	5.92	9.56	6.30	2.38
Atlanta, Ga.	3.09	5.62	.30	6.11	3.57	4.37	1.73	7.20	4.58	1.75	8.01	9.83	3.60
Thomasville, Ga.	4.01	2.87	1.15	8.75	1.54	3.23	1.38	8.02	3.36	4.03	8.21	6.00	2.14
Jacksonville, Fla.	4.25	1.96	2.60	3.67	3.32	1.85	2.50	7.32	7.41	4.02	7.18	8.73	.49
Miami, Fla.	6.48	5.42	1.82	3.32	5.99	4.62	2.80	13.31	10.33	5.60	9.66	11.48	7.45
Cincinnati, Ohio	3.52	2.30	1.83	5.56	4.49	4.62	4.05	3.56	4.36	2.79	2.09	2.34	3.97
Cleveland, Ohio	3.22	2.84	4.00	3.13	2.04	2.89	4.02	4.15	1.12	1.51	2.42	2.91	2.62
Evansville, Ind.	3.43	.59	1.03	7.96	3.72	5.68	5.75	4.74	5.18	1.56	2.69	4.66	3.44
Indianapolis, Ind.	3.94	1.49	1.90	3.94	3.54	3.36	3.85	3.44	5.04	1.55	2.58	5.86	4.47
Chicago, Ill.	3.37	4.38	5.22	7.04	2.93	5.41	4.57	5.84	1.81	.80	3.18	3.46	2.30
Peoria, Ill.	4.26	1.85	2.28	11.49	7.51	2.40	5.62	5.79	3.03	2.13	4.60	5.15	1.91
Grand Rapids, Mich.	3.36	1.76	3.06	2.61	4.13	4.48	4.03	4.78	1.92	1.23	2.64	3.70	3.72
Marquette, Mich.	3.32	2.04	.80	3.12	1.78	1.45	6.58	2.77	.74	1.67	3.27	1.27	3.31
Madison, Wis.	3.62	6.63	5.97	5.98	2.38	3.33	4.87	3.55	2.51	5.13	4.16	1.90	1.46
Duluth, Minn.	3.47	4.82	4.63	3.22	5.57	.86	4.07	1.72	4.67	2.77	3.28	1.81	2.91
St. Paul, Minn.	3.62	2.95	1.48	3.88	5.89	5.92	4.52	2.13	1.97	3.38	2.48	2.28	1.47
Des Moines, Iowa	4.56	5.06	4.83	8.21	5.87	3.94	5.87	2.96	3.14	3.62	6.87	4.78	1.26
Dubuque, Iowa	4.32	5.20	4.64	7.61	2.49	2.56	8.64	2.79	2.86	2.26	4.79	1.86	2.16
St. Louis, Mo.	4.24	1.53	.69	7.67	3.00	3.78	3.28	7.86	5.00	4.29	1.26	5.85	6.18
Springfield, Mo.	5.55	2.38	5.55	6.52	2.78	5.90	4.19	4.52	6.53	4.66	3.94	4.55	6.02
Bismarck, N. Dak.	2.50	1.93	3.61	4.43	1.95	.26	2.03	4.06	1.27	2.72	2.65	1.05	.45
Devils Lake, N. Dak.	2.20	.88	1.42	2.13	1.47	T.	3.69	3.47	1.24	1.04	2.71	2.04	1.24
Pierre, S. Dak.	2.13	3.75	3.54	2.56	5.81	2.72	3.02	2.78	5.11	4.79	3.58	1.43	.24
North Platte, Nebr.	3.06	3.50	2.14	5.55	1.95	4.44	2.30	2.33	3.31	1.89	2.53	4.08	2.26
Omaha, Nebr.	4.50	5.27	2.16	6.05	4.57	3.85	4.08	1.70	2.55	3.18	2.37	2.50	2.01
Concordia, Kans.	4.70	5.70	1.70	4.73	3.99	3.11	2.52	5.68	3.50	2.54	3.54	5.48	1.75
Dodge City, Kans.	3.34	.81	3.47	5.43	.41	1.60	2.90	1.56	3.47	1.36	2.77	7.74	.63
Iola, Kans.	5.05	3.35	5.84	7.77	2.98	5.12	4.91	4.15	4.71	4.85	3.70	5.33	2.78
Memphis, Tenn.	4.34	2.97	4.64	5.70	4.09	2.91	.90	5.51	8.12	1.27	3.48	6.16	6.36
Nashville, Tenn.	3.80	2.66	3.01	4.94	5.37	4.75	3.61	8.67	3.18	1.15	4.39	4.31	6.39
Birmingham, Ala.	3.09	4.48	1.52	6.14	5.85	3.85	4.07	4.59	7.94	1.24	3.42	7.27	3.44
Mobile, Ala.	4.00	1.59	.22	4.67	6.08	2.05	2.90	6.04	5.70	3.07	8.31	7.91	4.10
New Orleans, La.	3.88	7.94	.19	3.64	7.97	1.63	2.79	7.02	4.08	1.61	5.75	9.10	5.06
Shreveport, La.	4.16	3.11	4.49	1.81	5.01	1.66	1.49	5.78	5.18	3.66	4.04	4.68	7.04
Amarillo, Tex.	3.67	1.41	4.43	1.70	.89	2.49	2.23	2.08	2.57	2.09	1.60	1.70	.67
Brownsville, Tex.	2.22	1.12	9.03	.50	.37	2.57	4.31	1.97	2.90	2.40	3.90	.48	3.60
El Paso, Tex.	.35	T.	1.23	T.	.43	.14	.05	.14	.03	.31	.36	.01	T.
Fort Worth, Tex.	4.15	2.74	10.71	2.49	3.70	3.92	1.99	3.99	8.66	1.04	4.58	.54	4.09
Galveston, Tex.	5.23	3.87	7.54	2.70	8.08	3.47	.22	9.96	3.86	2.04	4.93	3.56	3.35
San Antonio, Tex.	2.96	2.88	5.59	1.89	3.85	3.30	2.80	3.06	2.42	2.01	3.46	1.33	4.71
Oklahoma City, Okla.	5.75	3.88	5.07	3.69	.59	2.14	8.31	5.68	8.66	1.85	6.83	7.01	2.58
Little Rock, Ark.	5.10	2.30	2.25	4.38	1.49	3.28	.64	4.67	8.18	.75	4.74	10.50	2.44
Havre, Mont.	2.09	1.81	1.13	1.95	3.00	.33	.13	1.25	1.39	2.17	2.47	1.23	.78
Kalispell, Mont.	2.03	.92	.69	3.68	1.11	.97	.43	1.72	1.15	.57	.76	2.88	.39
Cheyenne, Wyo.	2.43	2.22	2.10	2.21	1.93	4.65	2.60	.70	2.15	2.40	2.00	2.58	3.58
Sheridan, Wyo.	2.68	1.52	3.10	3.98	3.04	5.66	2.83	.81	3.12	2.98	3.04	3.27	1.51
Pueblo, Colo.	1.68	1.43	3.51	1.75	.63	3.01	.06	.38	1.26	.98	1.67	.68	1.78
Santa Fe, N. Mex.	1.11	.17	2.28	.83	.07	.84	1.02	3.37	2.28	2.35	.20	1.02	.85
Phoenix, Ariz.	.03	0	T.	.17	T.	.45	T.	.06	.42	.17	.26	.08	.01
Modena, Utah	.87	.86	.85	.97	.62	2.23	.69	.38	1.67	1.25	1.61	.32	.39
Salt Lake City, Utah	1.05	.57	.89	1.07	.61	3.48	1.32	1.24	1.83	1.95	2.16	1.91	1.15
Winnemucca, Nev.	1.03	.45	.48	1.08	.49	2.49	.77	1.25	.15	1.18	.47	.70	.27
Boise, Idaho	1.20	.58	.51	4.26	1.80	2.06	1.05	.08	.58	2.15	1.56	1.76	.05
Seattle, Wash.	1.97	1.37	.74	1.72	1.56	.83	1.19	2.08	.96	1.93	1.08	1.45	.08
Walla Walla, Wash.	1.83	1.24	.98	2.48	1.20	2.48	.68	.58	.57	.19	.46	1.36	T.
Portland, Oreg.	2.23	1.63	1.22	2.59	2.05	2.31	1.38	1.95	.91	.99	1.60	1.48	.45
Roseburg, Oreg.	2.05	1.80	1.66	3.36	2.05	2.75	1.34	1.23	.24	1.75	1.03	1.56	.60
Eureka, Calif.	2.54	1.67	.70	2.07	1.48	1.03	.29	1.48	.04	2.54	.95	1.26	.08
Fresno, Calif.	.63	.30	T.	.99	T.	.18	.51	.10	0	.69	.49	.20	T.
Los Angeles, Calif.	.48	.05	.43	.88	.03	.21	.40	.19	.10	3.57	.66	0	0
Sacramento, Calif.	.98	.51	.50	2.75	.10	.12	.01	.01	0	.75	.43	.06	.06
San Diego, Calif.	.43	.07	.06	.28	.01	.31	T.	.34	.44	2.54	.36	0	0
San Francisco, Calif.	.81	.63	.37	3.17	.07	.06	T.	T.	T.	.52	.55	.06	T.

[1] Normals are based on records of 20 or more years of observations.

T—Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for June	June total precipitation										
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	3.69	1.82	3.34	2.00	8.09	8.69	3.38	2.25	3.12	2.88	10.00	3.78	1.75
Boston, Mass	3.03	.64	1.40	1.39	5.04	4.05	1.94	1.08	5.78	3.58	8.05	2.03	1.07
Buffalo, N. Y	3.14	1.69	1.72	1.72	4.04	5.28	2.81	.54	3.11	1.52	3.38	3.64	2.69
Canton, N. Y	3.43	1.15	2.29	3.67	2.84	3.58	3.57	4.83	2.69	1.66	7.56	4.49	2.08
Trenton, N. J	3.49	.68	1.74	2.07	2.94	3.15	3.78	1.39	6.63	4.83	4.98	1.47	5.31
Pittsburgh, Pa	3.89	1.04	3.31	5.36	3.82	3.65	2.40	3.58	6.74	5.33	3.12	4.28	4.39
Scranton, Pa	3.57	1.34	3.05	3.27	4.68	4.48	2.60	4.46	5.00	1.61	7.06	3.05	2.23
Washington, D. C	4.18	1.81	6.20	6.58	7.53	6.25	2.06	3.44	4.80	3.45	4.10	2.80	3.89
Lynchburg, Va	3.89	2.98	2.21	4.16	6.28	5.17	2.91	7.61	5.12	1.85	3.37	2.12	358
Norfolk, Va	4.33	5.70	3.20	6.52	1.98	4.65	3.25	3.48	5.05	1.05	9.78	1.43	6.46
Parkersburg, W. Va	4.65	2.96	2.16	4.84	3.30	3.17	3.39	2.80	5.20	3.63	5.96	5.42	3.25
Charlotte, N. C	4.46	4.21	2.12	5.45	5.55	4.70	2.43	2.43	3.56	1.33	2.74	2.21	7.86
Charleston, S. C	5.39	2.88	4.33	4.52	9.75	1.92	.27	6.33	2.45	.61	3.54	3.58	2.39
Atlanta, Ga	3.88	3.10	2.14	3.82	3.28	1.75	3.31	2.08	3.47	1.56	4.41	3.23	3.14
Thomasville, Ga	4.72	7.90	2.62	4.15	3.55	2.59	6.74	6.38	3.22	3.51	5.36	10.71	7.19
Jacksonville, Fla	5.53	4.55	1.32	1.55	6.15	3.03	3.32	13.79	8.27	2.71	5.88	4.94	4.21
Miami, Fla	7.13	4.07	2.57	12.53	6.36	6.71	6.17	7.26	3.90	1.14	4.50	5.94	4.22
Cincinnati, Ohio	3.98	2.29	2.20	4.47	4.32	2.96	5.97	2.44	2.68	2.35	1.77	3.18	6.75
Cleveland, Ohio	3.68	1.33	2.80	2.03	1.98	3.59	1.83	1.24	5.28	2.38	2.66	1.49	5.73
Evansville, Ind	4.17	1.55	3.99	3.69	4.58	4.20	2.05	6.75	3.77	2.44	2.65	5.09	4.03
Indianapolis, Ind	4.31	2.35	3.65	2.91	5.92	5.24	3.11	3.33	3.78	3.22	.99	2.30	4.04
Chicago, Ill	3.66	1.08	5.53	3.60	7.25	2.87	1.69	3.16	3.94	1.57	.12	1.70	6.60
Peoria, Ill	4.30	2.50	2.45	2.08	2.55	7.43	4.69	3.96	2.18	2.17	.99	2.09	8.08
Grand Rapids, Mich	2.52	1.70	6.13	1.86	6.56	3.44	1.17	1.84	4.09	3.62	3.16	1.67	3.18
Marquette, Mich	3.51	2.76	4.21	5.13	7.26	2.48	2.51	2.01	2.80	1.52	4.50	3.10	1.36
Madison, Wis	4.10	3.73	3.46	1.75	4.52	6.47	1.84	3.35	5.62	3.52	3.17	3.05	4.13
Duluth, Minn	4.53	2.03	6.28	4.06	5.81	1.93	.84	3.77	5.66	4.38	3.97	3.89	3.92
St. Paul, Minn	4.41	3.05	6.49	3.58	3.79	3.79	2.81	4.40	7.76	4.70	4.61	4.28	7.24
Des Moines, Iowa	4.96	3.52	3.89	3.60	2.24	8.16	5.63	7.36	1.25	4.66	1.63	4.95	9.30
Dubuque, Iowa	4.55	1.92	5.81	3.06	4.61	5.12	6.15	6.24	5.24	3.54	1.20	3.66	5.37
St. Louis, Mo	4.47	1.55	.10	9.77	3.97	.62	1.47	5.30	1.53	2.31	.80	4.33	6.80
Springfield, Mo	5.19	2.71	1.48	5.81	5.60	2.69	3.61	4.00	1.43	9.68	.66	6.10	7.61
Bismarck, N. Dak	3.54	2.06	9.90	5.70	1.50	2.15	.59	.03	2.05	.92	3.24	1.99	6.21
Devils Lake, N. Dak	3.53	1.28	7.84	4.53	4.14	1.69	2.00	3.58	4.69	4.70	2.52	1.46	3.44
Pierre, S. Dak	3.08	.32	5.72	4.12	2.33	.84	1.59	2.55	4.12	.54	4.60	5.67	5.19
North Platte, Nebr	3.25	2.13	4.63	3.39	3.09	2.38	2.18	4.15	2.35	1.39	.87	4.15	1.90
Omaha, Nebr	5.05	2.38	7.01	2.83	2.58	6.19	1.80	4.44	2.62	3.57	2.68	6.00	9.08
Concordia, Kans	4.97	2.76	2.73	9.33	4.66	3.17	1.85	6.14	.84	3.25	2.10	7.32	1.87
Dodge City, Kans	3.52	2.02	3.82	2.96	5.16	.91	.26	1.72	2.08	4.48	1.37	2.06	1.23
Iola, Kans	4.73	4.26	3.94	8.56	8.58	.94	2.54	4.21	5.59	8.41	5.63	5.35	3.38
Memphis, Tenn	4.37	.97	.12	1.72	3.19	2.51	3.96	5.64	1.83	2.15	3.31	5.04	3.62
Nashville, Tenn	4.57	.90	2.95	1.42	4.62	8.03	2.70	3.96	3.81	2.29	5.37	4.42	.91
Birmingham, Ala	3.88	2.75	4.49	4.86	2.02	3.44	7.04	3.30	3.65	1.45	3.82	2.10	6.85
Mobile, Ala	5.95	8.88	5.78	7.41	5.42	2.23	2.92	2.12	6.04	3.97	2.03	5.07	9.39
New Orleans, La	6.16	5.58	3.51	5.61	9.70	2.77	2.45	4.50	8.45	9.44	6.45	5.38	4.27
Shreveport, La	3.58	3.23	2.29	3.10	3.08	.49	2.13	5.53	5.23	3.34	3.77	2.48	1.04
Amarillo, Tex	2.99	2.32	.84	1.04	2.18	.83	1.44	2.94	2.56	7.75	3.77	9.76	2.82
Brownsville, Tex	2.37	4.96	.63	T.	.17	.71	1.39	5.08	6.70	4.59	5.55	1.98	7.00
El Paso, Tex	.55	.01	1.47	T.	0	.36	.83	.27	.99	.79	.05	.09	T.
Fort Worth, Tex	2.97	3.03	2.97	6.88	3.30	1.97	5.16	3.72	2.33	2.63	1.76	6.74	1.25
Galveston, Tex	4.75	2.51	.12	.08	3.15	.65	2.79	15.49	6.68	4.97	8.96	3.24	2.51
San Antonio, Tex	3.11	2.90	.01	.03	.48	.02	2.35	7.01	2.83	4.59	3.92	.79	4.66
Oklahoma City, Okla	3.07	3.82	.02	7.23	6.16	1.83	3.09	4.87	2.08	3.80	.30	3.62	3.15
Little Rock, Ark	4.09	2.05	.01	3.72	3.00	3.82	6.77	2.75	4.27	4.67	2.21	1.80	2.89
Havre, Mont	2.82	1.48	4.07	3.35	4.03	1.43	1.45	1.68	3.09	2.00	.82	5.89	5.76
Kalispell, Mont	1.74	3.21	2.51	2.09	3.91	2.76	.58	.55	.95	1.22	.84	1.49	3.24
Cheyenne, Wyo	1.57	1.18	.25	1.34	.37	.34	1.24	.72	.70	2.92	.90	2.32	1.52
Sheridan, Wyo	1.90	3.90	1.65	4.71	2.23	1.02	1.27	.54	1.88	1.94	2.21	2.11	2.01
Pueblo, Colo	1.47	.66	1.90	1.26	1.22	.58	1.02	1.39	.47	7.14	.53	.91	.34
Santa Fe, N. Mex	1.04	4.26	1.72	.16	.38	.06	.68	1.50	2.04	2.85	.74	.24	.31
Phoenix, Ariz	.12	0	.05	.48	0	0	.08	T.	T.	.04	T.	0	T.
Modena, Utah	.40	.44	1.50	.85	.01	T.	.35	.13	.59	.01	.23	.24	0
Salt Lake City, Utah	.77	3.37	2.68	1.44	.66	.19	.20	T.	.15	.08	.83	1.39	.56
Winnemucca, Nev	.64	2.14	.17	.05	0	.35	1.33	0	.51	.82	.15	2.59	T.
Boise, Idaho	.88	1.64	.82	.48	1.68	.34	.58	T.	1.18	.09	.57	2.05	.51
Seattle, Wash	1.49	1.71	1.75	.40	1.82	3.70	.50	.35	1.93	1.29	.03	1.01	.35
Walla Walla, Wash	1.19	2.11	1.12	.40	1.77	.57	.10	.04	1.03	.67	.51	2.89	.67
Portland, Oreg	1.64	4.24	1.52	1.47	1.83	1.17	.12	.91	2.11	1.36	.14	1.19	.68
Roseburg, Oreg	1.07	3.27	1.76	.71	.91	.26	.33	.68	.96	.76	1.01	1.22	.56
Eureka, Calif	1.06	1.60	1.73	.05	1.00	0	.02	.14	1.92	1.30	.14	1.07	.05
Fresno, Calif	.10	.10	.23	0	0	0	.01	0	.03	.01	.12	T.	0
Los Angeles, Calif	.07	.58	.09	T.	0	0	.03	0	T.	.01	T.	.02	0
Sacramento, Calif	.15	.11	.60	0	.01	0	T.	0	.05	.05	T.	.09	0
San Diego, Calif	.03	.09	T.	T.	T.	T.	.06	0	.02	T.	T.	.04	T.
San Francisco, Calif	.17	.02	.29	0	T.	T.	T.	T.	.04	T.	.26	.06	

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for July	July total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me.	4.24	5.01	2.62	8.98	5.60	6.97	8.25	5.82	4.46	5.06	3.54	4.34	3.07
Boston, Mass.	3.36	2.69	2.64	8.85	5.67	1.10	2.64	4.63	1.56	11.69	2.63	3.36	2.04
Buffalo, N. Y.	3.40	1.03	1.30	3.37	2.04	4.46	1.37	1.33	4.50	1.42	2.52	.71	4.10
Canton, N. Y.	3.23	2.13	2.38	5.92	1.01	2.23	3.64	3.10	4.98	2.20	1.86	1.18	2.87
Trenton, N. J.	4.77	1.50	4.75	7.20	5.94	4.24	4.97	10.41	2.16	2.01	2.29	3.18	4.21
Pittsburgh, Pa.	4.42	4.86	1.89	3.37	3.88	2.33	2.22	6.20	3.29	2.81	2.80	6.74	3.10
Scranton, Pa.	3.83	4.97	6.71	2.60	2.29	2.27	2.59	4.81	5.42	4.90	4.48	4.72	3.65
Washington, D. C.	4.65	3.24	2.32	3.21	4.97	9.41	3.79	6.80	5.71	4.79	9.59	4.92	2.76
Lynchburg, Va.	4.03	1.53	4.53	3.05	9.76	2.97	3.75	5.21	4.82	3.56	2.25	2.52	3.74
Norfolk, Va.	5.80	10.24	3.91	5.72	3.05	11.73	3.06	7.21	4.33	3.27	11.92	4.14	4.45
Parkersburg, W. Va.	4.66	4.64	2.13	4.21	4.92	6.17	1.28	3.30	4.56	2.80	3.65	5.52	3.75
Charlotte, N. C.	5.49	4.42	4.83	3.08	16.55	5.85	1.90	7.40	4.11	5.55	5.19	5.89	3.01
Charleston, S. C.	7.26	5.51	7.14	2.98	11.61	9.95	7.69	8.53	4.69	16.61	8.02	7.23	6.59
Atlanta, Ga.	4.73	4.85	3.66	3.22	10.85	1.98	2.47	7.50	5.95	3.88	6.97	2.60	4.82
Thomasville, Ga.	5.32	4.78	6.20	4.68	13.32	9.11	2.46	9.81	3.38	6.71	3.04	10.59	4.51
Jacksonville, Fla.	6.20	6.28	5.13	9.36	3.93	10.36	3.35	6.32	5.47	9.76	3.91	5.14	12.17
Miami, Fla.	6.17	2.98	4.52	6.54	2.49	2.48	4.01	5.90	6.61	3.09	8.16	5.20	8.31
Cincinnati, Ohio	3.54	2.37	5.00	4.93	1.79	4.04	3.05	2.08	3.19	4.28	2.45	2.51	1.29
Cleveland, Ohio	3.55	4.85	1.00	4.73	2.48	3.60	1.08	2.46	3.32	3.52	3.98	2.09	3.10
Evansville, Ind.	3.81	1.35	1.41	2.92	5.46	2.26	1.45	1.32	2.86	2.45	6.39	1.00	2.70
Indianapolis, Ind.	4.13	3.88	.49	7.94	2.44	3.20	2.44	.97	4.51	1.42	2.67	2.43	1.75
Chicago, Ill.	3.04	3.30	2.11	5.57	2.22	2.68	2.66	1.59	1.61	1.87	4.00	2.67	3.66
Peoria, Ill.	2.97	.46	.82	6.91	1.14	1.92	3.46	3.09	1.56	3.95	3.06	1.35	5.59
Grand Rapids, Mich.	2.63	1.96	1.18	4.00	1.07	6.91	1.17	.66	3.60	2.38	4.05	.95	3.37
Marquette, Mich.	3.10	3.71	3.45	1.78	1.74	1.99	2.50	2.47	4.62	4.39	3.49	4.11	1.55
Madison, Wis.	3.99	8.47	1.49	5.04	2.66	3.10	2.33	3.96	1.39	2.46	6.09	2.28	5.01
Duluth, Minn.	3.65	6.18	2.99	1.60	1.19	4.29	1.23	2.62	4.82	5.41	2.30	5.40	5.87
St. Paul, Minn.	3.40	6.11	.95	4.53	.75	4.12	5.05	7.47	1.35	2.39	2.32	2.51	1.73
Des Moines, Iowa	3.86	1.05	1.22	9.39	1.50	1.58	1.18	2.68	5.66	2.49	7.13	.78	.98
Dubuque, Iowa	4.30	2.31	1.57	5.08	.85	2.10	3.77	7.82	1.11	2.48	6.01	1.67	4.11
St. Louis, Mo.	3.43	3.61	1.52	6.02	1.20	3.17	.60	1.50	.73	2.05	2.42	1.83	3.62
Springfield, Mo.	4.79	3.84	3.35	1.82	.74	4.15	1.11	1.96	2.42	.70	6.15	2.67	5.92
Bismarck, N. Dak.	2.14	2.72	2.04	4.02	4.03	1.50	2.09	.76	2.72	2.18	2.77	4.77	1.40
Devils Lake, N. Dak.	3.78	1.47	1.63	1.00	3.70	1.60	2.81	1.76	2.51	4.49	.87	2.07	1.31
Pierre, S. Dak.	2.35	2.12	1.53	6.12	2.50	2.68	2.04	2.80	2.81	4.92	2.84	2.67	1.11
North Platte, Nebr.	2.68	3.37	.58	4.66	.59	1.13	1.88	4.98	1.62	.80	4.91	3.63	1.00
Omaha, Nebr.	4.33	1.92	1.09	7.75	.45	.78	1.76	.63	3.91	4.99	5.60	.86	2.79
Concordia, Kans.	3.62	.15	1.13	5.10	.82	.60	1.77	.03	4.90	5.24	5.82	4.48	3.55
Dodge City, Kans.	3.38	.70	.36	3.92	.09	2.76	2.25	1.83	3.79	2.91	2.86	1.95	3.64
Iola, Kans.	3.92	2.30	3.75	6.07	T.	4.22	2.48	2.21	4.13	4.03	3.99	2.64	7.55
Memphis, Tenn.	3.51	5.91	.58	1.16	1.74	5.96	2.27	1.94	3.55	3.19	3.71	3.65	.99
Nashville, Tenn.	4.35	4.09	2.58	2.03	4.17	3.25	3.63	1.83	3.00	4.56	6.15	2.13	4.36
Birmingham, Ala.	4.70	4.72	3.91	5.72	20.12	3.71	3.34	5.53	4.63	5.79	5.23	6.42	1.69
Mobile, Ala.	7.04	4.41	5.17	5.82	20.50	10.54	2.85	6.94	7.04	4.89	9.57	4.98	4.31
New Orleans, La.	6.47	5.37	9.18	7.55	6.78	8.35	2.03	7.62	6.20	7.90	4.05	8.72	2.56
Shreveport, La.	3.72	.70	.84	2.44	3.09	9.30	T.	.70	4.02	4.29	4.09	3.40	T.
Amarillo, Tex.	3.17	1.80	3.07	4.14	.94	2.68	2.23	1.75	1.85	4.17	1.04	1.85	3.66
Brownsville, Tex.	1.88	.28	T.	.15	4.52	4.52	1.34	6.79	2.18	2.81	1.92	1.53	1.40
El Paso, Tex.	2.13	1.13	4.91	2.45	.59	.41	1.52	1.87	.84	2.13	1.08	.20	3.00
Fort Worth, Tex.	3.04	4.36	.73	.30	1.38	2.65	1.10	5.25	3.49	1.14	1.35	.99	.96
Galveston, Tex.	3.98	1.48	1.29	2.45	4.64	.46	2.24	3.73	3.21	5.77	1.60	5.80	T.
San Antonio, Tex.	2.22	.03	.02	.92	4.53	2.19	1.68	7.88	.39	.48	.10	2.54	.05
Oklahoma City, Okla.	3.65	5.06	.62	1.19	2.87	2.96	.13	.53	4.02	4.43	2.31	.15	3.55
Little Rock, Ark.	3.99	3.74	3.71	.96	.44	4.54	.94	2.36	3.06	1.44	2.39	7.86	1.25
Havre, Mont.	1.92	1.28	.41	3.17	5.90	.45	.75	.12	1.51	2.51	2.70	4.33	.70
Kalispell, Mont.	.84	.38	.69	2.74	1.76	.09	1.47	.88	.98	.62	.81	1.60	.97
Cheyenne, Wyo.	1.99	1.42	1.30	1.71	1.81	1.62	3.90	2.83	2.12	1.37	2.01	3.23	1.12
Sheridan, Wyo.	1.04	1.70	.13	1.44	.83	.17	1.78	.37	1.51	.56	2.11	6.37	1.08
Pueblo, Colo.	1.97	3.12	3.92	1.91	.83	1.32	.93	2.95	1.62	5.26	.29	4.05	.84
Santa Fe, N. Mex.	2.71	1.12	3.98	4.37	2.77	.45	2.42	4.02	1.04	3.87	1.75	2.06	1.53
Phoenix, Ariz.	1.07	.94	.21	1.12	.77	3.97	1.02	1.05	.25	.38	.74	.77	.09
Modena, Utah.	1.26	.81	1.50	1.41	4.72	1.03	.93	1.37	1.82	2.50	1.22	.81	1.09
Salt Lake City, Utah.	.54	.55	1.20	.07	.63	.68	.76	.06	.51	.36	.65	.21	.45
Winnemucca, Nev.	.17	1.55	.19	.05	.01	.06	.27	T.	T.	T.	.36	.24	.31
Boise, Idaho.	.18	2.01	1.04	.63	.81	T.	.11	T.	.05	T.	.19	.68	T.
Seattle, Wash.	.67	.73	.01	.84	1.93	.09	1.38	.22	1.00	.18	0	.68	.51
Walla Walla, Wash.	.39	.04	.12	.65	.72	T.	.96	.09	.13	.38	.04	.33	.90
Portland, Oreg.	.62	.24	.01	1.52	2.55	.01	1.08	.28	1.18	T.	T.	2.17	.08
Roseburg, Oreg.	.32	.61	.01	.64	2.22	.01	.57	.06	.42	0	0	.59	T.
Eureka, Calif.	.11	.28	.01	.26	1.34	0	.22	.01	.13	0	0	.03	.02
Fresno, Calif.	0	.33	T.	0	T.	T.	T.	0	0	0	T.	0	0
Los Angeles, Calif.	0	T.	.01	0	0	T.	.09	0	T.	T.	T.	T.	0
Sacramento, Calif.	0	T.	0	T.	.07	T.	0	T.	0	0	T.	0	T.
San Diego, Calif.	0	.06	0	T.	.02	T.	T.	T.	T.	T.	.01	.01	0
San Francisco, Calif.	.01	.07	.02	.01	.03	T.	T.	.01	T.	0	T.	0	C

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal* [1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Aug.	August total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	3.80	2.80	2.90	6.13	2.95	4.98	1.42	3.77	4.61	5.56	3.41	2.85	2.34
Boston, Mass	4.03	2.86	3.20	5.63	2.19	7.06	1.56	5.07	2.32	1.63	4.75	1.86	6.86
Buffalo, N. Y	2.99	3.26	4.95	6.19	1.46	1.86	3.02	3.04	1.77	1.80	4.62	1.26	2.69
Canton, N. Y	2.69	2.91	4.23	5.66	1.84	4.50	3.18	2.60	1.94	3.91	4.25	2.36	3.10
Trenton, N. J	5.37	3.30	1.63	6.22	1.25	2.11	2.52	4.82	7.08	8.01	5.16	3.32	5.87
Pittsburgh, Pa	3.18	2.81	4.52	2.73	4.73	4.75	4.84	7.15	2.53	3.03	2.35	4.24	3.46
Scranton, Pa	4.25	2.54	2.56	8.17	.67	3.94	4.04	2.30	3.33	2.96	2.56	3.32	3.53
Washington, D. C	4.40	5.42	6.00	7.00	2.83	.77	1.88	3.41	4.70	1.10	3.08	2.19	5.07
Lynchburg, Va	4.25	2.40	2.60	5.45	2.69	3.53	2.91	3.03	6.76	.83	1.18	3.44	4.86
Norfolk, Va	5.97	4.14	1.10	2.46	2.99	4.54	2.48	3.47	3.83	3.13	8.04	4.47	4.27
Parkersburg, W. Va	3.53	2.53	5.05	4.78	2.41	2.18	5.14	4.60	2.65	3.71	7.44	7.38	1.44
Charlotte, N. C	5.55	4.48	2.25	4.59	2.70	4.84	2.18	3.94	8.91	2.78	2.74	2.93	.94
Charleston, S. C	6.97	3.50	4.43	5.40	3.10	5.06	2.87	5.70	7.02	5.70	5.18	12.29	8.28
Atlanta, Ga	4.48	2.53	5.04	4.92	3.61	5.61	4.20	3.80	10.02	8.03	2.72	4.17	3.87
Thomasville, Ga	5.03	4.39	3.96	2.76	1.01	8.95	6.16	8.16	4.96	3.56	2.71	6.89	2.88
Jacksonville, Fla	6.21	3.32	8.47	4.08	6.76	6.65	3.12	6.96	7.46	7.70	7.71	4.67	3.55
Miami, Fla	6.42	5.67	3.77	1.37	10.10	4.32	1.43	3.73	4.12	3.14	7.97	6.34	3.40
Cincinnati, Ohio	3.33	1.27	4.28	4.13	3.57	1.70	4.53	.92	6.10	6.02	5.60	3.72	3.03
Cleveland, Ohio	3.15	2.26	3.93	1.47	1.36	4.65	2.47	7.19	2.33	3.32	1.20	3.97	.96
Evansville, Ind	3.24	1.74	3.59	7.83	4.31	1.92	3.03	2.49	6.31	5.26	3.08	3.09	.92
Indianapolis, Ind	3.33	4.98	5.58	5.25	2.47	1.48	2.24	3.43	1.85	7.26	2.45	4.83	4.77
Chicago, Ill	2.88	4.06	3.76	4.33	1.05	1.24	1.27	1.10	3.16	4.92	1.45	7.76	8.12
Peoria, Ill	2.93	2.87	2.40	4.78	6.03	3.36	5.88	4.73	1.87	3.86	.72	2.84	7.15
Grand Rapids, Mich	2.59	.97	3.49	2.87	4.41	.46	.84	1.67	.76	6.15	2.96	2.07	2.51
Marquette, Mich	2.86	.73	2.12	5.43	.99	3.28	3.20	1.60	3.50	3.48	2.02	1.08	4.46
Madison, Wis	3.21	1.59	3.60	4.39	4.24	2.72	2.03	.89	2.61	3.97	1.33	5.59	7.23
Duluth, Minn	3.53	1.26	4.20	1.56	3.37	2.04	2.32	2.99	1.44	2.84	2.01	1.76	4.40
St. Paul, Minn	3.46	1.59	4.48	3.98	1.60	2.82	5.19	2.22	.96	2.79	1.31	1.92	6.51
Des Moines, Iowa	3.61	3.44	1.77	1.71	2.62	1.82	2.54	2.19	2.11	6.63	6.63	5.34	4.15
Dubuque, Iowa	3.04	3.60	4.01	2.84	1.49	2.11	6.09	1.58	3.44	4.29	1.99	4.77	7.05
St. Louis, Mo	2.66	1.59	5.42	11.43	10.69	1.99	5.26	3.03	4.16	2.75	1.79	6.19	3.96
Springfield, Mo	4.31	.68	4.70	10.81	4.45	4.26	3.12	.53	6.31	7.59	2.47	.78	5.97
Bismarck, N. Dak	1.98	.77	2.02	3.44	1.97	1.37	2.62	1.46	.59	.18	.22	.63	1.91
Devils Lake, N. Dak	2.76	3.93	2.06	.90	3.16	1.12	2.25	2.28	2.21	5.63	1.72	2.25	2.39
Pierre, S. Dak	2.01	1.37	2.19	.55	4.65	1.93	2.30	2.24	2.07	1.59	2.03	3.76	2.74
North Platte, Nebr	2.46	.98	3.45	4.23	2.35	1.96	1.73	.76	4.73	2.57	2.26	4.70	.96
Omaha, Nebr	3.62	.18	2.24	3.06	2.74	3.65	1.14	2.91	2.78	2.07	1.01	4.24	1.67
Concordia, Kans	2.81	.30	2.11	1.99	1.21	2.63	3.10	1.00	5.15	1.93	.88	2.75	2.38
Dodge City, Kans	2.59	.72	1.23	6.16	2.25	4.46	.84	1.23	2.43	2.65	3.19	1.46	3.23
Iola, Kans	3.47	.15	2.74	5.05	2.43	3.91	1.50	2.22	7.55	5.79	3.65	3.39	6.49
Memphis, Tenn	3.20	3.09	7.31	10.60	2.98	2.55	2.56	.82	2.32	5.84	.76	5.06	.67
Nashville, Tenn	3.47	.85	8.64	6.03	4.27	3.02	3.05	6.80	6.85	2.85	3.83	9.60	2.59
Birmingham, Ala	4.48	1.01	6.38	4.40	3.51	8.98	.98	5.33	9.09	3.97	2.95	6.90	.61
Mobile, Ala	6.81	5.61	9.78	7.69	5.46	6.42	14.16	6.04	7.78	8.37	5.13	4.46	3.21
New Orleans, La	5.61	5.29	8.47	7.22	4.89	6.92	6.19	7.38	4.18	3.09	5.71	7.60	2.26
Shreveport, La	2.24	1.89	4.00	8.60	.55	5.55	2.23	3.85	2.82	.64	2.04	2.03	1.66
Amarillo, Tex	2.81	.61	2.97	5.85	3.82	6.17	2.36	3.21	5.52	5.77	.78	1.54	3.57
Brownsville, Tex	2.59	1.04	.68	2.58	5.58	.29	.40	.25	0	.14	2.43	1.34	.28
El Paso, Tex	1.72	.54	1.85	1.37	3.07	4.39	1.66	.72	1.33	.35	.27	2.96	2.58
Fort Worth, Tex	1.87	T.	9.02	10.33	3.84	1.92	.29	5.00	4.22	.95	.52	1.68	3.77
Galveston, Tex	5.01	3.88	8.17	19.08	4.14	2.71	3.04	2.17	2.65	1.42	2.53	4.61	.49
San Antonio, Tex	2.69	1.29	7.80	3.90	5.07	.10	2.61	2.14	2.26	.45	.27	2.94	T.
Oklahoma City, Okla	3.17	.57	2.76	5.26	.68	4.50	1.91	2.28	4.86	.85	.19	3.57	3.10
Little Rock, Ark	3.65	2.40	4.77	10.33	3.59	4.38	1.42	3.45	3.33	7.08	.83	2.55	1.74
Havre, Mont	1.26	.74	2.43	.94	.34	.43	2.61	.76	.81	.27	1.70	1.47	1.39
Kalispell, Mont	.89	.61	1.31	.22	1.96	.32	.96	1.06	2.61	.56	.76	.96	.74
Cheyenne, Wyo	1.47	1.43	1.67	3.98	1.26	1.75	1.68	.43	1.32	.61	2.16	2.06	.23
Sheridan, Wyo	.73	.20	.65	.89	.13	.83	.93	.18	.68	.24	1.65	1.44	.35
Pueblo, Colo	1.57	.87	2.18	3.27	3.12	1.74	.57	2.23	1.89	2.24	.69	4.65	.15
Santa Fe, N. Mex	2.36	1.07	2.51	1.02	1.67	1.37	.82	2.06	1.98	3.71	1.85	2.33	.71
Phoenix, Ariz	.96	.32	.30	.25	.30	.11	3.47	2.40	.75	1.62	.57	.65	.14
Modena, Utah	1.33	1.07	.73	.46	1.97	.26	1.26	.50	.81	2.44	2.41	2.13	.31
Salt Lake City, Utah	.78	.47	.24	T.	.60	.71	.61	.50	1.31	.82	1.85	2.41	.39
Winnemucca, Nev	.17	.80	T.	.08	.11	.57	.37	T.	.76	.16	.91	.25	.01
Boise, Idaho	.16	.03	.04	T.	.45	T.	.48	T.	.33	.34	1.13	.20	.12
Seattle, Wash	.51	.45	.01	.05	.11	.03	1.12	.08	1.15	1.61	1.17	1.98	.70
Walla Walla, Wash	.45	.30	T.	T.	.17	T.	.99	.06	1.87	.57	1.25	.57	1.25
Portland, Oreg	.63	.76	.01	.01	.27	T.	.31	.10	1.25	.30	2.06	.26	.62
Roseburg, Oreg	.33	.19	T.	.03	.36	T.	1.05	.02	.22	.04	.32	.30	.76
Eureka, Calif	.10	.03	T.	0	.12	.02	.21	.01	.49	.01	.03	.02	1.03
Fresno, Calif	0	T.	T.	0	.08	T.	0	0	.15	0	T.	0	T.
Los Angeles, Calif	0	T.	0	0	T.	T.	.03	T.	0	T.	0	T.	0
Sacramento, Calif	.01	.01	0	.01	T.	T.	T.	T.	T.	0	T.	T.	T.
San Diego, Calif	0	.02	0	0	.01	T.	.11	.01	.01	T.	T.	T.	T.
San Francisco, Calif	0	.01	0	0	.29	T.	0	T.	0	0	T.	.01	.01

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal[1] and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Sept.	September total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	4.17	4.30	2.68	3.74	4.23	1.80	6.52	3.71	5.60	3.53	1.89	2.11	7.39
Boston, Mass	3.19	2.51	.21	.69	1.90	1.91	9.19	5.83	1.90	1.22	3.65	.38	6.90
Buffalo, N. Y	3.18	1.35	2.31	1.35	1.38	2.29	3.79	1.47	2.03	1.90	1.25	1.86	6.48
Canton, N. Y	2.81	2.26	1.73	1.32	3.42	2.02	6.05	4.69	5.11	3.52	.96	2.10	5.61
Trenton, N. J	3.59	4.66	.41	.62	2.51	3.89	3.20	2.74	2.23	1.69	1.75	4.19	5.94
Pittsburgh, Pa	2.48	2.86	.69	1.71	1.63	1.90	2.22	1.64	3.48	5.07	1.54	1.62	5.39
Scranton, Pa	2.86	3.87	1.05	2.91	4.35	.91	4.59	2.21	4.94	4.38	1.18	4.38	7.35
Washington, D. C	3.59	2.41	.66	1.39	2.57	1.34	2.79	1.77	2.87	3.29	6.27	3.15	7.86
Lynchburg, Va	3.63	2.44	.67	3.26	2.55	1.96	2.61	.47	4.51	1.71	1.42	2.84	4.69
Norfolk, Va	4.06	5.23	2.97	1.76	3.53	5.26	3.12	.70	3.11	2.43	.53	3.23	6.59
Parkersburg, W. Va	2.72	2.96	.62	4.19	3.18	1.41	2.53	.98	3.69	4.47	3.73	2.92	5.28
Charlotte, N. C	3.22	2.45	2.02	2.37	.88	3.29	5.83	.84	3.53	2.55	1.23	2.32	10.84
Charleston, S. C	5.46	7.26	4.69	2.07	2.76	2.34	3.10	1.76	8.30	5.19	1.13	2.11	11.85
Atlanta, Ga	3.53	2.40	2.48	3.53	2.84	6.44	3.57	1.12	3.36	1.31	1.16	.54	6.01
Thomasville, Ga	4.25	2.30	7.58	4.41	3.29	2.15	3.44	.34	6.07	1.60	3.42	2.32	18.83
Jacksonville, Fla	8.03	3.74	6.39	8.41	5.25	3.47	6.17	5.62	7.14	1.73	6.70	4.89	8.88
Miami, Fla	8.72	6.46	6.68	5.47	4.81	18.55	10.06	3.72	6.94	2.81	11.04	6.21	7.41
Cincinnati, Ohio	2.31	1.86	.90	5.65	3.29	2.97	2.70	3.79	2.98	3.00	2.93	1.40	2.07
Cleveland, Ohio	3.22	2.10	1.16	4.23	2.84	2.74	3.78	1.79	1.85	2.77	1.60	3.32	6.08
Evansville, Ind	2.66	4.31	5.06	2.98	2.57	3.35	3.33	3.59	3.36	3.87	2.16	1.84	5.90
Indianapolis, Ind	3.05	3.03	2.15	4.17	2.26	2.93	5.14	1.86	2.37	7.54	1.52	3.91	2.80
Chicago, Ill	3.02	1.49	1.56	3.53	2.24	2.15	1.84	3.85	3.35	5.72	4.37	2.50	3.14
Peoria, Ill	3.12	2.58	5.55	4.88	3.73	3.14	1.67	3.48	1.84	4.86	2.71	5.28	3.74
Grand Rapids, Mich	3.12	2.25	2.34	8.11	2.43	3.59	2.01	3.86	3.68	4.33	5.04	5.77	3.48
Marquette, Mich	3.51	3.76	1.28	3.68	5.74	2.10	5.49	2.49	1.94	4.30	3.26	1.63	2.42
Madison, Wis	3.18	4.32	3.49	10.69	5.75	2.98	1.52	6.83	1.12	7.90	2.34	4.36	2.87
Duluth, Minn	3.55	3.32	2.55	2.28	4.25	2.15	1.49	1.42	1.31	3.09	2.23	2.61	3.95
St. Paul, Minn	3.42	3.34	2.16	2.92	1.81	2.00	1.49	1.25	1.36	5.21	1.82	1.10	5.05
Des Moines, Iowa	3.07	2.65	14.81	4.51	1.72	1.99	.91	7.47	4.44	7.16	3.00	5.17	3.47
Dubuque, Iowa	3.59	3.59	4.75	9.62	6.19	2.40	1.63	5.35	1.46	8.35	3.40	5.04	2.44
St. Louis, Mo	2.91	4.50	6.68	1.41	2.69	3.50	5.09	6.13	4.79	5.60	2.49	3.51	1.97
Springfield, Mo	3.76	3.85	3.59	3.06	1.19	3.74	4.82	1.62	4.42	3.90	.95	3.82	4.12
Bismarck, N. Dak	1.19	2.29	1.10	1.68	.70	1.75	.47	.34	1.20	1.37	1.93	2.83	1.60
Devils Lake, N. Dak	1.30	2.17	1.57	3.11	.89	.83	.48	.95	5.34	3.58	3.30	1.63	4.54
Pierre, S. Dak	1.11	.56	.79	2.18	1.06	1.83	.64	1.59	.98	3.21	.19	1.21	1.98
North Platte, Nebr	1.50	.90	.17	1.81	.70	2.68	.38	1.56	.83	1.00	1.00	.88	1.66
Omaha, Nebr	3.03	3.62	3.56	2.17	1.76	.91	1.03	5.28	1.03	5.35	1.29	9.32	4.56
Concordia, Kans	2.58	3.03	4.61	3.47	2.70	.56	1.72	3.03	.30	1.36	1.35	2.94	.86
Dodge City, Kans	1.77	5.40	.55	3.79	1.15	.36	2.20	1.01	3.34	1.53	1.84	2.50	1.62
Iola, Kans	5.35	3.12	5.19	13.22	5.56	1.85	3.51	1.02	4.18	7.10	4.33	4.23	6.14
Memphis, Tenn	3.05	6.01	3.92	.55	1.07	1.88	4.95	1.34	10.82	1.58	1.41	5.47	5.19
Nashville, Tenn	3.68	1.79	1.46	4.63	1.92	1.51	3.75	1.33	4.15	3.72	5.23	1.44	2.64
Birmingham, Ala	3.50	7.41	3.95	6.54	2.63	6.01	7.73	1.09	4.12	4.20	1.54	1.50	2.50
Mobile, Ala	5.02	15.50	7.96	4.08	6.68	6.90	5.17	1.10	7.81	3.74	3.19	.47	1.89
New Orleans, La	4.81	11.84	5.05	10.83	3.13	2.69	4.82	2.93	6.47	3.94	.93	2.63	2.59
Shreveport, La	5.22	16.46	.15	1.75	1.46	2.56	.36	2.16	1.10	.56	1.36	9.03	1.06
Amarillo, Tex	2.36	4.19	1.07	4.69	1.76	2.05	.64	4.58	3.04	.76	1.41	6.42	1.13
Brownsville, Tex	5.42	14.38	.86	2.54	3.21	1.03	.97	7.69	.34	3.82	12.61	4.55	7.29
El Paso, Tex	1.45	.60	.56	2.68	.55	.76	.01	3.30	.31	2.49	1.07	.41	.14
Fort Worth, Tex	2.95	7.29	1.61	1.02	.73	2.41	2.09	4.12	2.76	.11	.41	2.06	3.78
Galveston, Tex	5.41	18.68	5.20	2.12	4.24	3.60	2.03	5.29	2.86	8.37	8.89	9.91	.04
San Antonio, Tex	2.94	7.21	2.24	2.39	3.78	1.39	1.49	7.61	.15	8.27	.97	2.98	2.52
Oklahoma City, Okla	2.75	4.80	1.70	3.62	2.54	1.55	4.28	1.03	3.60	3.79	.90	10.28	2.65
Little Rock, Ark	3.28	9.25	4.93	1.16	1.95	.27	4.63	2.78	2.88	2.18	.93	3.93	5.44
Havre, Mont	1.03	.82	1.37	2.05	1.42	4.58	.98	.79	.84	1.50	.68	.50	.64
Kalispell, Mont	1.33	.31	1.21	2.04	1.63	.83	1.59	.50	.70	.79	.52	.24	.99
Cheyenne, Wyo	.94	2.82	.41	2.10	1.00	.56	2.57	1.76	2.31	.02	.36	2.78	2.36
Sheridan, Wyo	1.34	2.04	.80	3.75	.56	.39	2.68	1.10	.16	.51	.98	8.18	1.08
Pueblo, Colo	.62	.79	.32	1.42	T.	3.25	1.43	2.04	1.33	.25	.09	1.36	.19
Santa Fe, N. Mex	1.64	1.54	.59	1.62	1.45	.64	.76	2.53	.77	.18	1.07	1.10	.62
Phoenix, Ariz	1.01	.13	T.	.10	1.66	.55	.39	1.93	.10	.33	.13	.97	.12
Modena, Utah	1.12	.98	.49	1.44	.71	.79	1.22	3.29	.22	.23	.04	.46	.13
Salt Lake City, Utah	.85	.93	.17	1.60	.50	1.16	2.10	1.76	1.56	.44	.01	1.41	.25
Winnemucca, Nev	.34	.51	.48	.94	.26	T.	1.53	.40	.40	01	0	1.16	.13
Boise, Idaho	.41	.65	.25	.26	.05	1.39	2.32	.79	.64	.61	.01	.55	.24
Seattle, Wash	1.77	2.37	1.42	.65	.70	1.29	.06	2.08	2.34	1.84	1.19	1.37	2.66
Walla Walla, Wash	.93	1.29	1.52	.70	.15	1.31	.32	1.26	1.99	.79	.41	.21	.89
Portland, Oreg	1.84	2.58	3.19	.53	.71	1.96	.66	3.18	4.15	3.08	1.99	.59	1.93
Roseburg, Oreg	1.04	1.44	2.80	.57	.59	.73	.59	3.36	2.27	1.45	1.56	1.93	1.33
Eureka, Calif	1.11	.48	1.82	.11	.96	.66	1.42	1.52	2.47	.27	.37	1.54	.41
Fresno, Calif	.27	T.	.22	T.	.38	T.	.53	.29	T.	.21	0	.25	0
Los Angeles, Calif	.06	.03	0	T.	.77	T.	.55	1.29	.04	.62	0	.55	T.
Sacramento, Calif	.39	T.	T.	T.	.16	.51	3.58	.53	.91	T.	0	.59	T.
San Diego, Calif	.06	.02	T.	T.	.25	T.	.08	.26	.08	1.24	0	.02	0
San Francisco, Calif	.29	0	T.	0	1.20	.02	2.53	.20	.13	.35	T.	.44	T.

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Oct.	October total precipitation										
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me	3.36	7.64	3.07	1.83	2.87	6.40	5.28	4.13	3.22	4.82	3.14	3.45	1.33
Boston, Mass	3.86	6.04	1.54	2.82	.94	5.33	.99	2.13	1.64	1.24	1.97	3.37	.06
Buffalo, N. Y	3.53	3.65	1.80	2.11	2.33	6.90	1.95	5.32	1.77	2.86	2.70	1.66	.08
Canton, N. Y	3.34	5.87	1.82	2.55	2.22	5.64	5.21	3.81	1.68	4.90	2.61	3.42	.65
Trenton, N. J	3.41	6.29	1.74	1.99	.96	5.30	.74	3.09	.92	.34	.81	2.35	.20
Pittsburgh, Pa	2.36	4.26	3.07	2.84	2.31	5.27	3.08	5.37	1.48	2.25	1.62	1.05	.12
Scranton, Pa	2.91	3.99	1.05	1.13	.91	6.07	3.25	3.94	2.02	2.78	3.56	2.42	.08
Washington, D. C	3.09	3.37	1.05	3.72	1.76	4.81	.80	3.64	.40	1.35	1.41	1.36	.44
Lynchburg, Va	3.38	3.30	4.42	3.21	2.22	2.24	.95	2.65	.10	2.45	4.19	1.50	2.48
Norfolk, Va	3.91	2.63	2.39	2.20	2.62	2.80	.79	2.27	.94	1.28	2.75	1.70	.11
Parkersburg, W. Va	2.44	2.55	2.91	2.64	2.53	4.77	3.19	5.37	1.40	1.97	2.73	.82	.25
Charlotte, N. C	3.15	2.29	3.11	2.97	2.64	1.95	3.60	4.46	.10	1.76	5.32	1.13	.45
Charleston, S. C	3.93	6.65	4.14	4.27	4.37	.32	1.66	.28	.06	1.70	5.72	2.69	1.66
Atlanta, Ga	2.34	2.34	6.14	6.45	2.11	1.60	4.01	5.04	.54	2.85	3.48	1.59	.90
Thomasville, Ga	3.46	3.32	2.17	9.63	4.88	.35	1.65	.43	1.23	1.68	4.75	1.38	2.05
Jacksonville, Fla	5.06	7.35	2.34	5.45	4.77	.38	3.97	1.81	.11	6.37	8.84	4.75	6.08
Miami, Fla	8.96	4.51	6.92	11.65	6.03	2.11	4.82	5.73	5.04	18.20	15.85	2.77	25.02
Cincinnati, Ohio	2.32	2.71	3.59	2.36	1.81	2.79	2.68	9.51	1.76	2.72	1.23	.92	.17
Cleveland, Ohio	2.73	3.96	2.39	1.77	2.19	5.09	2.11	3.17	2.57	2.91	1.58	1.72	.08
Evansville, Ind	3.10	2.69	2.75	1.33	2.05	3.05	2.49	8.40	1.65	2.03	2.12	3.78	.15
Indianapolis, Ind	2.79	2.73	1.67	1.72	1.47	3.96	2.75	8.98	1.96	1.70	1.78	3.29	.79
Chicago, Ill	2.55	2.25	2.89	.40	3.86	3.96	2.94	6.41	1.57	3.26	3.30	4.57	.84
Peoria, Ill	2.57	3.11	2.15	.55	2.93	2.23	2.97	2.12	1.93	2.97	2.62	3.85	1.27
Grand Rapids, Mich	2.54	2.92	2.72	.60	3.73	4.57	3.59	3.91	1.82	3.61	2.87	3.30	.23
Marquette, Mich	3.19	3.20	1.03	2.67	4.80	2.96	3.91	3.26	1.82	1.29	1.74	2.70	.34
Madison, Wis	2.42	2.58	3.09	.48	2.97	3.08	3.13	5.95	1.90	3.79	.67	2.12	.22
Duluth, Minn	2.74	3.35	1.14	3.08	1.13	2.83	2.18	2.71	4.10	.70	.56	.46	1.03
St. Paul, Minn	2.34	2.03	1.88	1.59	1.26	1.68	2.61	1.91	1.85	.48	1.08	2.00	.76
Des Moines, Iowa	2.68	2.67	3.57	.43	2.11	.92	3.81	2.20	1.89	1.51	3.41	1.10	.77
Dubuque, Iowa	2.68	2.92	2.88	2.03	3.32	1.87	2.85	6.22	2.18	3.43	.72	1.07	.43
St. Louis, Mo	2.41	4.08	7.45	.90	1.64	1.87	3.63	8.52	2.36	1.45	1.74	3.74	.30
Springfield, Mo	2.80	3.57	2.84	2.56	1.24	.31	2.72	11.94	4.09	2.55	1.60	4.79	.85
Bismarck, N. Dak	1.03	1.13	.79	1.52	.18	.21	.28	.98	.26	1.58	.63	1.03	2.02
Devils Lake, N. Dak	1.23	1.40	1.15	.45	.67	1.32	.55	.65	.25	1.31	.52	1.25	2.08
Pierre, S. Dak	.81	.53	1.95	1.20	.67	.02	.41	2.19	1.25	1.28	.44	.30	1.38
North Platte, Nebr	1.15	.14	.92	1.07	.81	.32	1.43	1.36	1.29	.02	.14	1.77	.95
Omaha, Nebr	2.35	1.06	3.70	.80	1.17	.55	4.65	2.79	2.87	1.52	1.45	.71	.51
Concordia, Kans	2.00	1.19	2.49	3.40	1.06	.30	4.49	1.05	1.61	.72	1.14	1.75	.48
Dodge City, Kans	1.40	.30	.43	.81	.79	.07	1.67	1.01	3.58	.23	.45	3.82	1.68
Iola, Kans	2.27	3.70	4.65	1.00	1.67	.87	5.08	5.33	4.09	.88	1.30	7.12	2.44
Memphis, Tenn	2.74	3.53	1.81	3.02	2.28	1.72	2.57	10.13	2.68	1.40	.89	2.74	.00
Nashville, Tenn	2.48	2.93	2.80	.42	2.67	2.25	3.94	8.35	2.75	2.93	.75	1.23	.03
Birmingham, Ala	2.34	1.55	2.52	3.57	.88	1.83	10.84	2.31	.54	1.94	1.81	1.60	0
Mobile, Ala	3.18	1.79	.75	4.53	2.52	.70	10.57	8.53	4.66	1.42	4.61	5.04	.31
New Orleans, La	2.93	5.55	2.63	12.07	8.51	.71	11.07	4.21	3.59	1.85	3.25	2.25	T.
Shreveport, La	3.18	2.95	.32	1.95	2.17	2.13	4.25	11.75	2.89	.03	.15	2.43	T.
Amarillo, Tex	1.71	.81	4.46	1.55	2.90	.34	2.47	.67	1.87	.28	.23	7.34	.86
Brownsville, Tex	3.22	1.76	2.58	.82	2.23	T.	3.37	4.52	3.56	1.90	.74	5.45	5.12
El Paso, Tex	.95	T.	.80	.18	1.07	T.	1.03	.97	.37	.11	.35	.58	.24
Fort Worth, Tex	2.51	2.28	.28	2.58	1.89	.17	3.31	9.14	6.52	.31	2.33	6.65	T.
Galveston, Tex	4.18	15.37	2.85	2.81	.99	1.49	2.78	8.30	7.92	3.84	4.78	3.11	.03
San Antonio, Tex	1.49	8.86	5.78	1.11	2.57	.48	4.05	8.66	2.85	1.02	3.55	1.39	.52
Oklahoma City, Okla	1.81	2.62	1.59	2.84	1.73	.62	5.31	8.12	7.38	.18	4.30	9.64	.38
Little Rock, Ark	2.55	4.78	1.47	2.19	2.92	2.68	4.14	15.29	3.23	.14	.77	1.09	.06
Havre, Mont	.50	.88	2.82	.42	1.01	.38	1.05	.75	1.25	.16	.09	.71	.40
Kalispell, Mont	1.17	1.29	3.40	.34	.62	.54	.91	1.05	1.25	1.15	1.05	.55	.32
Cheyenne, Wyo	.72	1.43	1.29	1.11	1.95	.39	.68	1.67	.96	.06	.23	2.83	2.25
Sheridan, Wyo	1.02	2.05	.65	.43	2.85	1.77	.51	2.87	1.19	.24	1.35	1.72	2.07
Pueblo, Colo	.70	.17	1.66	.41	.71	.51	.14	.30	.91	1.21	.19	2.75	.51
Santa Fe, N. Mex	1.07	.42	2.40	.04	2.76	.19	2.73	1.82	1.42	.98	.24	2.43	.30
Phoenix, Ariz	.35	.01	2.30	T.	.65	T.	.52	.25	.46	.11	T.	.22	.30
Modena, Utah	.82	.26	.30	.07	2.18	0	.09	.63	2.40	1.97	.37	.10	.42
Salt Lake City, Utah	1.40	1.31	2.61	.01	2.45	.06	1.13	2.52	3.57	1.29	.66	2.18	1.87
Winnemucca, Nev	.52	.51	.63	.05	1.42	T.	.45	.68	.52	.05	.31	1.65	.46
Boise, Idaho	1.26	1.67	1.20	.21	.84	T.	1.98	1.41	2.34	.16	.52	2.73	1.50
Seattle, Wash	2.67	2.06	4.37	3.09	1.18	.16	3.46	1.59	4.19	3.91	2.37	2.06	5.08
Walla Walla, Wash	1.47	2.44	1.99	.99	.38	.01	1.53	1.06	1.65	1.20	.89	3.11	1.35
Portland, Oreg	3.28	3.62	3.47	1.06	1.26	.08	4.47	1.43	3.71	2.78	4.70	1.61	5.50
Roseburg, Oreg	2.61	1.76	3.56	.94	.43	.02	1.18	2.28	3.78	2.13	3.50	3.40	10.46
Eureka, Calif	2.65	.58	3.79	.79	.47	0	1.66	.24	4.11	1.59	3.98	2.55	6.84
Fresno, Calif	.72	T.	.26	0	1.16	0	.11	.29	.84	T.	.52	.37	.04
Los Angeles, Calif	.77	T.	.31	0	2.71	0	T.	.56	.76	.59	.24	.04	.09
Sacramento, Calif	1.04	.13	.82	T.	.79	T.	.46	.01	1.29	.80	.72	.58	2.19
San Diego, Calif	.46	T.	1.05	0	.87	.17	.42	1.04	.18	.67	.09	.37	.25
San Francisco, Calif	1.29	.35	.29	.01	.52	0	.17	.27	1.88	.52	2.95	.95	2.98

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal*[1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Nov.	November total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Me.	3.03	2.98	2.10	2.56	4.17	1.26	3.77	3.58	3.75	5.69	1.97	3.39	4.47
Boston, Mass.	4.10	2.15	2.72	2.14	1.67	.59	1.20	5.36	5.46	6.19	.84	2.78	1.93
Buffalo, N. Y.	3.35	2.43	1.81	1.86	1.53	1.17	1.43	1.38	4.30	3.77	1.08	2.74	3.90
Canton, N. Y.	3.41	2.72	2.31	1.25	1.63	1.74	2.34	1.13	4.45	2.67	1.66	3.84	2.94
Trenton, N. J.	3.43	2.48	1.62	.96	1.31	1.02	1.85	3.10	2.14	2.83	.62	2.09	1.58
Pittsburgh, Pa.	2.55	2.66	1.35	2.37	1.86	.28	1.79	3.82	2.57	5.06	1.31	2.39	1.39
Scranton, Pa.	2.29	2.83	1.12	1.37	2.01	.89	1.04	2.76	2.97	5.03	.76	2.20	1.63
Washington, D. C.	2.71	2.20	2.06	.93	2.11	.53	1.48	2.32	4.51	4.15	.55	2.04	1.47
Lynchburg, Va.	2.79	3.32	2.31	1.66	1.52	.25	1.26	2.48	7.14	1.65	.19	1.98	1.45
Norfolk, Va.	2.72	1.30	2.62	.87	1.34	.59	.77	.20	3.64	1.70	.44	1.95	2.00
Parkersburg, W. Va.	2.83	4.62	.80	3.32	1.84	.60	1.85	4.76	1.82	5.56	.97	2.97	1.67
Charlotte, N. C.	2.86	3.22	2.45	1.96	.36	.75	3.23	1.02	4.95	4.02	.92	3.09	1.37
Charleston, S. C.	2.87	1.19	2.34	1.65	1.11	.31	2.34	.23	3.07	1.82	.10	1.79	.72
Atlanta, Ga.	3.40	.54	4.89	1.53	2.63	1.51	3.68	2.92	3.33	6.47	1.42	3.55	.64
Thomasville, Ga.	2.64	.51	1.89	1.67	1.87	.61	5.38	3.40	3.69	3.11	1.10	2.87	.32
Jacksonville, Fla.	2.19	.32	3.87	1.07	2.76	.23	3.26	1.06	5.38	2.27	.58	.06	.38
Miami, Fla.	2.84	4.39	7.06	2.54	1.85	.24	.60	3.48	3.73	.50	5.44	.27	1.06
Cincinnati, Ohio	3.21	4.26	1.20	2.34	1.85	.31	1.65	3.65	2.92	5.67	1.88	2.28	1.05
Cleveland, Ohio	2.75	3.98	1.34	1.84	2.35	1.37	1.77	1.31	2.25	3.93	1.37	2.64	.91
Evansville, Ind.	4.11	4.87	.65	3.40	1.11	2.19	.98	3.73	1.38	9.24	1.64	3.54	1.04
Indianapolis, Ind.	3.52	6.20	1.45	3.05	1.73	.12	1.73	3.27	2.12	8.91	2.32	2.04	1.75
Chicago, Ill.	2.50	1.47	.33	2.03	2.11	.56	2.65	2.38	.92	3.51	2.66	1.46	.86
Peoria, Ill.	2.64	2.77	.20	2.29	1.88	.07	3.18	2.91	1.22	3.43	3.67	1.37	.52
Grand Rapids, Mich.	2.53	2.86	1.47	1.52	2.12	1.21	2.63	2.30	1.54	3.64	2.39	1.09	1.60
Marquette, Mich.	2.79	1.33	2.43	3.79	2.48	1.66	5.29	4.18	2.96	1.97	2.84	1.22	2.02
Madison, Wis.	1.80	1.73	.70	3.12	1.69	.30	1.17	2.25	1.83	1.55	3.14	.68	2.59
Duluth, Minn.	1.58	.74	1.15	3.27	.09	.09	1.94	3.86	1.40	.70	3.57	.63	.47
St. Paul, Minn.	1.30	.56	.48	2.64	.92	.06	3.45	2.59	1.08	1.58	3.70	.35	.75
Des Moines, Iowa.	1.48	1.03	.35	1.24	1.46	.21	2.10	3.84	1.63	.35	2.54	.55	.53
Dubuque, Iowa.	1.81	1.23	.21	1.65	1.17	.07	1.10	3.59	2.01	.91	4.41	1.19	.56
St. Louis, Mo.	2.88	3.12	1.53	1.97	2.53	.78	2.73	2.08	.56	4.43	2.36	1.90	1.53
Springfield, Mo.	2.64	1.59	.71	2.66	2.88	2.61	3.90	4.49	.64	2.46	4.14	3.47	1.71
Bismarck, N. Dak.	.68	.16	.42	.57	.13	.04	.51	.92	.39	.84	1.51	.29	.05
Devils Lake, N. Dak.	.71	.17	.57	.60	.12	.32	1.80	1.01	.76	.43	2.38	.47	.38
Pierre, S. Dak.	.43	.11	T.	.84	.08	T.	.45	1.27	.71	.49	3.16	.20	.44
North Platte, Nebr.	.40	.14	T.	.22	.47	.71	.29	2.83	.04	.04	2.35	.45	.08
Omaha, Nebr.	1.06	1.15	.03	1.51	.73	.12	2.89	2.84	1.47	.09	2.55	.27	.36
Concordia, Kans.	.94	1.90	T.	.99	.77	.07	1.24	1.71	1.47	.08	2.05	.61	.38
Dodge City, Kans.	.55	2.14	T.	.08	.03	.58	.37	1.11	1.13	T.	.95	.53	.34
Iola, Kans.	1.38	1.67	.43	.31	3.03	.05	2.89	2.12	1.35	.13	3.01	1.59	2.24
Memphis, Tenn.	4.59	1.64	2.05	7.05	.86	1.14	2.75	7.75	1.32	4.59	3.50	3.08	2.94
Nashville, Tenn.	3.85	1.84	2.13	6.75	1.00	.85	1.36	7.89	2.60	5.68	1.80	2.87	1.25
Birmingham, Ala.	3.39	3.24	2.28	3.54	2.61	1.55	5.25	4.01	2.45	2.14	2.59	5.50	.01
Mobile, Ala.	3.74	3.75	10.23	3.32	2.61	1.43	7.14	4.58	1.68	3.79	3.98	4.33	.06
New Orleans, La.	3.79	2.67	4.65	2.29	.88	.34	4.46	7.29	3.03	3.83	3.38	4.94	.23
Shreveport, La.	4.08	2.22	3.61	4.14	2.54	1.14	4.13	4.68	2.15	1.52	2.01	3.19	.33
Amarillo, Tex.	1.16	1.98	T.	.18	.40	.59	1.16	1.26	1.33	T.	1.39	2.13	1.25
Brownsville, Tex.	2.06	.67	5.13	.14	1.39	.29	2.16	2.34	2.42	1.22	3.67	3.34	.08
El Paso, Tex.	.59	.97	1.13	.01	.52	.04	1.04	.93	T.	.22	.29	.53	.01
Forth Worth, Tex.	1.57	5.90	6.44	.20	1.82	1.35	7.94	3.32	1.70	1.24	2.57	1.63	1.60
Galveston, Tex.	4.02	2.49	9.19	1.47	2.16	.97	8.15	1.97	3.64	1.61	2.54	4.11	1.52
San Antonio, Tex.	1.78	4.55	3.24	.29	2.14	.75	2.53	1.56	2.95	1.16	.98	4.21	.24
Oklahoma City, Okla.	2.25	3.71	.70	1.01	2.35	.80	3.58	2.84	2.04	.33	2.37	2.13	3.04
Little Rock, Ark.	4.59	3.05	2.36	5.63	2.12	2.07	3.11	8.21	.88	3.89	2.07	2.59	2.54
Havre, Mont.	.77	.83	.24	.12	.46	.02	.53	.90	.07	1.09	.54	.17	.67
Kalispell, Mont.	1.90	1.16	1.58	1.69	.80	.51	.23	1.35	.43	2.39	1.06	.89	1.61
Cheyenne, Wyo.	.41	.37	.26	.19	.88	.40	.54	1.63	.22	.34	2.40	.28	.31
Sheridan, Wyo.	.59	.22	.08	1.03	.90	.12	.58	1.05	.49	1.38	1.16	.36	.76
Pueblo, Colo.	.37	.11	T.	.15	.20	.02	.66	.64	.28	.72	1.26	.66	.19
Santa Fe, N. Mex.	.78	1.75	T.	.61	.06	.26	.63	.75	.14	T.	1.13	.82	.33
Phoenix, Ariz.	.96	.83	1.00	.54	0	0	1.92	2.38	T.	.04	1.04	2.84	T.
Modena, Utah.	.60	1.54	0	.54	.07	.16	.30	1.12	.10	.18	1.00	1.02	.44
Salt Lake City, Utah.	1.42	1.21	.37	1.61	.92	1.31	1.77	.81	1.90	1.04	3.33	1.05	1.54
Winnemucca, Nev.	.74	1.37	.02	.38	.44	.25	.77	.72	1.33	.64	.52	.53	.32
Boise, Idaho.	.86	2.82	.11	1.07	1.07	1.17	.24	2.34	1.82	3.27	.52	.55	.35
Seattle, Wash.	5.83	4.74	5.28	5.66	4.58	2.70	3.61	4.13	4.42	6.60	1.45	2.06	4.84
Walla Walla, Wash.	2.13	1.91	1.00	3.04	2.74	1.05	1.02	3.16	2.10	3.91	.95	1.18	2.26
Portland, Oreg.	6.41	5.39	3.70	11.32	6.31	4.24	4.30	7.44	5.84	10.04	2.94	4.15	6.11
Roseburg, Oreg.	4.37	4.79	2.69	8.54	4.62	6.27	4.73	3.90	6.27	6.46	2.59	1.95	6.88
Eureka, Calif.	5.67	5.29	2.42	6.15	3.13	6.43	4.74	2.99	6.35	6.21	3.32	2.86	6.37
Fresno, Calif.	1.03	1.86	.11	.30	.28	.35	1.81	.04	.99	.26	.62	.10	.73
Los Angeles, Calif.	1.48	3.00	.20	1.35	.09	.36	1.85	.45	1.15	.05	1.44	.04	1.14
Sacramento, Calif.	2.15	4.56	.47	.63	.49	.25	1.84	.36	3.39	1.09	3.03	.62	1.39
San Diego, Calif.	.83	2.23	.86	.73	.05	.08	1.91	.43	.19	.30	.75	.16	.55
San Francisco, Calif.	2.47	6.22	.70	.92	1.80	.81	5.60	.44	2.70	1.43	3.77	.49	1.80

[1] Normals are based on records of 20 or more years of observations.

T—trace; indicates an amount too small to measure.

TABLE 781.—*Precipitation: Normal* [1] *and total precipitation at selected points in the United States, 1913–1924*—Continued

Station	Normal for Dec.	December total precipitation											
		1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Greenville, Mo	2.79	4.10	1.50	4.84	4.87	3.62	3.49	1.81	6.93	2.02	2.79	3.32	1.84
Boston, Mass	3.41	3.05	3.46	3.94	3.00	2.56	3.21	1.63	3.89	2.35	3.01	4.99	1.48
Buffalo, N. Y	3.37	1.37	3.49	4.09	3.37	3.93	2.41	1.96	3.36	.86	3.23	3.00	3.49
Canton, N. Y	3.59	2.38	2.15	2.49	2.53	1.76	2.79	1.12	5.41	1.60	1.03	2.51	1.82
Trenton, N. J	3.16	2.44	4.64	4.44	4.87	1.55	3.86	2.94	4.25	1.85	3.46	3.94	2.60
Pittsburgh, Pa	2.73	2.60	4.37	3.85	2.01	1.19	3.50	2.88	1.94	2.36	1.98	6.22	1.95
Scranton, Pa	2.61	2.16	4.19	4.66	3.26	2.15	2.88	2.52	3.03	1.83	2.31	2.44	1.06
Washington, D. C	3.16	2.29	4.49	2.80	4.03	1.47	4.65	3.32	3.15	1.95	3.48	2.80	2.98
Lynchburg, Va	3.27	2.56	4.68	2.37	2.32	1.70	2.59	1.96	2.34	1.01	3.42	2.72	3.34
Norfolk, Va	3.49	1.68	4.69	2.26	3.11	2.62	2.94	1.71	4.91	3.69	2.93	.93	2.85
Parkersburg, W. Va	2.77	2.75	4.75	5.24	3.48	.90	4.23	4.07	1.68	4.30	4.13	5.36	2.49
Charlotte, N. C	3.86	4.57	6.53	3.53	2.32	1.69	4.35	2.20	4.47	2.66	4.47	3.33	4.33
Charleston, S. C	3.15	2.59	2.35	2.81	1.47	1.08	3.17	.19	3.00	.51	4.61	3.91	2.93
Atlanta, Ga	4.54	3.95	5.31	9.07	3.57	.89	5.46	12.94	4.36	1.79	6.20	5.60	6.39
Thomasville, Ga	3.69	2.51	4.60	1.73	6.59	1.82	8.13	2.56	8.60	2.14	6.33	2.79	6.64
Jacksonville, Fla	2.99	4.49	5.20	3.46	7.47	2.11	2.60	4.61	3.35	1.60	2.54	1.38	1.15
Miami, Fla	2.00	.32	4.43	2.00	.25	1.46	4.11	1.83	1.72	.23	1.19	.46	.32
Cincinnati, Ohio	2.93	1.28	3.14	4.59	3.60	1.56	4.68	2.56	1.38	4.86	4.00	6.94	3.16
Cleveland, Ohio	2.58	1.38	1.57	1.75	2.06	1.41	1.58	1.32	1.64	1.75	2.45	4.50	3.58
Evansville, Ind	3.83	1.62	3.62	6.97	4.66	2.12	5.83	1.86	3.86	5.18	5.94	6.43	3.80
Indianapolis, Ind	3.04	.49	3.37	5.15	2.50	1.10	6.19	.85	3.27	3.27	4.45	5.60	5.53
Chicago, Ill	2.07	.45	2.33	1.31	2.58	.88	3.24	.70	3.33	4.63	1.21	1.96	1.90
Peoria, Ill	2.37	.74	1.81	1.66	1.75	.63	2.80	.30	1.87	2.91	1.38	2.21	2.40
Grand Rapids, Mich	2.54	.31	1.89	1.22	3.81	.82	4.02	1.19	4.19	4.14	1.40	2.18	1.66
Marquette, Mich	2.52	.94	.85	2.17	3.09	3.86	2.94	1.89	2.27	2.04	1.14	1.52	1.53
Madison, Wis	1.77	.33	1.76	.64	1.24	.45	2.19	.93	1.33	2.73	1.23	2.12	1.16
Duluth, Minn	1.22	.17	.30	.87	.38	1.07	2.03	.30	1.07	.69	.90	.82	.79
St. Paul, Minn	1.06	.02	.50	.53	1.21	.57	2.05	.66	.88	.27	.18	.66	1.36
Des Moines, Iowa	1.31	1.05	1.28	.65	.65	.88	1.35	.93	1.38	.80	.25	.61	1.62
Dubuque, Iowa	1.72	.34	1.83	.36	.95	.52	1.90	.63	.96	2.43	.41	.92	1.31
St. Louis, Mo	2.23	1.62	2.23	3.34	2.16	.78	2.69	1.22	2.41	2.89	4.98	3.30	4.63
Springfield, Mo	2.67	2.71	2.90	3.21	2.07	1.18	2.97	.44	1.84	1.92	2.07	2.92	4.21
Bismarck, N. Dak	.62	.28	.34	.39	1.52	.59	1.02	.23	.29	.29	.94	.22	.23
Devils Lake, N. Dak	.39	.06	.36	.64	.90	.66	.67	.42	.30	.75	.87	.23	.67
Pierre, S. Dak	.50	.43	.22	.25	.61	.72	1.45	.12	.21	.27	.31	.24	.95
North Platte, Nebr	.47	3.09	.87	.82	.42	.27	1.31	.32	.60	.14	.01	.39	1.81
Omaha, Nebr	.91	2.19	1.38	.34	.65	.48	.72	.69	.81	.14	.07	.58	1.38
Concordia, Kans	.48	3.91	1.57	.40	.88	.06	1.87	.24	.58	.01	T.	.17	1.33
Dodge City, Kans	.56	1.88	.46	.23	.30	.25	4.03	.08	.81	.68	T.	.48	1.13
Iola, Kans	.93	3.98	.82	1.12	.68	.29	3.22	.19	.89	.52	.18	1.14	1.70
Memphis, Tenn	4.38	1.69	6.35	5.73	3.26	1.33	4.58	2.61	7.11	2.53	5.19	5.35	5.32
Nashville, Tenn	3.82	2.45	5.06	6.44	4.29	1.46	4.56	3.28	2.99	1.76	6.29	4.32	5.36
Birmingham, Ala	4.60	2.99	4.65	6.11	3.70	1.48	4.14	9.56	9.57	3.23	7.63	5.30	6.89
Mobile, Ala	4.57	2.55	4.13	4.16	6.68	1.85	4.92	5.42	6.18	5.54	9.10	6.13	5.35
New Orleans, La	4.46	1.78	3.99	5.07	7.17	2.16	8.46	.83	8.70	3.49	7.01	4.37	6.72
Shreveport, La	4.37	4.28	7.16	3.05	1.65	1.02	3.09	2.08	6.37	1.92	2.59	7.82	2.26
Amarillo, Tex	.83	2.84	1.17	0.13	0.88	.04	2.78	.50	.64	.06	.10	1.11	.63
Brownsville, Tex	1.52	1.17	2.19	4.30	.69	.32	3.55	1.08	.05	.17	.38	2.86	3.58
El Paso, Tex	.52	.76	3.94	.43	.32	0	.78	.12	T.	.15	.09	.93	.05
Fort Worth, Tex	1.22	5.42	4.40	1.99	.11	.05	4.08	.44	1.31	.34	.06	4.68	1.23
Galveston, Tex	3.73	2.11	4.43	5.69	.79	1.00	3.46	2.02	6.49	2.76	2.56	7.84	5.33
San Antonio, Tex	1.56	4.47	1.43	1.57	.33	T.	3.61	2.05	.16	.23	.10	4.29	2.31
Oklahoma City, Okla	1.74	3.38	2.74	.33	1.05	.04	3.04	.12	1.37	.18	.53	2.06	2.41
Little Rock, Ark	4.24	2.96	6.88	5.37	2.17	1.24	7.95	2.34	6.99	2.58	3.38	4.70	1.88
Havre, Mont	.63	.02	.66	.77	1.05	2.64	.09	.20	1.01	.25	.53	.69	1.19
Kalispell, Mont	1.85	.48	.40	2.00	1.70	4.78	.87	.91	1.23	1.16	1.50	1.55	2.49
Cheyenne, Wyo	.31	2.00	.16	.41	.34	.81	.58	1.10	.57	1.31	.44	.28	.78
Sheridan, Wyo	.60	.12	.14	.84	1.07	1.02	.21	.35	.51	.54	1.02	.82	1.12
Pueblo, Colo	.46	1.35	.59	.35	.23	.03	.92	.59	.38	1.12	T.	.35	.97
Santa Fe, N. Mex	.76	.77	1.70	.97	.17	.02	1.24	.33	.84	.88	.20	.98	1.52
Phoenix, Ariz	.59	.27	3.09	2.54	.39	0	1.16	.13	T.	.87	.28	2.23	1.16
Modena, Utah	.58	.54	.46	.80	.67	.20	2.01	.40	.25	2.14	.61	.41	1.14
Salt Lake City, Utah	1.33	1.35	.39	1.71	2.64	.38	.52	1.38	1.38	2.29	2.92	.92	3.35
Winnemucca, Nev	.99	1.84	.57	1.22	.26	.05	.50	.94	1.17	1.34	1.91	1.02	1.85
Boise, Idaho	1.72	2.40	.47	1.56	1.29	2.33	.39	1.20	2.43	.88	1.73	.79	3.02
Seattle, Wash	5.29	2.61	1.39	7.77	4.13	9.21	5.04	4.10	5.68	7.25	7.37	3.31	4.63
Walla Walla, Wash	2.10	.99	.53	1.97	2.68	4.11	1.48	1.92	2.50	1.57	1.83	2.18	1.88
Portland, Oreg	6.90	3.48	2.56	8.73	3.81	14.23	3.13	4.78	8.32	3.09	9.43	6.25	4.44
Roseburg, Oreg	5.92	2.36	1.53	5.50	3.88	3.71	3.26	4.51	7.17	1.52	5.86	4.81	5.25
Eureka, Calif	7.25	7.58	7.09	5.19	5.47	1.17	4.29	4.33	10.89	4.48	7.62	4.93	4.07
Fresno, Calif	1.53	1.53	1.76	2.78	1.93	.14	1.46	.89	1.07	3.47	2.20	.24	1.61
Los Angeles, Calif	2.90	1.66	3.73	2.52	3.67	.07	1.54	1.99	1.01	7.90	3.09	.80	1.10
Sacramento, Calif	3.53	4.40	3.44	4.42	3.78	.45	1.70	2.22	4.32	3.81	6.12	.94	3.63
San Diego, Calif	1.82	.72	2.21	2.60	1.14	T.	1.68	.48	.54	9.26	1.21	1.65	1.34
San Francisco, Calif	4.24	5.41	5.49	6.42	4.79	.72	2.62	3.21	7.48	6.39	7.77	1.91	7.37

Weather Bureau.

[1] Normals are based on records of 20 or more years of observations.

T=Trace, indicates an amount too small to measure.

TABLE 782.—*Frost, killing: Dates of, with length of growing season*

Station	Spring frosts		Autumn frosts		Length of growing season between average dates of killing frost
	Latest date of killing frost	Average date of last killing frost	Earliest date of killing frost	Average date of earliest killing frost	
					Days
Greenville, Me.	June 23	May 30	Aug. 26	Sept. 14	107
Boston, Mass.	May 16	Apr. 14	Sept. 26	Oct. 24	193
Buffalo, N. Y.	May 23	Apr. 26	Sept. 23	Oct. 19	176
Canton, N. Y.	June 2	May 8	Sept. 11	Sept. 28	143
Trenton, N. J.	May 17	Apr. 20	Sept. 22	Oct. 19	182
Pittsburgh, Pa.	May 29	Apr. 21	Sept. 25	Oct. 22	184
Scranton, Pa.	May 10	Apr. 20	Sept. 14	Oct. 13	176
Washington, D. C.	May 12	Apr. 8	Oct. 2	Oct. 20	195
Lynchburg, Va.	May 7	Apr. 28	...do...	Oct. 27	182
Norfolk, Va.	Apr. 26	Mar. 25	Oct. 15	Nov. 17	237
Parkersburg, W. Va.	May 22	Apr. 16	Oct. 1	Oct. 16	183
Charlotte, N. C.	Apr. 26	Mar. 28	Oct. 8	Nov. 5	222
Charleston, S. C.	Apr. 2	Feb. 20	Nov. 8	Dec. 10	293
Atlanta, Ga.	Apr. 17	Mar. 31	Oct. 11	Nov. 7	221
Thomasville, Ga.	Apr. 26	Mar. 14	Oct. 21	Nov. 15	246
Jacksonville, Fla.	Apr. 10	Feb. 16	Nov. 12	Dec. 6	293
Miami, Fla.	Feb. 19	(1)	Dec. 26	(1)	(1)
Cincinnati, Ohio	Apr. 26	Apr. 14	Sept. 30	Oct. 25	194
Cleveland, Ohio	May 21	Apr. 15	Oct. 2	Nov. 2	201
Evansville, Ind.	Apr. 26	Apr. 6	Sept. 30	Oct. 27	204
Indianapolis, Ind.	May 21	Apr. 16	Sept. 21	Oct. 19	186
Chicago, Ill.	May 29	Apr. 18	Sept. 20	Oct. 18	183
Peoria, Ill.	May 11	Apr. 15	Sept. 30	do...	188
Grand Rapids, Mich.	May 28	Apr. 28	Sept. 23	Oct. 17	172
Marquette, Mich.	June 6	May 13	Aug. 23	Oct. 9	149
Madison, Wis.	May 23	Apr. 25	Sept. 16	Oct. 17	175
Duluth, Minn.	June 14	May 7	Sept. 10	Oct. 4	150
St. Paul, Minn.	May 25	Apr. 25	Sept. 20	Oct. 8	166
Des Moines, Iowa	May 9	Apr. 22	Sept. 22	Oct. 11	172
Dubuque, Iowa	May 21	Apr. 20	Sept. 27	Oct. 15	178
St. Louis, Mo.	May 22	Apr. 4	Sept. 30	Oct. 27	206
Springfield, Mo.	May 19	Apr. 14	...do...	Oct. 21	190
Bismarck, N. Dak.	June 7	May 11	Aug. 23	Sept. 20	132
Devils Lake, N. Dak.	do...	May 16	Aug. 8	Sept. 19	126
Pierre, S. Dak.	May 19	Apr. 30	Sept. 12	Oct. 5	158
North Platte, Nebr.	May 24	May 1	Sept. 10	Sept. 30	152
Omaha, Nebr.	May 19	Apr. 15	Sept. 18	Oct. 15	181
Concordia, Kans.	...do...	Apr. 17	Sept. 20	Oct. 17	183
Dodge City, Kans.	May 27	Apr. 21	Sept. 23	Oct. 21	183
Iola, Kans.	May 4	Apr. 7	Sept. 26	Oct. 23	199
Memphis, Tenn.	Apr. 25	Mar. 22	Oct. 2	Nov. 3	226
Nashville, Tenn.	Apr. 24	Apr. 2	Oct. 8	Oct. 27	208
Birmingham, Ala.	Apr. 17	Mar. 17	Oct. 21	Nov. 8	236
Mobile, Ala.	Apr. 6	Feb. 17	Oct. 31	Dec. 5	291
New Orleans, La.	Mar. 27	Jan. 25	Nov. 11	Dec. 16	325
Shreveport, La.	Apr. 9	Mar. 6	Oct. 20	Nov. 10	249
Amarillo, Tex.	May 23	Apr. 17	Sept. 22	Oct. 29	195
Brownsville, Tex.	Mar. 8	Jan. 28	Nov. 15	Dec. 22	328
El Paso, Tex.	Apr. 26	Mar. 14	Oct. 27	Nov. 15	246
Fort Worth, Tex.	Apr. 9	Mar. 11	Oct. 22	Nov. 12	246
Galveston, Tex.	Mar. 1	Jan. 19	Nov. 16	Dec. 26	341
San Antonio, Tex.	Apr. 5	Feb. 24	Oct. 30	Nov. 28	277
Oklahoma City, Okla.	Apr. 30	Mar. 31	Oct. 7	Nov. 2	216
Little Rock, Ark.	Apr. 26	Mar. 18	Oct. 22	Nov. 13	240
Havre, Mont.	June 6	May 16	Aug. 25	Sept. 19	126
Kalispell, Mont.	June 7	May 5	Sept. 10	Oct. 2	150
Cheyenne, Wyo.	June 13	May 20	Aug. 25	Sept. 19	122
Sheridan, Wyo.	June 6	...do...	...do...	Sept. 20	123
Pueblo, Colo.	June 2	Apr. 27	Sept. 12	Oct. 8	164
Santa Fe, N. Mex.	May 18	Apr. 25	Sept. 25	Oct. 18	177
Phoenix, Ariz.	Mar. 31	Feb. 16	Nov. 5	Dec. 3	290
Modena, Utah	July 8	May 23	Sept. 5	Sept. 26	126
Salt Lake City, Utah	June 18	Apr. 20	Sept. 22	Oct. 20	183
Winnemucca, Nev.	June 22	May 16	Aug. 22	Sept. 26	133
Boise, Idaho	June 16	Apr. 28	Sept. 11	Oct. 12	167
Seattle, Wash.	May 10	Mar. 17	Oct. 18	Nov. 21	249
Walla Walla, Wash.	Apr. 28	Mar. 30	Sept. 28	Nov. 5	220
Portland, Oreg.	May 2	Mar. 8	Oct. 13	Nov. 21	258
Roseburg, Oreg.	May 24	Apr. 14	Sept. 24	Nov. 12	212
Eureka, Calif.	Apr. 7	Feb. 8	Nov. 11	Nov. 26	291
Fresno, Calif.	Apr. 14	Feb. 22	Oct. 31	Dec. 2	283
Los Angeles, Calif.	Feb. 17	(1)	Nov. 2	(1)	(1)
Sacramento, Calif.	May 7	Feb. 19	Nov. 11	Nov. 29	283
San Diego, Calif.	Jan. 20	(1)	Dec. 28	(1)	(1)
San Francisco, Calif.	Mar. 27	Jan. 25	Dec. 4	Dec. 10	319

Weather Bureau; periods ranging from 20 to 50 years.

1 Frosts do not occur every year.

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