

BULLETIN No. 28 (REVISED EDITION).

U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS.

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THE CHEMICAL COMPOSITION

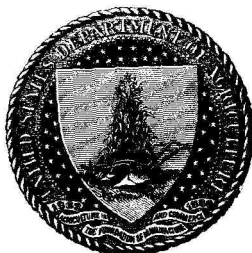
# AMERICAN FOOD MATERIALS.

BY

W. O. ATWATER, Ph. D.,

AND

A. P. BRYANT, M. S.



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## LETTER OF TRANSMITTAL

U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS,  
*Washington, D. C., March 31, 1899.*

SIR: I have the honor to transmit herewith a tabulated summary of analyses made in the United States of materials used for the food of man, prepared by W. O. Atwater, Ph. D., and A. P. Bryant, M. S., under instructions from the Director of this Office. This compilation is a revision of an earlier bulletin of this Office bearing the same title. Since the first edition was published a large number of analyses of foods have been made in connection with the nutrition investigations conducted under the auspices of this Department. Other analyses have been reported by the experiment stations, as well as a large number by the Division of Chemistry of this Department.

In the present publication it is the intention to give the maximum, minimum, and average of all available analyses of American food products up to January 1, 1899, with the exception of milk, butter, and other dairy products, and sugars. The number of analyses of such products is so great and the literature of the subject so large that a compilation of the results might appropriately form the subject of a special publication.

The literature of the subject has been thoroughly gone over, and the present compilation is based upon over 4,000 analyses. A considerable number of these were made by Professor Atwater and his associates, in Middletown, Conn., and a large number by the Division of Chemistry of this Department. Especial credit is due Mr. R. D. Milner for assistance in compiling the results of analyses.

As a necessary basis of this tabulation the individual analyses have been collated in detail. In many cases the number of analyses of a single product was considerable, and it is believed that the averages which are given in the tables may be advantageously used in computing the composition of foods used in dietary studies, etc. In the present form this standard table of food analyses is more complete and satisfactory than any table which has preceded it, and its publication as a revision of Bulletin 28 of this Office is respectfully recommended.

Respectfully,

C. TRUE,  
*Director.*

Hon. JAMES WILSON,  
*Secretary of Agriculture.*



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# THE CHEMICAL COMPOSITION OF AMERICAN FOOD MATERIALS.

## INTRODUCTION.

Until about the year 1880 those who wished to know about the chemical composition and nutritive values of food materials were compelled to depend upon analyses of European products, and most of those analyses had been made in German laboratories. During the last two decades American investigations have accumulated and the results have been collated from time to time. Bulletin No. 28 of this Office, entitled *The Chemical Composition of American Food Materials*, and issued in 1896, gave minimum, maximum, and average figures from a compilation of the analyses of American food materials that were found on record up to July 1, 1895. Since that time the number of analyses of food materials has increased to such an extent that a revision of that bulletin seems desirable. The present bulletin includes American analyses of materials used as food by man, which the compilers have found on record up to January 1, 1899. This table is intended to replace previous ones, and to serve as a standard of reference until it shall, in its turn, be replaced by a larger and more complete compilation.

## BRIEF HISTORY OF FOOD ANALYSIS.

The first effective impulse to the systematic investigation of the chemistry of food was given by Liebig some fifty years ago. Nearly all of our definite knowledge of the chemical composition of food materials and their nutritive value, however, has accumulated within comparatively a few years past. The earliest quantitative analyses of food materials which we have found are those of potatoes, reported by George Pearson in England in 1795.<sup>1</sup> In these Pearson estimated the proportions of water, starch, fibrous matter, extractive matters, and ash in kidney potatoes. He also recognized the presence of fat, acids, and sugar. In 1805 Einhoff<sup>2</sup> made somewhat similar analyses of potatoes and rye. In addition to the estimations made by Pearson, he attempted the separation of albumin. In the case of the potatoes he also deter-

<sup>1</sup> *Report. Arts and Manufactures*, 3 (1795), pp. 383-400.

<sup>2</sup> *Gehlen's Neues Jour. Chem.*, 4 (1805), pp. 315, 455; 5 (1806), p. 131.

mined several of the constituents of the ash. The earliest European analyses made in such ways as to render them comparable with those of to-day are perhaps those of milk reported by Peligot in 1836,<sup>1</sup> those of feeding stuffs reported by Boussingault in 1836<sup>2</sup> and 1838,<sup>3</sup> and those of milk reported by Boussingault and Le Bel in 1839.<sup>4</sup> The methods of analyses at that time were naturally imperfect. Then, and for some years afterwards, the chief stress was laid upon the proportions of carbon and nitrogen, though efforts were made to determine the proportions of fats, carbohydrates, and nitrogenous compounds. Liebig and his followers—Playfair, Boeckman, and others—about 1840 and later, analyzed a considerable number of foods and feeding stuffs by methods more or less analogous to those now followed. Indeed, during the period from 1840 to 1865, many more or less accurate analyses of foods and food products were made. Often the elementary composition was determined, although many analyses are recorded in which the attempt was made to learn the proximate composition. The methods of determining inorganic compounds were more satisfactory than those for organic compounds, and the early literature reports many determinations of the ash constituents of foods and food products.

Much interest attaches to American work of this nature. The earliest which we have found is the ash analysis of rice, rice flour, husk, etc., reported by C. U. Shephard.<sup>5</sup> He also reported ash analysis of Indian corn and sweet potatoes.<sup>6</sup> In 1848 Salisbury published his prize essay entitled "Maize, or Indian corn."<sup>7</sup> This is a very comprehensive study of the corn plant. A large number of ash analyses of the grain and different parts of the plant are reported, as well as proximate analyses of different sorts of corn. The constituents determined were starch, sugar and extract, fiber, "matter obtained from fiber by a weak solution of potash," albumin, casein, zein, gluten, oil, dextrin or gum, and water. Although these analyses have been superseded by those made in recent years by more accurate methods, it is interesting to compare Salisbury's results with the results of later analyses. For instance, if the sum of the nitrogenous constituents and of the carbohydrates (separately determined by Salisbury) are considered, the percentage composition of ash-free Pennsylvania yellow dent corn is as follows: Water, 10.2; protein, 9.4; fat, 3.7; and carbohydrates, 73.2. The corn was finely ground for analysis and the result may be fairly compared with that of unbolted corn meal (see p. 56). In 1848 and 1849 Beck<sup>8</sup> reported the proximate composition of a large number of samples of wheat and

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<sup>1</sup> Ann. Chim. et Phys., 2. ser., 62 (1836), p. 432.

<sup>2</sup> Ibid., 63 (1836), p. 225.

<sup>3</sup> Ibid., 67 (1838), p. 408.

<sup>4</sup> Ibid., 71 (1839), p. 65.

<sup>5</sup> Trans. New York State Agr. Soc., 1844, p. 343; Amer. Quart. Jour. Agr. and Sci., 1 (1845), p. 122.

<sup>6</sup> Amer. Quart. Jour. Agr. and Sci., 1 (1845), p. 136.

<sup>7</sup> Trans. New York State Agr. Soc., 1848, p. 678.

<sup>8</sup> U. S. Patent Office Rpts., Agr., 1848, p. 245; 1849, p. 49.



flour. The constituents determined were water, bran, gluten, starch and glucose, dextrin, etc.

In 1849 Emmons<sup>1</sup> published a considerable number of analyses similar to those made by Salisbury of oats, barley, millet, rye, corn, buckwheat, and wheat. Emmons also reported analyses of tomatoes, carrots, beets, parsnips, beans, squash, eggplant, potatoes, and sweet potatoes.<sup>2</sup> Analyses of several sorts of cabbage and of cauliflower and turnip-rooted cabbage (kohl-rabi) made by Salisbury are quoted in Emmons's report.<sup>3</sup> In 1857 Jackson<sup>4</sup> reported proximate analyses of several varieties of corn and of Chinese yam and potatoes.

Much of this earlier work is interesting to-day, chiefly from a historical standpoint. The analyses in most instances were very carefully made, but accurate methods of organic and analytical chemistry had not yet been developed. A great advance was possible when Henneberg and his associates elaborated the so-called Weende method for proximate analysis. While this is based on earlier work, the methods were simplified and systematized. It was not until this new method came into general use, about 1864, that any considerable number of chemists undertook a systematic study of food materials from the standpoint of their nutritive values. The Weende method has been used for over thirty years in Europe, America, and other countries. Individual investigators and associations of chemists have studied its details and devised ways by which it might be improved. Minor alterations have been adopted, and in several countries details have been agreed on officially by organizations representing experiment stations and Government officers charged with the responsibility of making analyses in the interests of the public. The methods followed in different countries agree so closely, that for the last twenty years it has been possible to accept analyses by chemists in different parts of the world and compare them one with another without hesitation. The first analyses made by these methods in the United States of which a record has been found were a series of analyses of Indian corn in 1869.<sup>5</sup> Excepting the investigations of Professor Storer, at the Bussey Institute, little work in this line was done until the establishment of the experiment stations. Since that time a large number of analyses have been made. Jenkins and Winton's *Compilation of Analyses of American Feeding Stuffs* includes analyses of grain and vegetables, and is reasonably complete up to 1891.

Upward of 200 analyses of food fishes, oysters, etc., were published in the Report of the United States Commissioner of Fish and Fisheries for 1888, and a much larger number of analyses of canned vegetables, cereal products, etc., have been reported by the Division of

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<sup>1</sup> Nat. Hist. New York, pt. 5, Agr., 2 (1849), p. 90.

<sup>2</sup> *Ibid.*; pp. 37, 55, 295.

<sup>3</sup> *Ibid.*, p. 248.

<sup>4</sup> U. S. Patent Office Rpts., Agr., 1857, pp. 160-165.

<sup>5</sup> On the proximate composition of several varieties of American maize, by W. O. Atwater, *American Journal of Science and Arts*, 47 (1869), No. 11, p. 352.

Chemistry of the United States Department of Agriculture. Many analyses of animal and vegetable food materials have been made in connection with the nutrition investigations carried on under the direction of this Office. In the compilation from which the figures in the present bulletin are taken the results of all these have been included, as well as the analyses, made by W. O. Atwater and associates, of some 500 specimens of food materials at the instance of the World's Columbian Commission and not yet published in detail. Analyses of American food materials made in foreign countries and analyses of foreign food materials made in this country have been included only in exceptional cases.

In collating the material for the present compilation the results of over 1,000 unpublished analyses made in connection with the nutrition investigations conducted with the cooperation of the Storrs (Connecticut) Station and this Department at the chemical laboratory of Wesleyan University have been included, as well as a number of unpublished analyses made by the Maine Station.

No attempt has been made to collect all of the published analyses of milk, butter, and sugars. Such a task would be difficult, because of the large number of analyses made for inspection and otherwise and the number and diversity of the publications in which they are scattered. The figures given in the table on pages 54, 55, and 65 are estimates based upon the data conveniently at hand, and suffice to show the range of variation of the average composition.

The following tabular statement shows the number of specimens of each of the several classes of foods included in this compilation. As a rule figures for the composition of the quarters and sides of meat were calculated from the composition and weight of the cuts making up the larger portion, and are not included in the estimate as direct analyses. The number of sides thus analyzed were, beef, 13; veal, 6; lamb, 3; mutton, 32; pork, 11.

*Number of analyses of specimens of American foods included in the compilation from which the figures in the tables of composition of foods were obtained.*

Food materials.	Food and nutrition investigations.		Division of Chemistry, U. S. Department of Agriculture.	Miscellaneous.	Total.
	Atwater and associates.	Other investigators.			
<b>ANIMAL FOOD.</b>					
Beef.....	379	148	0	8	535
Veal.....	91	16	0	0	107
Lamb and mutton.....	122	9	0	0	131
Pork.....	120	40	88	0	248
Sausage.....	40	6	0	0	46
Poultry and game.....	23	28	0	0	51
Fish.....	133	10	0	0	143
Shellfish.....	66	6	0	0	72
Eggs.....	20	17	0	63	80
Cheese.....	8	14	8	0	77
Condensed milk.....	4	1	0	28	33
Miscellaneous.....	17	0	0	52	85
<b>Total animal-food materials.....</b>	<b>1,023</b>	<b>311</b>	<b>96</b>	<b>188</b>	<b>1,618</b>

Number of analyses of specimens of American foods included in the compilation from which the figures in the tables of composition of foods were obtained—Continued.

Food materials.	Food and nutrition investigations.		Division of Chemistry, U. S. Department of Agriculture.	Miscellaneous.	Total.
	Atwater and associates.	Other investigators.			
VEGETABLE FOOD.					
Flours, meals, etc.:					
Barley, buckwheat, corn, and rye.....	19	51	13	23	106
Oats.....	18	29	7	11	65
Rice.....	4	13	1	15	34
Wheat preparations, etc.....	9	34	16	15	74
Macaroni and vermicelli.....	24	3	4	1	32
Wheat flours.....	57	87	112	59	315
Bread, crackers, and pastry.....	87	262	159	0	508
Sugars and starches.....	4	10	22	12	48
Total flours, sugars, etc.....	222	487	334	136	1,179
Vegetables:					
Beans and other legumes.....	21	45	152	10	228
Roots.....	2	28	29	34	93
Potatoes and sweet potatoes.....	14	34	3	293	354
Other vegetables.....	16	51	125	52	244
Total vegetables.....	53	158	309	299	819
Fruits.....	19	82	16	170	287
Nuts.....	1	1	0	59	61
Total fruits and nuts.....	20	83	16	229	348
Miscellaneous.....	3	21	0	5	29
Total vegetable-food materials.....	298	749	659	666	2,375
UNCLASSIFIED.					
Soups.....	35	3	0	0	38
Miscellaneous.....	4	8	0	20	32
Total unclassified.....	39	11	0	20	70
Total food materials.....	1,360	1,071	755	877	4,063

#### EXPLANATION OF TERMS.

The terms used in reporting analyses of foods and feeding stuffs need some explanation. Some of these terms have a technical meaning which is well recognized and understood by scientists, although the dictionaries and similar books of reference have not yet included these uses in their definitions. In other cases the same word has been used by scientists in different ways. The more usual terms are defined and explained below in the sense in which they are employed in this bulletin and other publications of this Office.

#### COMPOSITION OF FOOD MATERIALS.

Ordinary food materials, such as meat, fish, eggs, potatoes, wheat, etc., consist of:

*Refuse.*—As the bones of meat and fish, shells of shellfish, skin of potatoes, bran of wheat, etc.

*Edible portion.*—As the flesh of meat and fish, the white and yolk of eggs, wheat flour, etc. This edible portion consists of water (usually

incorporated in the tissue and not visible as such), and nutritive ingredients or nutrients.

The principal kinds of nutritive ingredients are protein, fats, carbohydrates, and ash or mineral matters.

The water and refuse of various foods and the salt of salted meat and fish are called nonnutrients. In comparing the values of different food materials for nourishment they are left out of account.

*Protein.*—This term is used to include nominally the total nitrogenous substance of animal and vegetable food materials, exclusive of the so-called nitrogenous fats. Actually it is employed, in common usage, to designate the product of the total nitrogen by an empirical factor, generally 6.25.

This total nitrogenous substance consists of a great variety of chemical compounds, which are conveniently divided into two principal classes, proteids and nonproteids.

The term proteid, as here employed, includes (1) the simple proteids, e. g., albuminoids, globulins, and their derivatives, such as acid and alkali albumins, coagulated proteids, proteoses, and peptones; (2) the so-called combined or compound proteids; and (3) the so-called gelatinoids (sometimes called "glutinoids") which are characteristic of animal connective tissue.

The term albuminoids has long been used by European and American chemists and physiologists as a collective designation for the substances of the first two groups, though many apply it to all three of these groups. Of late a number of investigators and writers have employed it as a special designation for compounds of the third class.<sup>1</sup>

The term nonproteid is here used synonymously with nonalbuminoid, and includes nitrogenous animal and vegetable compounds of simpler constitution than the proteids. The most important animal compounds of this class are the so-called "nitrogenous extractives" of muscular and connective tissue, such as creatin, creatinin, xanthin, hypoxanthin, and allied cleavage products of the proteids. To some of these the term "meat bases" has been applied. The latter, with certain mineral salts (potassium phosphates, etc.), are the most important constituents of beef tea and many commercial "meat extracts."

The nonproteid nitrogenous compounds in vegetable foods consist of amids and amido acids, of which asparagin and aspartic acid are familiar examples.

The ideal method of analysis of food materials would involve quantitative determinations of the amounts of each of the several kinds or groups of nitrogenous compounds. This, however, is seldom attempted. The common practice is to multiply the percentage of nitrogen by the factor 6.25 and take the product as representing the total nitrogenous

<sup>1</sup> U. S. Dept. Agr., Office of Experiment Stations Bul. 65, p. 118.

substance. For many materials, animal and vegetable, this factor would be nearly correct for the proteids, which contain, on the average, not far from 16 per cent of nitrogen, although the nitrogen content of the individual proteids is quite varied. The variations in the nitrogen of the nonproteids are wider, and they contain, on the average, more than 16 per cent of nitrogen. It is evident, therefore, that the computation of the total nitrogenous substance in this way is by no means correct. In the flesh of meats and fish, which contain very little of carbohydrates, the nitrogenous substance is frequently estimated by difference, i. e., by subtracting the ether extract and ash from the total water-free substance. While this method is not always correct, it is oftentimes more nearly so than the determination by use of the usual factor.

The distinction between protein and proteids is thus very sharp. The latter are definite chemical compounds, while the former is an entirely arbitrary term used to designate a group which is commonly assumed to include all of the nitrogenous matter of the food except the nitrogenous fats.

In the tables herewith the common usage is followed, by which the protein is given as estimated by factor, i. e., total nitrogen multiplied by 6.25. In the analyses of meats and fish, however, the figures for protein "by difference" are also given. Where the proteid and non-proteid nitrogenous matter have been estimated in a food material the proportions are indicated in a footnote.

*Fats.*—Under fats is included the total ether extract. Familiar examples of fat are fat of meat, fat of milk (butter), oil of corn, olive oil, etc. The ingredients of the "ether extract" of animal and vegetable foods and feeding stuffs, which it is customary to group roughly as fats, include with the true fats various other substances, as fatty acids, lecithins (nitrogenous fats), and chlorophylls.

*Carbohydrates.*—Carbohydrates are usually determined by difference. They include sugars, starches, cellulose, gums, woody fiber, etc. In many instances separate determinations of one or more of these groups have been made. The determinations of "fiber" in vegetable foods, i. e., substances allied to carbohydrates but insoluble in dilute acid and alkali, and somewhat similar to woody fiber, are given in a separate column. The figures in parentheses in the crude-fiber column show the number of analyses in which the fiber was determined. The figures for "total carbohydrates" include the fiber, as well as sugars, starches, etc. Where the sugars or starches have been determined separately footnotes are added giving the average results.

*Ash or mineral matters.*—Under this head are included phosphates, sulphates, chlorids, and other salts of potassium, sodium, magnesium, and other metallic elements. Where analyses of the mineral matters have been found they are added in the form of footnotes. These results usually give the percentage composition of the ash as produced by

incineration rather than the proportions in which the different mineral ingredients occur in the food material.

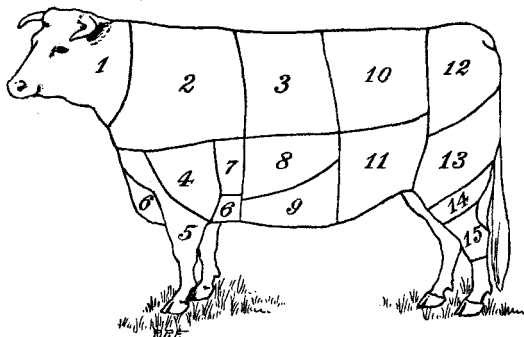
*Fuel value.*—By fuel value is meant the number of calories of heat equivalent to the energy which it is assumed the body would be able to obtain from one pound of a given food material, provided the nutrients of the latter were completely digested. The fuel values of the different food materials are calculated by use of the factors of Rubner, which allow 4.1 calories for a gram of protein, the same for a gram of carbohydrates, and 9.3 calories per gram of fats. These amounts correspond to 18.6 calories of energy for each hundredth of a pound of protein and of carbohydrates, and 42.2 calories for each hundredth of a pound of fat in the given food material. In the following table the fuel value per pound has been calculated by use of these factors. In these calculations the values of protein by factor have been used in all cases with the exception of salt cod (p. 50) and hens' eggs (p. 53), in which the value of protein by difference was used.

#### CUTS OF MEAT.

The methods of cutting sides of beef, veal, mutton, and pork into parts, and the terms used for the different "cuts," as these parts are commonly called, vary in different localities. The analyses here reported apply to cuts as indicated by the following diagrams. These show the positions of the different cuts, both in the live animal and in the dressed carcass as found in the markets. The lines of division between the different cuts will vary slightly, according to the usage of the local market, even where the general method of cutting is as here indicated. The names of the same cuts likewise vary in different parts of the country.

*The cuts of beef.*—The general method of cutting up a side of beef is illustrated in fig. 1, which shows the relative position of the cuts in the animal and in a dressed side. The neck piece is frequently cut so as to include more of the chuck than is represented by the diagrams. The shoulder clod is usually cut without bone, while the shoulder (not indicated in diagram) would include more or less of the shoulder blade and of the upper end of the fore shank. Shoulder steak is cut from the chuck. In many localities the plate is made to include all the parts of the fore quarter designated on the diagrams as brisket, cross-ribs, plate and navel, and different portions of the plate, as thus cut, are spoken of as the "brisket end of plate" and "navel end of plate." This part of the animal is largely used for corning. The ribs are frequently divided into first, second, and third cuts, the latter lying nearest the chuck and being slightly less desirable than the former. The chuck is sometimes subdivided in a similar manner, the third cut of the chuck being nearest the neck. The names applied to different portions of the loin vary considerably in different localities. The part nearest the ribs is frequently called "small end of loin" or "short

steak." The other end of the loin is called "hip sirloin" or "sirloin." Between the short and the sirloin is a portion quite generally called the "tenderloin," for the reason that the real tenderloin, the very tender



1. Neck.
2. Chuck.
3. Ribs.
4. Shoulder clod.
5. Fore shank.
6. Brisket.
7. Cross ribs.
8. Plate.
9. Navel.
10. Loin.
11. Flank.
12. Rump.
13. Round.
14. Second cut round.
15. Hind shank.

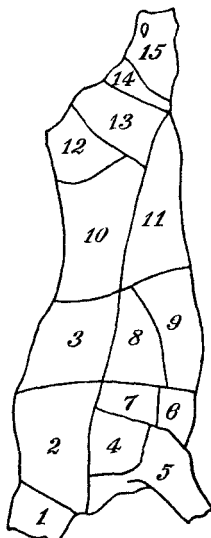


FIG. 1.—Diagrams of cuts of beef.

strip of meat lying inside the loin, is found most fully developed in this cut. Porterhouse steak is a term most frequently applied to either the short steak or the tenderloin. It is not uncommon to find the flank

cut so as to include more of the loin than is indicated in the figures, in which case the upper portion is called "flank steak." The larger part of the flank is, however, very frequently corned, as is also the case with the rump. In some markets the rump is cut so as to include a portion of the loin, which is then sold as "rump steak." The portion of the round on the outside of the leg is regarded as more tender than that on the inside, and is frequently preferred to the latter. As the leg lies upon the butcher's table this outside of the round is usually on the upper, or top, side, and is therefore called "top round." Occasionally the plate is called the "rattle."

*The cuts of veal.*—The method of cutting up a side of veal differs considerably from that employed with beef. This is illustrated by fig. 2, which shows the relative position of the cuts in the animal and

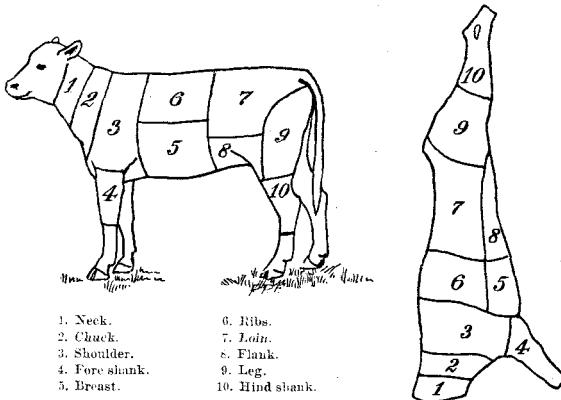


FIG. 2.—Diagram of cuts of veal.

in a dressed side. The chuck is much smaller in proportion, and frequently no distinction is made between the chuck and the neck. The *chuck* is often cut so as to include a considerable of the portion here designated as shoulder, following more nearly the method adopted for subdividing beef. The shoulder of veal as here indicated includes, besides the portion corresponding to the shoulder in beef, the larger part of what is here classed as chuck in the adult animal. The under part of the fore quarter, corresponding to the plate in the beef, is often designated as breast in the veal. The part of the veal corresponding to the rump of beef is here included with the loin, but is often cut to form part of the leg. In many localities the fore and hind shanks of veal are called the "knuckles."

*The cuts of lamb and mutton.*—Fig. 3 shows the relative position of the cuts in a dressed side of mutton or lamb and in a live animal. The



cuts in a side of lamb and mutton number but six, three in each quarter. The chuck includes the ribs as far as the end of the shoulder blades, beyond which comes the loin. The flank is made to include all the under side of the animal. Some butchers, however, make a larger number of cuts in the fore quarter, including a portion of the cuts marked "loin" and "chuck" in fig. 3, to make a cut designated as "rib," and a portion of the "flank" and "shoulder" to make a cut designated as "brisket." The term "chops" is ordinarily used to designate portions of either the loin, ribs, chuck or shoulder, which are either cut or "chopped" by the butcher into pieces suitable for frying or broiling. The chuck and ribs are sometimes called the "rack."

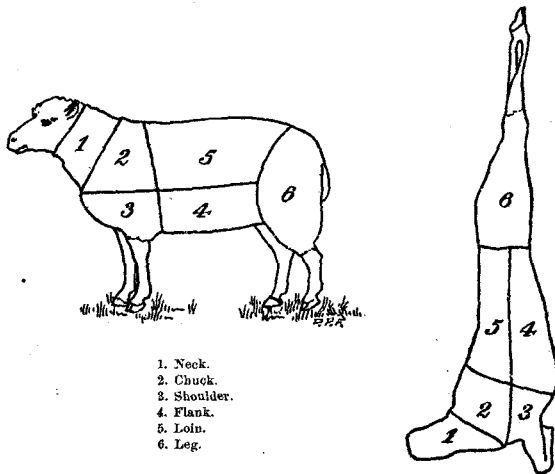


FIG. 3.—Diagrams of cuts of lamb and mutton.

*The cuts of pork.*—The method of cutting up a side of pork differs considerably from that employed with other meats. A large portion of the carcass of a dressed pig consists of almost clear fat. This furnishes the cuts which are used for "salt pork" and bacon. Fig. 4 illustrates a common method of cutting up pork, showing the relative position of the cuts in the animal and in the dressed side. The cut designated as "back cut" is almost clear fat and is used for salting and pickling. The "middle cut" is the portion quite generally used for bacon and for "lean ends" salt pork. The belly is salted or pickled or may be made into sausages.

Beneath the "back cut" are the ribs and loin, from which are obtained "spareribs," "chops," and roasting pieces, here designated

by dotted lines. The hams and shoulders are more frequently cured, but are also sold fresh as pork "steak." The tenderloin proper is a comparatively lean and very small strip of meat lying under the bones of the loin and usually weighing a fraction of a pound. Some fat is usually trimmed off from the hams and shoulders which is called "ham and shoulder fat" and is often used for sausages, etc. What is called

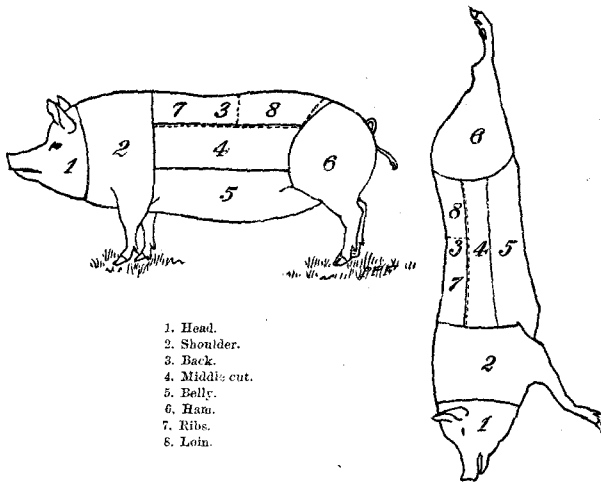


FIG. 4.—Diagrams of cuts of pork.

"leaf lard," at least in some localities, comes from the inside of the back. It is the kidney fat.

As stated above, cuts as shown in the diagrams herewith correspond to those of which analyses are reported in the table beyond, but do not attempt to show the different methods of cutting followed in markets in different parts of the United States.

## CHEMICAL COMPOSITION OF AMERICAN FOOD MATERIALS.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N x 6.25.	By differ- ence.	Fat.				
<b>ANIMAL FOOD.</b>										
<b>BEEF, FRESH.</b>										
Brisket, medium fat:										
Edible portion—										
Minimum .....	3		47.4	13.7	14.6	22.5		0.8	1,285	
Maximum .....	3		59.0	17.1	17.0	37.2		.9	1,825	
Average .....	3		54.6	15.8	16.0	28.5		.9	1,496	
As purchased—										
Minimum .....	3	14.3	39.5	11.5	11.4	18.1		.6	950	
Maximum .....	3	30.4	44.7	12.8	12.8	31.9		.7	1,564	
Average .....	3	23.3	41.6	12.0	12.2	22.3		.6	1,165	
Chuck, including shoulder, very lean:										
Edible portion—										
Minimum .....	1		73.8	22.3	21.3	3.9		1.0	580	
As purchased .....	1	18.4	60.2	18.2	17.4	3.2		.8	475	
Chuck, including shoulder, lean:										
Edible portion—										
Minimum .....	2		71.9	19.8	19.4	7.7		.9	710	
Maximum .....	2		71.7	20.6	19.6	8.7		1.0	735	
Average .....	2		71.8	20.2	19.5	8.2		1.0	720	
As purchased—										
Minimum .....	2	17.4	55.6	15.5	15.2	6.4		.7	575	
Maximum .....	2	21.7	59.2	17.0	16.2	6.8		.8	585	
Average .....	2	19.5	57.4	16.3	15.7	6.6		.8	580	
Chuck, including shoulder, medium fat:										
Edible portion—										
Minimum .....	4		67.1	19.1	18.0	10.1		.9	800	
Maximum .....	4		69.5	20.2	18.4	14.0		1.0	945	
Average .....	4		68.3	19.6	18.9	11.9		.9	865	
As purchased—										
Minimum .....	4	11.8	55.8	15.5	15.2	8.8		.7	630	
Maximum .....	4	18.9	60.3	17.5	16.8	12.3		.8	890	
Average .....	4	16.2	57.9	16.6	16.0	10.1		.8	735	
Chuck, including shoulder, fat:										
Edible portion—										
Minimum .....	4		59.9	17.6	17.7	17.1		.8	1,080	
Maximum .....	4		64.2	19.5	18.2	21.1		1.0	1,215	
Average .....	4		62.3	18.5	18.0	18.8		.9	1,135	
As purchased—										
Minimum .....	3	12.0	48.4	14.2	14.7	14.8		.6	940	
Maximum .....	3	19.2	55.9	17.0	16.0	17.1		.8	985	
Average .....	3	14.7	53.3	15.9	15.4	15.9		.7	965	
Chuck, including shoulder, very fat:										
Edible portion—										
Minimum .....	2		50.7	16.8	16.6	26.1		.8	1,415	
Maximum .....	2		55.7	17.5	17.3	31.9		.9	1,670	
Average .....	2		53.2	17.2	16.9	29.0		.9	1,555	
As purchased—										
Minimum .....	2	11.2	36.5	11.0	11.3	17.1		.6	925	
Maximum .....	2	34.5	45.0	15.5	14.8	28.3		.7	1,480	
Average .....	2	22.8	40.8	13.3	13.0	22.7		.7	1,205	
Chuck, including shoulder, all analyses:										
Edible portion .....	13		65.0	19.2	18.7	15.4		.9	1,065	
As purchased .....	12	17.3	54.0	15.8	15.5	12.5		.7	820	
Chuck rib, very lean:										
Edible portion .....	1		75.8	22.2	21.7	1.4		1.1	470	
As purchased .....	1	16.7	63.1	18.6	18.1	1.2		.9	396	

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
<b>ANIMAL FOOD—Continued.</b>									
<b>BEEF, FRESH—continued.</b>									
Chuck rib, lean:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum.....	11	.....	89.7	14.0	14.0	5.8	.....	0.8	625
Maximum.....	11	.....	73.4	20.5	20.5	12.2	.....	1.1	775
Average.....	11	.....	71.3	19.5	19.4	8.3	.....	1.0	715
As purchased—									
Minimum.....	11	16.1	47.6	11.7	11.7	4.5	.....	.7	475
Maximum.....	11	33.1	61.1	17.0	16.9	10.3	.....	.9	655
Average.....	11	22.7	55.1	15.1	15.0	6.4	.....	.8	550
Chuck rib, medium fat:									
Edible portion—									
Minimum.....	7	.....	56.9	17.3	16.9	13.9	.....	.9	930
Maximum.....	7	.....	67.0	19.5	19.5	25.3	.....	1.1	1,390
Average.....	7	.....	62.7	18.5	18.5	18.0	.....	1.0	1,105
As purchased—									
Minimum.....	7	9.8	45.7	13.9	13.5	10.9	.....	.7	790
Maximum.....	7	23.1	60.0	16.5	16.3	20.4	.....	.9	1,120
Average.....	7	16.3	52.6	15.5	15.3	15.0	.....	.8	920
Chuck rib, fat:									
Edible portion—									
Minimum.....	2	.....	51.3	16.5	16.0	30.3	.....	.7	1,585
Maximum.....	2	.....	52.8	16.5	16.1	32.0	.....	.8	1,635
Average.....	2	.....	52.0	16.5	16.1	31.1	.....	.8	1,620
As purchased—									
Minimum.....	2	5.4	43.6	14.0	13.6	27.2	.....	.6	1,405
Maximum.....	2	15.0	50.0	15.6	15.2	28.6	.....	.8	1,495
Average.....	2	10.2	46.8	14.8	14.4	27.9	.....	.7	1,455
Chuck rib, all analyses:									
Edible portion.....	21	.....	66.8	19.0	18.8	13.4	.....	1.0	920
As purchased.....	21	19.1	53.8	15.3	15.2	11.1	.....	.8	755
Chuck, free from all visible fat:	1	.....	74.1	22.6	22.0	2.8	.....	1.1	540
Flank, very lean:									
Edible portion—									
Minimum.....	3	.....	60.6	22.7	21.2	7	.....	.9	520
Maximum.....	3	.....	72.1	28.5	27.4	8.3	.....	1.3	770
Average.....	3	.....	70.7	25.9	24.8	8.3	.....	1.2	620
As purchased—									
Minimum.....	3	7	67.1	22.5	21.0	7	.....	.9	485
Maximum.....	3	6.9	69.2	27.7	26.6	8.2	.....	1.2	765
Average.....	3	8.5	68.2	24.9	23.9	8.3	.....	1.1	605
Flank, lean:									
Edible portion—									
Minimum.....	3	.....	66.0	20.4	19.4	7.8	.....	.9	710
Maximum.....	3	.....	70.8	21.4	20.4	13.7	.....	1.0	960
Average.....	3	.....	67.8	20.8	19.9	11.3	.....	1.0	865
As purchased—									
Minimum.....	3	.....	64.5	20.1	19.0	7.8	.....	1.0	710
Maximum.....	3	2.3	70.8	21.0	20.4	13.2	.....	1.0	930
Average.....	3	1.4	66.9	20.5	19.7	11.0	.....	1.0	845
Flank, medium fat:									
Edible portion—									
Minimum.....	5	.....	57.4	18.4	17.4	18.7	.....	.8	1,145
Maximum.....	5	.....	62.2	18.5	18.2	24.3	.....	.9	1,370
Average.....	5	.....	60.2	18.9	17.9	21.0	.....	.9	1,240
As purchased—									
Minimum.....	5	1.1	39.8	11.9	11.6	12.2	.....	.6	735
Maximum.....	5	35.8	61.4	18.3	18.0	24.0	.....	.9	1,350
Average.....	5	10.2	54.0	17.0	16.1	19.0	.....	.7	1,115
Flank, fat:									
Edible portion—									
Minimum.....	3	.....	53.5	16.1	15.4	27.2	.....	.8	1,470
Maximum.....	3	.....	54.9	17.8	17.4	30.3	.....	.8	1,580
Average.....	3	.....	54.2	17.1	16.6	28.4	.....	.8	1,515
As purchased—									
Minimum.....	3	.....	49.1	14.8	14.2	26.7	.....	.7	1,445
Maximum.....	3	.....	54.2	17.0	17.4	27.7	.....	.8	1,495
Average.....	3	8.2	52.4	16.5	16.2	27.3	.....	.8	1,460
Flank, very fat:									
Edible portion—									
Minimum.....	2	.....	27.4	12.5	12.0	43.8	.....	.7	2,135
Maximum.....	2	.....	41.9	15.5	13.6	59.9	.....	.7	2,760
Average.....	2	.....	34.7	14.0	13.8	51.8	.....	.7	2,445

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
<b>ANIMAL FOOD—Continued.</b>									
<b>BEEF, FRESH—continued.</b>									
<b>Flank, very fat—Continued.</b>									
As purchased—		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	<i>Cal.</i>
Minimum	2	0.4	24.3	11.0	10.6	43.6	.....	0.6	2,125
Maximum	2	11.5	41.8	15.4	15.5	53.0	.....	.7	2,440
Average	2	6.0	33.0	13.2	15.0	48.3	.....	.7	2,275
<b>Flank, all analyses:</b>									
Edible portion	16	.....	59.3	19.6	18.7	21.1	.....	.9	1,255
As purchased	16	5.5	56.1	18.6	17.7	19.9	.....	.8	1,185
<b>Loin, very lean:</b>									
Edible portion—									
Minimum	3	.....	70.1	19.5	18.7	1.1	.....	1.0	545
Maximum	3	.....	71.3	27.4	27.4	9.0	.....	1.4	745
Average	3	.....	70.8	24.6	24.2	8.7	.....	1.3	615
As purchased—									
Minimum	3	19.7	49.9	15.5	14.9	.8	.....	.7	395
Maximum	3	23.8	57.1	21.5	21.2	7.2	.....	1.1	590
Average	3	23.0	54.6	18.8	18.5	3.0	.....	.9	475
<b>Loin, lean:</b>									
Edible portion—									
Minimum	12	.....	64.6	13.4	15.1	11.4	.....	.7	735
Maximum	12	.....	74.7	24.2	23.1	15.0	.....	1.1	1,000
Average	12	.....	67.0	19.7	19.3	12.7	.....	1.0	900
As purchased—									
Minimum	11	6.7	52.1	11.9	11.0	10.0	.....	.6	650
Maximum	11	21.0	66.2	20.8	19.8	13.0	.....	1.0	865
Average	11	13.1	58.2	17.1	16.7	11.1	.....	.9	745
<b>Loin, medium fat:</b>									
Edible portion—									
Minimum	32	.....	56.5	10.6	10.6	16.1	.....	.5	1,040
Maximum	32	.....	68.3	22.0	22.0	23.7	.....	2.2	1,355
Average	32	.....	60.6	18.5	18.2	20.2	.....	1.0	1,190
As purchased—									
Minimum	32	4.1	44.4	8.5	8.5	13.7	.....	.4	880
Maximum	32	25.8	58.1	19.3	19.1	22.7	.....	1.9	1,390
Average	32	13.3	52.5	16.1	15.8	17.5	.....	.9	1,040
<b>Loin, fat:</b>									
Edible portion—									
Minimum	6	.....	52.1	16.0	15.8	25.1	.....	.8	1,380
Maximum	6	.....	56.9	18.7	17.3	29.6	.....	1.0	1,575
Average	6	.....	54.7	17.5	16.8	27.6	.....	.9	1,490
As purchased—									
Minimum	6	5.9	44.3	14.1	13.8	23.6	.....	.7	1,295
Maximum	6	15.0	53.6	16.5	16.1	25.9	.....	.9	1,400
Average	6	10.2	49.2	15.7	15.0	24.8	.....	.8	1,305
<b>Loin, very fat:</b>									
Edible portion—									
Minimum	3	.....	46.8	17.2	16.3	31.5	.....	.8	1,650
Maximum	3	.....	51.3	18.9	18.5	33.8	.....	.9	1,780
Average	3	.....	49.7	17.8	17.1	32.3	.....	.9	1,695
As purchased—									
Minimum	3	3.6	40.4	15.1	14.4	27.8	.....	.7	1,455
Maximum	3	13.7	49.2	16.6	16.0	30.4	.....	.9	1,590
Average	3	9.7	44.9	16.0	15.5	29.1	.....	.8	1,525
<b>Loin, all analyses:</b>									
Edible portion	56	.....	61.3	19.0	18.6	19.1	.....	1.0	1,155
As purchased	56	13.3	52.9	16.4	16.0	16.9	.....	.9	1,020
<b>Loin, boneless strip, as purchased: a</b>									
Minimum	6	.....	50.9	16.9	16.0	4.0	.....	.7	515
Maximum	6	.....	77.2	25.0	22.7	32.4	.....	1.2	1,680
Average	6	.....	66.3	17.8	16.2	16.7	.....	.8	1,035
<b>Loin, sirloin butt, as purchased: a</b>									
Minimum	6	.....	51.6	17.4	16.6	6.4	.....	.8	665
Maximum	6	.....	72.1	22.0	22.5	23.5	.....	1.1	1,430
Average	6	.....	62.5	19.7	18.9	17.7	.....	.9	1,115
<b>Loin, porterhouse steak: a</b>									
Edible portion	7	.....	80.0	21.9	18.6	20.4	.....	1.0	1,270
As purchased	7	12.7	52.4	19.1	16.2	17.9	.....	.8	1,110
<b>Loin, sirloin steak: a</b>									
Edible portion	21	.....	61.9	18.9	18.6	18.5	.....	1.0	1,130
As purchased	21	12.8	54.0	16.5	16.2	16.1	.....	.9	985

a All loin parts are included under analyses of "loin."

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ences.	Fat.			
<b>ANIMAL FOOD—Continued.</b>									
<b>BEEF, FRESH—continued.</b>									
Loin, top of sirloin: a		<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>Calc.</i>
Edible portion.....	1	42.2	13.8	15.2	43.7	.....	0.9	2,100	
As purchased.....	1	3.2	40.0	13.3	12.9	42.3	.....	2,030	
Loin, tenderloin, as purchased: a									
Minimum.....	6	53.5	12.2	11.3	17.2	.....	.6	1,065	
Maximum.....	6	96.5	18.3	17.6	29.9	.....	1.0	1,550	
Average.....	6	59.2	16.2	15.6	24.4	.....	.8	1,330	
Loin trimmings: a									
Edible portion.....	6	55.0	16.9	16.2	28.0	.....	.8	1,495	
As purchased.....	6	48.6	27.9	8.5	8.2	14.7	.....	780	
Loin, free from all visible fat.....	2	74.0	22.1	21.7	3.1	.....	1.2	540	
Navel, very lean:									
Edible portion.....	1	68.6	30.7	29.4	.6	.....	1.4	595	
As purchased.....	1	2.9	66.6	29.8	23.5	.6	.....	580	
Navel, medium fat:									
Edible portion.....	1	47.6	15.6	15.1	36.5	.....	.7	1,830	
As purchased.....	1	11.4	42.2	13.8	13.4	32.3	.....	1,020	
Neck, very lean:									
Edible portion—									
Minimum.....	3	71.8	21.0	20.5	.7	.....	1.0	460	
Maximum.....	3	74.0	23.4	24.3	4.2	.....	1.2	640	
Average.....	3	73.2	22.5	23.5	3.9	.....	1.1	555	
As purchased—									
Minimum.....	5	22.5	18.3	6.2	6.0	.2	.....	.3	125
Maximum.....	3	75.2	57.4	16.2	16.2	3.2	.....	.8	430
Average.....	3	44.3	40.7	12.5	12.2	2.2	.....	.6	325
Neck, lean:									
Edible portion—									
Minimum.....	2	69.3	21.3	20.0	8.0	.....	1.0	735	
Maximum.....	2	71.0	21.4	20.9	8.7	.....	1.1	765	
Average.....	2	70.1	21.4	20.5	8.4	.....	1.0	750	
As purchased—									
Minimum.....	2	29.0	48.5	15.0	14.2	5.7	.....	.7	520
Maximum.....	2	30.0	50.4	15.1	14.6	6.1	.....	.8	535
Average.....	2	29.5	49.5	15.1	14.4	5.9	.....	.7	530
Neck, medium fat:									
Edible portion—									
Minimum.....	10	60.5	18.9	18.4	11.5	.....	.8	870	
Maximum.....	10	67.8	22.0	20.4	19.8	.....	1.1	1,195	
Average.....	10	65.4	20.1	19.2	16.5	.....	.9	1,070	
As purchased—									
Minimum.....	10	19.5	37.8	13.0	12.4	8.6	.....	.5	630
Maximum.....	10	37.5	50.8	17.2	16.0	15.4	.....	.8	930
Average.....	10	27.6	45.9	14.5	13.9	11.9	.....	.7	770
Neck, all analyses:									
Edible portion.....	15	66.3	20.7	20.0	12.7	.....	1.0	92	
As purchased.....	15	31.2	45.3	14.2	13.6	9.2	.....	.7	65
Plate, very lean:									
Edible portion—									
Minimum.....	3	67.0	19.5	18.8	.6	.....	.9	54	
Maximum.....	3	71.5	27.6	26.6	11.9	.....	1.3	86	
Average.....	3	69.1	22.8	22.1	7.7	.....	1.1	76	
As purchased—									
Minimum.....	3	18.3	25.5	9.8	9.5	.2	.....	.5	11
Maximum.....	3	64.3	56.1	17.3	16.1	8.7	.....	.8	61
Average.....	3	37.4	43.0	13.6	13.2	5.7	.....	.7	43
Plate, lean:									
Edible portion—									
Minimum.....	3	60.8	8.9	8.6	16.5	.....	.4	8	
Maximum.....	3	74.5	19.1	17.8	20.8	.....	.9	1.2	
Average.....	3	65.9	15.6	14.6	18.8	.....	.7	1.0	
As purchased—									
Minimum.....	3	15.7	51.3	7.2	6.9	33.2	.....	.3	6
Maximum.....	3	19.8	59.8	16.0	14.9	17.5	.....	.7	1.0
Average.....	3	17.3	54.4	13.0	12.2	15.6	.....	.6	8
Plate, medium fat:									
Edible portion—									
Minimum.....	7	46.7	14.8	14.7	23.2	.....	.7	1.1	
Maximum.....	7	59.9	18.0	16.7	35.6	.....	.9	1.1	
Average.....	7	54.4	16.5	15.7	29.1	.....	.8	1.1	

a All loin parts are included under analyses of "loin."

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbohydrate.	Ash.	Fuel value per pound.
				N × 6.25.		Fat.			
				P. ct.	By differ- ence.				
<b>ANIMAL FOOD—Continued.</b>									
<b>BEEF, FRESH—continued.</b>									
<b>Plate, medium fat—Continued.</b>									
As purchased—									
Minimum	7		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cal.
Maximum	7		13.1	42.2	12.3	13.2	17.6	0.6	970
Average	7		24.2	49.0	14.8	14.7	30.9	.8	1,500
<b>Plate, fat:</b>			<b>16.5</b>	<b>45.3</b>	<b>13.8</b>	<b>13.1</b>	<b>31.4</b>	<b>.7</b>	<b>1,295</b>
Edible portion—									
Minimum	3		44.4	13.2	12.4	38.0		.7	1,885
Maximum	3		46.3	15.2	15.4	41.9		.8	2,015
Average	3		45.2	14.6	14.2	39.8		.8	1,950
As purchased—									
Minimum	3	15.0	36.4	11.2	20.6	32.3		.5	1,595
Maximum	3	17.9	39.2	12.4	22.6	35.6		.7	1,710
Average	3	16.0	38.0	12.2	11.9	33.5		.6	1,640
<b>Plate, very fat:</b>									
Edible portion	1		34.6	10.6	9.8	55.1		.5	2,520
As purchased	1	9.0	31.4	9.7	8.9	50.2		.5	2,300
<b>Plate, all analyses:</b>									
Edible portion	17		56.3	16.8	16.0	26.9		.8	1,450
As purchased	17	19.8	44.4	13.1	12.5	22.7		.6	1,200
<b>Ribs, very lean:</b>									
Edible portion—									
Minimum	4		65.7	21.9	21.1	1.1		.7	455
Maximum	4		76.3	28.3	27.4	5.6		1.6	755
Average	4		70.9	25.0	24.4	3.5		1.2	615
As purchased—									
Minimum	4	16.5	52.1	16.2	14.7	.7		.5	310
Maximum	4	31.7	57.8	23.3	22.8	4.4		1.3	615
Average	4	23.3	54.2	19.4	18.9	2.7		.9	475
<b>Ribs, lean:</b>									
Edible portion—									
Minimum	6		66.0	16.5	16.9	9.8		.8	790
Maximum	6		69.5	20.9	20.8	14.0		1.1	955
Average	6		67.9	19.6	19.1	12.0		1.0	870
As purchased—									
Minimum	6	12.8	46.7	12.1	12.4	6.8		.6	555
Maximum	6	32.6	60.7	17.5	17.1	11.9		.9	750
Average	6	22.6	52.6	15.2	14.8	9.3		.7	675
<b>Ribs, medium fat:</b>									
Edible portion—									
Minimum	15		49.9	16.2	15.9	18.0		.7	1,110
Maximum	15		63.0	18.8	18.1	32.9		1.1	1,700
Average	15		55.5	17.5	17.0	26.6		.9	1,450
As purchased—									
Minimum	15	15.3	40.2	12.2	12.0	12.8		.4	1,790
Maximum	15	28.7	49.9	14.9	14.6	26.5		.9	1,370
Average	15	20.8	43.8	13.9	13.5	21.2		.7	1,155
<b>Ribs, fat:</b>									
Edible portion—									
Minimum	9		47.4	12.0	13.5	33.9		.6	1,710
Maximum	9		51.7	15.8	16.5	30.8		.9	1,845
Average	9		48.5	15.0	15.2	35.6		.7	1,780
As purchased—									
Minimum	8	14.3	34.3	11.4	10.4	26.8		.5	1,325
Maximum	8	22.0	47.8	16.0	15.6	39.9		.7	1,790
Average	8	16.8	39.6	12.7	12.4	30.6		.6	1,525
<b>Ribs, very fat:</b>									
Edible portion	1		45.9	14.6	14.8	38.7		.6	1,995
As purchased	1	6.4	42.9	13.7	13.9	36.2		.6	1,780
<b>Ribs, all analyses:</b>									
Edible portion	35		57.0	17.8	17.5	24.6		.9	1,370
As purchased	34	20.1	45.3	14.4	13.9	20.0		.7	1,110
<b>Rib rolls, very lean, as purchased:</b>									
Minimum	2		73.3	19.6	19.6	4.6		1.0	595
Maximum	2		74.0	22.0	21.1	5.4		1.0	605
Average	2		73.7	20.8	20.5	5.0		1.0	600
<b>Rib rolls, lean, as purchased:</b>									
Minimum	3		67.3	19.3	18.5	8.4		.9	740
Maximum	3		70.5	20.8	20.1	13.3		1.0	920
Average	3		69.0	20.2	19.5	10.5		1.0	820
<b>Rib rolls, medium fat, as purchased:</b>									
Minimum	4		60.7	18.5	18.0	15.5		.9	1,010
Maximum	4		65.6	20.1	19.1	20.4		.9	1,205
Average	4		63.9	19.3	18.5	16.7		.9	1,065

Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.	Fat.			
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Rib rolls, fat, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	50.5	16.4	16.5	30.5	0.8		1,580	
Maximum		52.4	18.0	16.6	32.1	.8		1,690	
Average	12	51.5	17.2	16.4	31.3	.8		1,640	
Rib rolls, all analyses, as purchased	11	64.8	19.4	18.8	15.5	.9		1,015	
Rib trimmings, all analyses:									
Edible portion—									
Minimum	11	33.9	11.2	10.7	6.5	.5		690	
Maximum	11	71.6	22.4	20.9	54.9	1.0		2,525	
Average	11	54.7	16.9	16.1	28.4	.8		1,515	
As purchased—									
Minimum	11	20.9	26.8	8.6	8.4	3.7	.4	395	
Maximum	11	44.8	49.2	13.0	12.7	43.5	.6	2,000	
Average	11	34.1	35.7	11.0	10.8	19.2	.5	1,015	
Ribs, cross, very lean:									
Edible portion	1	65.8	18.0	18.4	14.9	.9		965	
As purchased	1	12.8	57.4	16.6	13.0	.7		840	
Ribs, cross, medium fat:									
Edible portion	1	43.9	13.8	13.7	41.6	.8		2,010	
As purchased	1	12.2	38.6	12.1	12.0	.7		1,765	
Ribs, cross, all analyses:									
Edible portion	2	54.9	15.9	16.1	28.2	.8		1,485	
As purchased	2	12.5	48.0	13.8	14.0	.7		1,365	
Round, very lean:									
Edible portion—									
Minimum	6	72.2	21.1	21.1	1.1	1.0		450	
Maximum	6	75.4	24.6	24.4	4.5	1.9		905	
Average	6	73.6	22.6	22.5	2.8	1.3		540	
As purchased—									
Minimum	6	3.4	61.5	18.4	18.3	.9	1.0	425	
Maximum	6	17.4	72.8	21.0	21.4	3.7	1.8	530	
Average	6	10.6	65.9	20.2	19.9	2.4	1.2	475	
Round, lean:									
Edible portion—									
Minimum	31	65.8	18.8	19.0	5.1	.3		585	
Maximum	31	73.6	24.1	23.8	10.0	1.3		835	
Average	31	70.0	21.8	21.0	7.9	1.1		730	
As purchased—									
Minimum	29	2.8	57.2	17.4	16.9	.3		565	
Maximum	29	17.3	68.8	22.9	22.6	1.2		795	
Average	29	8.1	64.4	19.5	19.2	1.0		670	
Round, medium fat:									
Edible portion—									
Minimum	18	61.9	18.6	18.6	10.6	.9		835	
Maximum	18	68.4	22.4	21.6	17.8	1.2		1,095	
Average	18	65.5	20.3	19.8	13.6	1.1		950	
As purchased—									
Minimum	14	1.2	57.2	17.4	16.8	.8		790	
Maximum	14	11.2	65.9	21.6	20.8	1.2		1,070	
Average	14	7.2	60.7	19.0	18.3	1.0		895	
Round, fat:									
Edible portion—									
Minimum	5	57.8	18.3	17.9	16.7	.9		1,050	
Maximum	5	64.5	21.4	20.9	22.3	1.0		1,305	
Average	5	60.4	19.5	19.1	19.5	1.0		1,195	
As purchased—									
Minimum	3	6.0	47.8	16.7	16.1	.8		940	
Maximum	3	20.0	58.0	18.8	18.5	.9		1,130	
Average	3	12.0	54.0	17.5	17.1	.8		1,005	
Round, very fat:									
Edible portion—									
Minimum	2	54.9	17.2	16.7	24.7	.7		1,400	
Maximum	2	56.8	19.1	17.6	27.7	.9		1,490	
Average	2	55.9	18.2	17.1	26.2	.8		1,445	
As purchased—									
Minimum	2	6.4	45.9	14.4	13.9	.6		1,245	
Maximum	2	16.4	53.2	17.8	16.5	.8		1,305	
Average	2	11.4	49.6	16.1	15.2	.7		1,275	
Round, all analyses:									
Edible portion	62	67.8	20.9	20.5	10.6	1.1		835	
As purchased	54	8.5	62.5	18.9	9.2	1.0		745	
Round, free from all visible fat	4	73.5	23.2	23.8	2.5	1.2		335	



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrate.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.				
<b>ANIMAL FOOD—Continued.</b>									
<b>BEEF, FRESH—continued.</b>									
Round, second cut:									
Edible portion—		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Calcs.
Minimum	2	69.5	20.1	20.4	8.6	.....	.....	1.0	735
Maximum	2	70.0	20.7	20.6	8.6	.....	.....	1.3	745
Average	2	69.8	20.4	20.5	8.6	.....	.....	1.1	740
As purchased—									
Minimum	2	6.9	47.2	14.1	14.0	5.8	.....	.9	505
Maximum	2	32.1	65.2	18.7	19.0	8.0	.....	.9	685
Average	2	19.5	56.2	16.4	16.5	6.9	.....	.9	595
Rump, very lean:									
Edible portion—									
Minimum	4	.....	68.8	21.7	21.2	.7	.....	1.1	520
Maximum	4	.....	74.2	26.5	25.9	8.9	.....	1.4	780
Average	4	.....	71.2	23.0	22.5	5.1	.....	1.2	645
As purchased—									
Minimum	4	1.5	51.4	18.0	17.8	.5	.....	1.0	375
Maximum	4	28.6	67.8	21.5	20.9	8.7	.....	1.1	765
Average	4	14.8	60.9	19.5	19.1	4.6	.....	1.1	555
Rump, lean:									
Edible portion—									
Minimum	4	.....	62.1	17.5	17.7	10.0	.....	.9	840
Maximum	4	.....	68.3	22.7	21.5	17.7	.....	1.1	1,170
Average	4	.....	65.7	20.9	19.0	13.7	.....	1.0	965
As purchased—									
Minimum	3	1.5	46.8	14.5	13.8	7.2	.....	.7	575
Maximum	3	31.5	66.4	22.0	21.3	16.1	.....	1.1	1,065
Average	3	14.0	56.6	19.1	17.5	11.0	.....	.9	820
Rump, medium fat:									
Edible portion—									
Minimum	10	.....	52.4	16.0	15.5	20.3	.....	.8	1,195
Maximum	10	.....	60.3	19.5	18.7	29.9	.....	1.0	1,575
Average	10	.....	56.7	17.4	16.9	25.5	.....	.9	1,400
As purchased—									
Minimum	10	6.6	39.9	11.8	11.5	15.3	.....	.6	920
Maximum	10	27.8	52.8	15.8	15.0	25.0	.....	.9	1,305
Average	10	20.7	45.0	13.8	13.4	20.2	.....	.7	1,110
Rump, fat:									
Edible portion—									
Minimum	5	.....	43.1	14.7	14.5	33.3	.....	.7	1,710
Maximum	5	.....	49.9	22.7	22.4	39.4	.....	1.2	1,960
Average	5	.....	47.1	16.5	16.4	35.7	.....	.8	1,820
As purchased—									
Minimum	5	17.9	33.5	10.7	10.8	23.1	.....	.5	1,175
Maximum	5	31.3	39.7	17.6	17.4	32.3	.....	.9	1,605
Average	5	23.0	36.3	15.9	15.6	27.6	.....	.6	1,405
Rump, very fat:									
Edible portion	1	.....	40.2	15.0	14.7	44.3	.....	.8	2,150
As purchased	1	16.2	33.7	12.6	12.3	37.2	.....	.6	1,805
Rump, all analyses:									
Edible portion	24	.....	57.9	18.7	18.1	23.1	.....	.9	1,325
As purchased	23	19.0	46.9	15.2	14.7	18.0	.....	.8	1,065
Rump, free from all visible fat	1	.....	73.9	21.2	21.2	3.8	.....	1.1	555
Shank, fore, very lean:									
Edible portion—									
Minimum	4	.....	73.5	21.3	20.8	1.5	.....	1.0	480
Maximum	4	.....	75.9	22.9	22.7	4.0	.....	1.2	565
Average	4	.....	74.4	22.1	21.7	2.8	.....	1.1	530
As purchased—									
Minimum	4	35.9	36.5	10.5	10.5	.8	.....	.5	240
Maximum	4	50.4	47.9	13.9	13.6	2.3	.....	.7	355
Average	4	44.1	41.6	12.3	12.1	1.6	.....	.6	295
Shank, fore, lean:									
Edible portion—									
Minimum	5	.....	69.9	20.9	20.1	5.3	.....	.9	615
Maximum	5	.....	73.2	24.4	23.3	7.9	.....	1.1	735
Average	5	.....	71.5	22.0	21.4	6.1	.....	1.0	665
As purchased—									
Minimum	5	25.6	36.4	11.5	11.7	3.3	.....	.4	360
Maximum	5	48.0	52.3	18.1	17.4	5.2	.....	.8	590
Average	5	36.5	45.4	14.0	13.6	3.9	.....	.6	425

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Protein.					Total carbohydrates.	Ash.	Fuel value per pound.
			Water.		N × 6.25.	By difference.	Fat.			
			P. ct.	P. ct.						
ANIMAL FOOD—Continued.										
BEEF, FRESH—continued.										
Shank, fore, medium fat:										
Edible portion—			P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cal.	
Minimum	5		65.5	19.9	19.2	0.9		0.9	806	
Maximum	5		70.0	21.0	20.2	14.2		1.0	970	
Average	5		67.9	20.4	19.6	11.6		.9	870	
As purchased—										
Minimum	5	33.0	39.3	11.9	11.6	6.1		.6	495	
Maximum	5	40.0	45.3	13.4	15.1	8.5		.6	585	
Average	5	36.9	42.9	12.8	12.3	7.8		.6	645	
Shank, fore, very fat:										
Edible portion	1		59.0	20.1	18.6	21.6		.8	1,285	
As purchased	1	36.9	40.7	13.9	12.9	14.9		.6	890	
Shank, fore, all analyses:										
Edible portion	15		70.3	21.4	20.7	8.1		.9	740	
As purchased	15	38.3	43.2	13.2	12.7	5.2		.6	465	
Shank, hind, very lean:										
Edible portion	1		71.2	26.6	25.8	1.7		1.3	565	
As purchased	1	50.0	35.6	13.3	12.9	.8		.7	280	
Shank, hind, lean:										
Edible portion—										
Minimum	6		71.3	20.8	20.4	4.3		.9	590	
Maximum	6		73.6	23.1	21.6	7.3		1.2	715	
Average	6		72.5	21.9	21.1	5.4		1.0	635	
As purchased—										
Minimum	6	50.0	22.8	6.6	6.7	1.7		.3	205	
Maximum	6	68.3	36.4	11.2	10.7	3.2		.5	315	
Average	6	58.5	30.1	9.1	8.8	2.2		.4	260	
Shank, hind, medium fat:										
Edible portion—										
Minimum	6		65.3	19.0	18.5	9.6		.8	800	
Maximum	6		69.5	21.8	20.6	15.4		1.0	1,005	
Average	6		67.8	20.9	19.8	11.5		.9	875	
As purchased—										
Minimum	6	52.0	29.8	8.8	8.6	4.5		.4	370	
Maximum	6	56.0	33.1	10.1	9.6	7.1		.4	460	
Average	6	53.9	31.3	9.6	9.1	5.3		.4	405	
Shank, hind, fat:										
Edible portion	1		61.4	20.4	18.9	18.8		.9	1,170	
As purchased	1	51.6	29.7	9.9	9.2	9.1		.4	570	
Shank, hind, all analyses:										
Edible portion	14		69.6	21.7	20.7	8.7		1.0	770	
As purchased	14	55.4	31.0	9.7	9.3	3.9		.4	345	
Shoulder and clod, very lean:										
Edible portion—										
Minimum	4		75.1	20.8	20.4	.8		1.1	420	
Maximum	4		77.7	21.6	22.4	1.5		1.2	460	
Average	4		76.1	21.3	21.5	1.3		1.1	450	
As purchased—										
Minimum	4	12.5	46.1	12.8	12.5	.6		.7	275	
Maximum	4	39.8	65.8	18.8	18.6	1.2		1.0	395	
Average	4	23.3	58.3	16.3	16.5	1.0		.9	345	
Shoulder and clod, lean:										
Edible portion—										
Minimum	5		71.4	19.2	19.7	4.7		1.0	555	
Maximum	5		74.5	22.1	21.9	6.7		1.1	680	
Average	5		73.1	20.4	20.4	5.4		1.1	605	
As purchased—										
Minimum	4	5.6	69.4	9.2	9.3	2.6		.4	280	
Maximum	4	53.4	84.3	19.3	19.3	6.1		1.1	615	
Average	4	18.8	59.4	16.4	16.5	4.4		.9	490	
Shoulder and clod, medium fat:										
Edible portion—										
Minimum	14		64.0	17.4	17.3	7.1		.8	625	
Maximum	14		74.5	20.7	20.7	16.4		1.4	1,030	
Average	14		68.3	19.6	19.3	11.3		1.1	840	
As purchased—										
Minimum	12	7.0	50.7	14.5	14.3	5.6		.7	520	
Maximum	12	27.7	62.3	18.6	18.4	14.4		1.1	925	
Average	12	16.4	56.8	16.4	16.1	9.8		.9	720	

a The "clod" usually contains no refuse.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Shoulder and clod, fat:									
• Edible portion—									
• Minimum	5			P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Calis.
• Maximum	5			56.2	18.1	17.1	18.5		0.9 1,120
• Average	5			62.1	21.9	21.0	21.6		1.2 1,320
As purchased—				60.4	19.5	18.8	19.8		1.0 1,200
• Minimum	3	11.0	49.9	17.7	14.8	16.5			.8 1,025
• Maximum	3	13.3	54.8	19.4	18.6	19.2			1.0 1,170
• Average	3	11.9	52.8	17.7	16.7	17.7			.9 1,075
Shoulder and clod, all analyses:									
Edible portion	28		68.9	20.0	19.7	16.3		1.1	805
As purchased	23	17.4	57.0	16.5	16.3	8.4		.9	660
Socket, free from all visible fat	1		74.6	21.6	21.5	2.7		1.2	515
Socket:									
Edible portion	1		57.1	16.9	16.7	25.2		1.0	1,380
As purchased	1	35.8	36.7	10.8	20.7	16.2		.6	885
Forequarter, very lean:									
Edible portion—									
• Minimum	2		72.3	21.9	20.8	1.1		.9	460
• Maximum	2		76.0	22.3	21.8	6.0		1.1	660
• Average	2		74.1	22.1	21.3	3.6		1.0	565
As purchased—									
• Minimum	2	23.2	47.5	14.0	13.7	.7		.7	290
• Maximum	2	37.4	55.5	16.8	16.0	4.6		.7	505
• Average	2	30.3	51.5	15.4	14.8	2.7		.7	400
Forequarter, lean:									
Edible portion—									
• Minimum	4		67.5	16.5	16.1	11.4		.7	815
• Maximum	4		71.1	20.0	19.4	12.7		.9	910
• Average	4		68.6	18.9	18.4	12.2		.8	865
As purchased—									
• Minimum	4	19.7	52.1	12.4	12.1	8.7		.5	615
• Maximum	4	24.9	54.3	16.0	15.3	10.0		.7	720
• Average	4	22.3	53.3	14.7	14.3	9.5		.6	675
Forequarter, medium fat:									
Edible portion—									
• Minimum	10		54.1	17.2	15.9	17.1		.8	1,075
• Maximum	10		63.6	19.1	18.4	27.6		1.0	1,485
• Average	10		60.4	17.9	17.3	21.4		.9	1,235
As purchased—									
• Minimum	10	16.8	44.1	13.7	13.2	13.6		.6	855
• Maximum	10	23.9	51.9	15.3	14.6	22.5		.8	1,210
• Average	10	18.7	49.1	14.5	14.0	17.5		.7	1,010
Forequarter, fat:									
Edible portion	1		53.5	15.9	15.8	30.0		.7	1,560
As purchased	1	27.7	41.9	12.5	12.4	23.4		.6	1,220
Forequarter, very fat:									
Edible portion	1		44.6	15.0	14.0	40.7		.7	1,995
As purchased	1	12.6	41.5	12.4	13.6	31.7		.6	1,570
Forequarter, all analyses:									
Edible portion	18		62.5	18.3	17.7	18.9		.9	1,135
As purchased	18	20.6	49.5	14.4	14.1	15.1		.7	905
Hind quarter, very lean:									
Edible portion—									
• Minimum	2		71.7	21.8	20.8	1.1		1.1	535
• Maximum	2		72.4	26.3	25.8	5.8		1.4	650
• Average	2		72.0	24.0	23.3	3.5		1.2	595
As purchased—									
• Minimum	2	18.8	55.1	17.8	16.9	.8		.8	410
• Maximum	2	23.2	58.7	20.1	19.9	4.8		1.0	535
• Average	2	21.0	56.9	19.0	18.4	2.8		.9	470
Hind quarter, lean:									
Edible portion—									
• Minimum	4		64.6	19.3	18.8	12.2		1.0	890
• Maximum	4		67.5	20.6	19.5	14.9		1.0	990
• Average	4		66.3	20.0	19.3	13.4		1.0	935
As purchased—									
• Minimum	4	16.2	53.8	16.0	15.6	10.2		.8	750
• Maximum	4	17.9	56.5	17.3	16.5	12.4		.9	820
• Average	4	16.6	55.3	16.7	16.1	11.2		.8	785

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.		Water.		Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
		P. ct.	F. ct.	N × 6.25.	By differ- ence.	P. ct.	F. ct.				
ANIMAL FOOD—Continued.											
BEEF, FRESH—continued.											
Hind quarter, medium fat:											
Edible portion—		P. ct.	F. ct.	P. ct.	F. ct.	P. ct.	F. ct.	P. ct.	P. ct.	P. ct.	Oats.
Minimum	11	.....	55.7	17.2	15.9	18.8	.....	0.8	1,070	.....	1,430
Maximum	11	.....	63.9	19.5	18.7	26.6	.....	1.0	1,430	.....	1,250
Average	11	.....	59.8	18.3	17.7	21.6	.....	.9	1,250	.....	
As purchased—											
Minimum	11	13.8	44.4	13.7	13.6	14.3	.....	.6	910	.....	
Maximum	11	20.2	54.3	16.5	15.8	22.6	.....	.8	1,205	.....	
Average	11	18.7	50.4	15.4	14.9	18.3	.....	.7	1,060	.....	
Hind quarter, fat:											
Edible portion	1	.....	52.1	17.7	16.4	20.7	.....	.8	1,025	.....	
As purchased	1	12.4	45.6	15.5	14.4	26.9	.....	.7	1,425	.....	
Hind quarter, all analyses:	18	.....	62.2	19.3	18.6	18.3	.....	.9	1,130	.....	
As purchased	18	16.3	52.0	16.1	15.5	15.4	.....	.8	950	.....	
Sides, very lean:											
Edible portion—											
Minimum	2	.....	72.4	21.8	20.8	1.1	.....	.9	500	.....	
Maximum	2	.....	73.8	24.3	23.9	5.9	.....	1.2	655	.....	
Average	2	.....	73.1	23.0	22.8	3.5	.....	1.1	575	.....	
As purchased—											
Minimum	2	21.2	51.1	16.9	16.4	.7	.....	.7	345	.....	
Maximum	2	30.2	57.0	17.2	16.6	4.7	.....	.9	520	.....	
Average	2	26.0	54.0	17.0	16.5	2.7	.....	.8	430	.....	
Sides, lean:											
Edible portion—											
Minimum	4	.....	66.5	17.6	17.1	12.3	.....	.8	905	.....	
Maximum	4	.....	67.5	20.3	19.8	14.8	.....	1.0	950	.....	
Average	4	.....	67.2	19.3	18.7	13.2	.....	.9	915	.....	
As purchased—											
Minimum	4	18.0	52.9	13.9	13.6	10.1	.....	.6	730	.....	
Maximum	4	20.8	55.3	16.5	15.8	11.7	.....	.8	735	.....	
Average	4	19.5	54.1	15.5	15.1	10.6	.....	.7	735	.....	
Sides, medium fat:											
Edible portion—											
Minimum	11	.....	54.6	17.2	16.5	15.7	.....	.8	1,020	.....	
Maximum	11	.....	64.9	19.3	18.6	27.1	.....	.9	1,465	.....	
Average	11	.....	59.7	18.1	17.4	22.0	.....	.9	1,265	.....	
As purchased—											
Minimum	11	15.5	44.2	13.9	13.7	12.7	.....	.7	890	.....	
Maximum	11	21.8	53.1	15.8	15.7	21.9	.....	.8	1,185	.....	
Average	11	17.4	49.4	14.8	14.4	18.1	.....	.7	1,040	.....	
Sides, very fat:											
Edible portion	1	.....	47.8	16.2	15.1	36.4	.....	.7	1,835	.....	
As purchased	1	13.2	41.5	14.0	13.1	31.6	.....	.6	1,595	.....	
Sides, all analyses:											
Edible portion	18	.....	62.2	18.8	18.1	18.8	.....	.9	1,145	.....	
As purchased	18	18.6	50.5	15.2	14.7	15.5	.....	.7	935	.....	
Miscellaneous cuts, freed from all visible fat:	11	.....	73.3	22.4	22.1	2.9	.....	1.2	540	.....	
Clear fat	7	.....	13.4	4.1	4.1	82.1	.....	.4	3,540	.....	
Soup stock	1	.....	89.1	.....	8.8	1.5	.....	3.6	170	.....	
Brain, edible portion	1	.....	80.6	8.8	9.0	9.3	.....	1.1	555	.....	
Heart:											
Edible portion—											
Minimum	2	.....	56.5	15.7	15.8	14.6	.....	.9	920	.....	
Maximum	2	.....	66.7	16.3	16.3	26.2	.....	1.0	1,365	.....	
Average	2	.....	62.6	16.0	16.0	20.4	.....	1.0	140	.....	
As purchased	1	5.9	53.2	14.8	15.3	24.7	.....	.9	1,320	.....	
Kidney:											
Edible portion—											
Minimum	3	.....	75.7	15.8	16.1	2.4	.....	1.1	426	.....	
Maximum	3	.....	78.7	17.1	17.6	7.1	.....	1.3	595	.....	
Average	3	.....	76.7	16.6	16.9	4.8	.4	1.2	520	.....	
As purchased	1	19.9	63.1	13.7	14.1	1.8	.....	1.0	335	.....	
Leaf liver:											
Edible portion—											
Minimum	6	.....	69.5	18.1	18.8	3.3	1.0	1.3	520	.....	
Maximum	6	.....	75.0	23.1	23.4	5.7	3.5	2.5	670	.....	
Average	6	.....	71.2	20.7	21.2	4.5	1.6	1.6	605	.....	
As purchased	1	7.3	65.6	20.2	20.2	3.1	2.5	1.3	555	.....	

α Includes those given under "chuck," "round," "loin," etc.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carb- hydrate.	Ash.	Fuel value per pound.
				N x 6.25.	By differ- ence.	Fat.			
<b>ANIMAL FOOD—Continued.</b>									
<b>BEEF, FRESH—continued.</b>									
Lungs, as purchased	1		P. ct. 79.7	P. ct. 16.4	P. ct. 16.1	P. ct. 3.2	P. ct. 1.0		440
Marrow, as purchased	1		8.3	2.2	2.6	92.8	1.3		3,955
Sweetbread, as purchased	1		70.9	16.8	15.4	12.1	1.6		825
Suet, as purchased:									
Minimum	9		4.3	1.1	1.0	70.7		2	3,110
Maximum	9		21.9	7.5	7.2	94.5		7	4,010
Average	9		13.7	4.7	4.2	81.8		3	3,540
Tongue:									
Edible portion—									
Minimum	3		63.5	17.0	17.4	.8		9	445
Maximum	3		76.2	22.2	21.9	18.0		1.1	1,075
Average	3		70.8	18.9	19.0	9.2		1.0	740
As purchased—									
Minimum	3	9.2	32.4	7.8	7.9	.7		4	315
Maximum	3	55.3	69.2	20.2	19.9	15.3		1.0	915
Average	3	26.5	51.8	14.1	14.2	6.7		.8	546
<b>BEEF, COOKED.</b>									
Cut not given, boiled, as purchased	1		38.1	26.2	26.1	34.9		.9	2,805
Scraps, as purchased:									
Minimum	2		4.5	16.3	19.0	27.7		.7	1,660
Maximum	2		41.9	26.4	24.2	75.8		6.2	3,500
Average	2		23.2	21.4	21.6	51.7		3.5	2,580
Roast, as purchased:									
Minimum	7		38.7	15.1	14.5	19.6		.7	1,210
Maximum	7		59.5	20.0	19.7	41.4		2.7	2,030
Average	7		48.2	22.3	21.9	28.6		1.3	1,620
Average	1		44.1	23.6	23.7	27.7		1.5	1,610
Pressed, as purchased:									
Round steak, fat removed, as purchased:									
Minimum	18		53.5	19.4	20.3	3.3		1.1	615
Maximum	18		72.3	34.1	34.1	16.9		3.1	1,170
Average	18		63.0	27.6	27.5	7.7		1.8	840
Sirloin steak, baked, as purchased	1		63.7	23.9	24.7	10.2		1.4	875
Loin steak, tenderloin, broiled, edible portion:									
Minimum	6		42.7	19.8	20.6	11.8		1.0	925
Maximum	6		64.5	26.7	26.6	35.7		1.4	1,875
Average	6		54.8	23.5	23.6	20.4		1.2	1,300
Sandwich meat, as purchased:									
Minimum	3		56.3	27.1	27.2	8.0		2.5	870
Maximum	3		61.2	28.6	28.8	13.6		3.1	1,075
Average	3		58.8	28.0	27.9	11.0		2.8	985
<b>BEEF, CANNED.</b>									
Boiled beef, as purchased	1		51.8	25.5	24.4	22.5		1.3	1,425
Cheek, ox, as purchased	1		66.1	22.2	22.3	8.4		3.2	765
Chili-con-carne, as purchased	1		75.4	13.3	13.8	4.6	4.0	2.7	515
Collaps, minced, as purchased	1		72.3	17.8	17.9	6.8	1.1	1.9	640
Corned beef:									
Minimum	15		43.2	20.7	19.6	11.7		2.0	1,000
Maximum	15		58.3	35.1	34.2	31.1		7.3	1,695
Average	15		51.8	26.3	25.5	18.7		4.0	1,290
Dried beef, as purchased:									
Minimum	2		44.2	38.0	37.1	6.1		9.8	955
Maximum	2		45.3	40.4	40.1	4.8		12.5	965
Average	2		44.8	39.2	38.6	5.4		11.2	960
Kidneys, stewed, as purchased:									
Minimum	2		70.9	14.6		4.9		2.1	580
Maximum	2		72.9	22.1		5.4		2.8	620
Average	2		71.9	18.4		5.1	2.1	2.5	600
Luncheon beef, as purchased	1		52.9	27.6	26.4	15.9		4.8	1,185
Palates, ox, as purchased:									
Minimum	2		69.6	16.4	15.9	9.4		.4	750
Maximum	2		73.1	19.3	19.0	10.6		2.0	755
Average	2		71.4	17.8	17.4	10.0		1.2	755
Roast beef, as purchased:									
Minimum	4		55.3	20.3	19.3	9.0		1.2	985
Maximum	4		62.8	29.8	30.0	23.6		1.4	1,375
Average	4		58.9	25.9	25.0	14.8		1.3	1,105
Rump steak, as purchased	1		56.3	24.3	23.5	18.7		.5	1,240
Sweetbread, as purchased	1		69.0	20.2	19.5	9.5		2.0	775

Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Protein.							Total carbohydrate.	Ash.	Fuel value per pound.
		Refuse.	Water.	N			Fat.				
				N × 6.25.	By differ- ence.	Fat.					
<b>ANIMAL FOOD—Continued.</b>											
<b>BEEF, CANNED—continued.</b>											
Tails, ox:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>		<i>Cals.</i>	
Edible portion.....	1	.....	67.9	26.3	24.6	6.3	.....	.....	.....	1.2	
As purchased.....	1	29.7	47.7	18.5	17.3	4.5	.....	.....	.....	535	
Tongue, ground, as purchased:											
Minimum.....	6	.....	42.5	20.1	20.2	21.6	.....	.....	.....	2.9	
Maximum.....	6	.....	54.9	23.6	22.8	32.6	.....	.....	.....	5.1	
Average.....	6	.....	<b>49.9</b>	<b>21.4</b>	<b>21.0</b>	<b>25.1</b>	.....	.....	.....	<b>4.0</b>	
Tongue, whole, as purchased:											
Minimum.....	5	.....	42.4	10.8	18.6	15.7	.....	.....	.....	3.0	
Maximum.....	5	.....	57.4	23.4	22.0	32.7	.....	.....	.....	6.3	
Average.....	5	.....	<b>51.5</b>	<b>19.5</b>	<b>21.5</b>	<b>23.2</b>	.....	.....	.....	<b>4.0</b>	
Tripes, as purchased:											
Minimum.....	12	.....	68.9	16.5	16.2	2.6	.....	.....	.....	.4	
Maximum.....	12	.....	80.2	17.0	16.6	14.5	.....	.....	.....	.6	
Average.....	12	.....	<b>74.6</b>	<b>16.8</b>	<b>16.4</b>	<b>8.5</b>	.....	.....	.....	<b>.5</b>	
<b>BEEF, CORNED AND PICKLED.</b>											
Brisket:											
Edible portion.....	1	.....	50.9	18.3	18.7	24.7	.....	.....	.....	5.7	
As purchased.....	1	21.4	40.0	14.4	14.7	19.4	.....	.....	.....	4.5	
Flank:											
Edible portion—											
Minimum.....	13	.....	43.2	13.1	13.9	24.9	.....	.....	.....	2.8	
Maximum.....	13	.....	56.5	16.1	15.5	41.1	.....	.....	.....	3.1	
Average.....	13	.....	<b>49.9</b>	<b>14.6</b>	<b>14.2</b>	<b>33.0</b>	.....	.....	.....	<b>2.9</b>	
As purchased—											
Minimum.....	12	.....	9.6	39.0	11.9	11.7	21.2	.....	.....	2.5	
Maximum.....	12	.....	14.6	48.3	13.8	13.2	37.2	.....	.....	2.7	
Average.....	12	.....	<b>12.1</b>	<b>43.7</b>	<b>12.9</b>	<b>12.4</b>	<b>29.2</b>	.....	.....	<b>2.6</b>	
Plate:											
Edible portion.....	1	.....	40.1	13.7	13.3	41.9	.....	.....	.....	4.7	
As purchased.....	1	14.5	34.3	11.7	11.4	35.8	.....	.....	.....	4.0	
Tripp:											
Edible portion—											
Minimum.....	3	.....	50.2	13.3	13.3	13.0	.....	.....	.....	2.0	
Maximum.....	3	.....	65.9	17.8	18.1	30.2	.....	.....	.....	4.9	
Average.....	3	.....	<b>58.1</b>	<b>15.3</b>	<b>15.3</b>	<b>23.3</b>	.....	.....	.....	<b>3.3</b>	
As purchased—											
Minimum.....	3	.....	5.0	47.5	12.6	12.6	12.1	.....	.....	1.9	
Maximum.....	3	.....	7.7	60.8	16.4	16.7	28.5	.....	.....	4.7	
Average.....	3	.....	<b>6.0</b>	<b>54.5</b>	<b>14.3</b>	<b>14.4</b>	<b>22.0</b>	.....	.....	<b>3.1</b>	
Extra family beef:											
Edible portion.....	1	.....	37.0	12.3	11.8	47.2	.....	.....	.....	4.0	
As purchased.....	1	10.4	33.1	11.1	10.6	42.3	.....	.....	.....	3.6	
Meas beef, salted:											
Edible portion—											
Minimum.....	2	.....	31.7	11.3	10.6	40.2	.....	.....	.....	4.1	
Maximum.....	2	.....	42.4	13.8	13.3	48.7	.....	.....	.....	0.0	
Average.....	2	.....	<b>37.0</b>	<b>12.6</b>	<b>12.0</b>	<b>44.5</b>	.....	.....	.....	<b>6.5</b>	
As purchased—											
Minimum.....	2	.....	7.1	29.5	10.5	9.8	34.6	.....	.....	3.5	
Maximum.....	2	.....	13.8	36.6	11.9	11.6	45.3	.....	.....	3.8	
Average.....	2	.....	<b>10.5</b>	<b>33.0</b>	<b>11.2</b>	<b>10.7</b>	<b>39.9</b>	.....	.....	<b>5.9</b>	
Corned beef, all analyses:											
Edible portion.....	10	.....	53.6	15.6	15.3	26.2	.....	.....	.....	4.9	
As purchased.....	10	8.4	49.2	14.3	14.0	23.8	.....	.....	.....	4.6	
Spiced beef, rolled, as purchased.....	1	.....	30.0	12.0	11.5	51.4	.....	.....	.....	6.8	
Tongues, pickled:											
Edible portion—											
Minimum.....	2	.....	50.9	8.3	8.0	15.3	.....	.....	.....	3.1	
Maximum.....	2	.....	73.6	17.3	17.0	25.8	.....	.....	.....	6.3	
Average.....	2	.....	<b>62.3</b>	<b>12.8</b>	<b>12.5</b>	<b>20.5</b>	.....	.....	.....	<b>4.7</b>	
As purchased—											
Minimum.....	2	.....	2.1	45.8	8.2	7.8	15.0	.....	.....	3.1	
Maximum.....	2	.....	10.0	72.0	15.6	15.3	23.3	.....	.....	5.6	
Average.....	2	.....	<b>6.0</b>	<b>58.9</b>	<b>11.9</b>	<b>11.6</b>	<b>19.2</b>	.....	.....	<b>4.3</b>	
Tripes, as purchased:											
Minimum.....	4	.....	84.0	7.1	7.2	9	0.4	.....	.....	.1	
Maximum.....	4	.....	91.1	18.6	18.2	1.8	.5	.....	.....	.4	
Average.....	4	.....	<b>86.5</b>	<b>11.7</b>	<b>11.8</b>	<b>1.2</b>	<b>.2</b>	.....	.....	<b>.3</b>	

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Protein.							Total carbo- hydrates.	Ash.	Fuel value per pound.
		Refuse.	Water.	N × 6.25.			Fat.				
				By differ- ence.	Fat.	Total carbo- hydrates.					
<b>ANIMAL FOOD—Continued.</b>											
<b>BEEF, DRIED, ETC.</b>											
Dried, salted, and smoked:											
Edible portion—											
Minimum	7	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.		Cal's.	
Maximum	7	24.3	24.4	24.4	2.8	6.3				570	
Average	7	65.4	47.8	47.0	11.8	2.7	16.9			920	
As purchased—											
Minimum	2	4.4	52.2	25.6	25.0	6.0	7.8			766	
Maximum	2	5.0	35.1	27.3	26.7	7.8	10.0			895	
Average	2	4.7	53.7	26.4	25.8	6.0	8.9			780	
<b>VEAL, FRESH.</b>											
Breast, lean:											
Edible portion—											
Minimum	5	68.4	19.6	18.8	2.5	1.0	515				
Maximum	5	74.9	22.9	23.1	8.0	1.3	765				
Average	5	72.1	21.7	21.2	5.6	1.1	640				
As purchased—											
Minimum	5	11.5	38.9	15.5	12.3	1.3	.7	285			
Maximum	5	46.8	63.7	18.3	18.3	6.8	1.0	523			
Average	5	26.0	53.3	16.1	15.5	4.3	.9	480			
Breast, medium fat:											
Edible portion—											
Minimum	7	64.7	19.3	18.2	12.0	1.0	870				
Maximum	7	68.4	21.1	19.7	15.4	1.2	1,010				
Average	7	66.0	19.5	19.0	14.0	1.0	955				
As purchased—											
Minimum	7	15.7	48.5	14.2	14.0	9.4	.7	680			
Maximum	7	25.4	35.7	16.9	16.2	12.8	.9	855			
Average	7	21.3	52.0	15.4	14.9	11.0	.8	750			
Breast, all analyses:											
Edible portion	12	68.5	20.4	19.9	10.5	1.1	820				
As purchased	12	23.3	52.5	15.7	15.2	.8	635				
Chuck, lean:											
Edible portion	1	76.3		30.6	1.9	1.2	465				
As purchased	1	19.0	61.8		16.7	.9	380				
Chuck, medium fat:											
Edible portion—											
Minimum	6	71.5	19.1	18.2	5.1	1.0	570				
Maximum	6	75.4	21.1	20.6	8.5	1.0	715				
Average	6	73.3	19.7	19.2	6.5	1.0	640				
As purchased—											
Minimum	6	17.6	57.9	15.4	14.6	4.2	.8	465			
Maximum	6	20.9	61.4	17.1	16.2	6.8	.8	585			
Average	6	18.9	59.5	16.0	15.6	5.2	.8	515			
Chuck, all analyses:											
Edible portion	7	73.8	19.7	19.4	5.8	1.0	610				
As purchased	7	19.0	59.8	16.0	15.7	.8	495				
Flank, medium fat, as purchased:											
Minimum	5	64.4	19.4	18.5	7.8	.9	690				
Maximum	5	72.7	21.5	21.0	15.8	1.1	1,035				
Average	5	68.9	20.5	19.7	10.4	1.0	820				
Flank, fat, as purchased	1	57.0	18.1	18.0	24.1	.9	1,355				
Flank, all analyses, as purchased	6	66.9	20.1	19.4	12.7	1.0	910				
Leg, lean:											
Edible portion—											
Minimum	9	71.5	20.3	19.3	1.1	1.1	465				
Maximum	9	75.9	22.6	22.5	6.4	1.3	660				
Average	9	73.5	21.3	21.2	4.1	1.2	570				
As purchased—											
Minimum	9	4.5	53.3	16.5	16.5	3.5	.9	445			
Maximum	9	25.5	71.6	21.4	21.4	6.0	1.2	620			
Average	9	9.1	66.8	19.4	19.3	3.7	1.1	520			
Leg, medium fat:											
Edible portion—											
Minimum	10	67.8	18.2	18.2	6.7	1.0	670				
Maximum	10	72.1	21.4	20.7	11.7	1.2	1,780				
Average	10	70.0	20.2	19.8	9.0	1.2	755				
As purchased—											
Minimum	9	6.9	55.7	14.6	14.9	5.5	.9	545			
Maximum	9	19.3	64.4	18.3	18.7	10.9	1.0	1,955			
Average	9	14.2	60.1	15.5	16.9	7.8	.9	620			

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Protein.								Fuel value per pound.	
		Refuse.	Water.	N × 6.25.				Fat.	Total carbo- hydrates.		Ash.
				N × 6.25.	By differ- ences.	Fat.	Total carbo- hydrates.				
ANIMAL FOOD—Continued.											
VEAL, FRESH—continued.											
Leg, all analyses:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>	
Edible portion	19		71.7	20.7	20.5	6.7		1.1		670	
As purchased	18	11.7	63.4	18.3	18.1	5.8		1.0		585	
Leg, cutlets:											
Edible portion—											
Minimum	3		67.3	20.1	20.1	3.3		1.0		515	
Maximum	3		75.4	20.5	21.1	10.6		1.2		630	
Average	3		<b>70.7</b>	<b>20.3</b>	<b>20.5</b>	<b>7.7</b>		<b>1.1</b>		<b>765</b>	
As purchased—											
Minimum	3	2.1	64.3	19.6	19.5	3.3		.9		505	
Maximum	3	4.5	73.8	21.1	20.2	10.1		1.2		790	
Average	3	<b>3.4</b>	<b>68.3</b>	<b>20.1</b>	<b>19.8</b>	<b>7.5</b>		<b>1.0</b>		<b>690</b>	
Loin, lean:											
Edible portion—											
Minimum	5		71.3	18.8	18.6	4.8		1.0		565	
Maximum	5		75.4	21.5	21.0	6.7		1.2		680	
Average	5		<b>73.3</b>	<b>20.4</b>	<b>19.9</b>	<b>5.6</b>		<b>1.2</b>		<b>615</b>	
As purchased—											
Minimum	5	17.4	53.2	13.4	13.6	3.5		.8		395	
Maximum	5	29.0	59.7	17.7	16.8	5.4		1.0		555	
Average	5	<b>22.0</b>	<b>57.1</b>	<b>15.9</b>	<b>15.6</b>	<b>4.4</b>		<b>.9</b>		<b>490</b>	
Loin, medium fat:											
Edible portion—											
Minimum	6		67.9	18.3	18.1	10.1		1.0		805	
Maximum	6		69.7	20.3	20.0	13.0		1.1		890	
Average	6		<b>69.0</b>	<b>19.9</b>	<b>19.2</b>	<b>10.8</b>		<b>1.0</b>		<b>825</b>	
As purchased—											
Minimum	6	12.2	55.3	16.0	16.4	8.2		.8		645	
Maximum	6	20.3	60.1	17.5	16.6	11.4		.9		780	
Average	6	<b>16.5</b>	<b>57.6</b>	<b>16.6</b>	<b>16.0</b>	<b>9.0</b>		<b>.9</b>		<b>690</b>	
Loin, fat:											
Edible portion—											
Minimum	2		61.3	18.0	18.3	18.3		1.0		1,130	
Maximum	2		61.9	19.3	18.7	19.4		1.1		1,155	
Average	2		<b>61.6</b>	<b>18.7</b>	<b>18.5</b>	<b>18.9</b>		<b>1.0</b>		<b>1,145</b>	
As purchased—											
Minimum	2	16.3	48.9	14.4	14.6	15.4		.8		920	
Maximum	2	20.2	51.8	16.2	15.7	15.5		.8		950	
Average	2	<b>18.3</b>	<b>50.4</b>	<b>15.3</b>	<b>15.1</b>	<b>15.4</b>		<b>.8</b>		<b>935</b>	
Loin, all analyses:											
Edible portion.	13		69.5	19.9	19.4	10.0		1.1		790	
As purchased.	13	18.9	56.3	16.1	15.7	8.2		.9		645	
Loin, with kidney:											
Edible portion.	1		73.3	14.7	14.7	11.8		.8		770	
As purchased.	1	9.1	66.7	13.4	12.8	10.7		.7		700	
Neck:											
Edible portion—											
Minimum	6		69.8	19.9	18.7	4.3		.9		555	
Maximum	6		75.8	20.8	20.0	9.2		1.1		775	
Average	6		<b>72.6</b>	<b>20.3</b>	<b>19.5</b>	<b>6.9</b>		<b>1.0</b>		<b>670</b>	
As purchased—											
Minimum	6	23.5	34.8	10.4	10.0	3.1		.6		385	
Maximum	6	50.0	58.1	15.2	14.5	6.2		.8		540	
Average	6	<b>31.5</b>	<b>49.9</b>	<b>13.9</b>	<b>13.3</b>	<b>4.6</b>		<b>.7</b>		<b>455</b>	
Rib, medium fat:											
Edible portion—											
Minimum	9		70.4	20.0	19.2	3.4		1.0		530	
Maximum	9		75.5	21.7	21.2	9.3		1.2		770	
Average	9		<b>72.7</b>	<b>20.7</b>	<b>20.1</b>	<b>6.1</b>		<b>1.1</b>		<b>640</b>	
As purchased—											
Minimum	9	12.7	42.2	12.7	12.4	2.5		.7		390	
Maximum	9	41.3	64.5	17.3	16.8	6.8		1.1		585	
Average	9	<b>25.3</b>	<b>54.3</b>	<b>15.5</b>	<b>15.0</b>	<b>4.6</b>		<b>.8</b>		<b>490</b>	
Rib, fat:											
Edible portion—											
Minimum	3		50.1	16.2	17.5	11.1		.9		340	
Maximum	3		67.8	20.0	20.0	31.5		1.1		1,630	
Average	3		<b>60.9</b>	<b>18.7</b>	<b>18.8</b>	<b>19.3</b>		<b>1.0</b>		<b>1,160</b>	
As purchased—											
Minimum	3	22.4	37.4	12.1	12.1	8.6		.6		650	
Maximum	3	25.4	52.6	15.5	15.5	23.5		.9		1,215	
Average	3	<b>24.3</b>	<b>46.2</b>	<b>14.2</b>	<b>14.2</b>	<b>14.5</b>		<b>.8</b>		<b>675</b>	



Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Protein.					Total carbo- hydrates.	Ash.	Fuel value per pound.
		Refuse.	Water.	By differ- ences.		Fat.			
				N × 6.25.	P. ct.				
<b>ANIMAL FOOD—Continued.</b>									
<b>VEAL, FRESH—continued.</b>									
Rib, all analyses:									
Edible portion	12			P. ct.	P. ct.	P. ct.	P. ct.	Oals.	
As purchased	12	25.0	32.3	15.2	14.8	7.1		775 580	
Rump:									
Edible portion	1			62.6	19.8	20.1	16.2	1.1	
As purchased	1	30.2	43.7	13.8	14.0	11.3		.8 1,050 735	
Shank, fore:									
Edible portion—									
Minimum	6		72.5	19.8	18.9	4.1	1.0	540	
Maximum	6		73.8	21.4	20.6	5.4	1.0	655	
Average	6		74.0	20.7	19.8	5.2	1.0	606	
As purchased—									
Minimum	6	20.4	35.1	9.5	9.0	2.2	.5	295	
Maximum	6	52.5	58.6	16.7	16.0	4.2	.8	490	
Average	6	40.4	44.1	12.2	11.8	3.1	.6	380	
Shank, hind, medium fat:									
Edible portion—									
Minimum	6		73.4	18.9	17.9	3.0	.9	520	
Maximum	6		76.2	21.6	20.9	9.7	1.1	645	
Average	6		74.5	20.7	19.9	4.6	1.0	580	
As purchased—									
Minimum	6	61.1	25.9	7.1	6.7	1.2	.4	195	
Maximum	6	64.7	29.3	8.2	8.0	2.5	.4	235	
Average	6	62.7	27.8	7.7	7.4	1.7	.4	215	
Shank, hind, fat:									
Edible portion	1			68.1	26.5	20.0	10.7	1.2	
As purchased	1	51.4	33.1	10.0	9.7	5.2	.6	465	
Shank, hind, all analyses:									
Edible portion	7			73.6	20.7	19.9	5.5	1.0	
As purchased	7	61.1	28.6	8.0	7.7	2.2	.4	615 240	
Forequarter:									
Edible portion—									
Minimum	6		69.9	19.5	18.6	5.5	.8	595	
Maximum	6		74.8	20.9	20.5	10.6	1.1	810	
Average	6		71.7	20.0	19.4	8.0	.9	740	
As purchased—									
Minimum	6	19.3	51.8	14.5	13.7	4.1	.6	445	
Maximum	6	26.0	56.6	16.1	15.9	7.3	.8	600	
Average	6	24.5	54.2	15.1	14.6	6.0	.7	535	
Hind quarter:									
Edible portion—									
Minimum	6		68.4	19.6	19.4	5.6	.8	620	
Maximum	6		73.8	20.8	20.4	11.2	1.2	845	
Average	6		70.9	20.7	19.8	8.3	1.0	735	
As purchased—									
Minimum	6	18.0	53.7	15.7	15.3	4.4	.6	490	
Maximum	6	24.0	58.4	16.8	16.2	9.2	.9	690	
Average	6	20.7	56.2	16.2	15.7	6.6	.8	630	
Side, with kidney, fat, and tallow:									
Edible portion—									
Minimum	6		69.2	19.8	19.2	5.5	.9	605	
Maximum	6		74.3	20.7	20.4	10.3	1.1	805	
Average	6		71.3	20.2	19.6	8.1	1.0	715	
As purchased—									
Minimum	6	18.6	53.3	15.4	14.7	4.3	.7	470	
Maximum	6	24.9	57.3	16.1	15.9	8.4	.9	655	
Average	6	22.6	55.2	15.6	15.1	6.3	.8	565	
Heart, as purchased:	1			73.2	16.8	16.2	9.6	1.0	
Kidneys, as purchased:									
Minimum	2		74.7	16.6	16.4	5.4	1.3	545	
Maximum	2		76.8	17.1	16.6	7.4	1.4	620	
Average	2		75.9	16.9	16.5	6.4	1.3	635	
Liver, as purchased:									
Minimum	2		72.4	18.4	19.8	4.0	1.2	535	
Maximum	2		73.7	19.6	21.0	6.6	1.3	620	
Average	2		73.0	19.0	20.4	5.3	1.3	675	
Lungs, as purchased.	1			76.8	17.1	17.1	5.0	1.1	
<b>LAMB, FRESH.</b>									
Bread or chuck:									
Edible portion	1			56.2	19.1	19.2	23.6	1.0	
As purchased	1	19.1	45.5	15.4	15.5	19.1	.8	1,350 1,990	

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.				Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.	F. ct.	P. ct.				
<b>ANIMAL FOOD—Continued.</b>											
<b>LAMB, FRESH—continued.</b>											
Leg. hind, medium fat:											
Edible portion.....				<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>	
Minimum.....	12			63.1	18.7	18.1	15.3			1.1	
Maximum.....				64.7	19.7	18.9	17.6			1.2	
Average.....				<b>63.9</b>	<b>19.2</b>	<b>18.5</b>	<b>16.5</b>			<b>1.1</b>	
As purchased—											
Minimum.....	12	17.0	52.4	15.5	15.0	12.6			.9	830	
Maximum.....		17.7	53.3	16.2	15.5	14.6			1.0	933	
Average.....		<b>17.4</b>	<b>52.9</b>	<b>15.9</b>	<b>15.2</b>	<b>13.6</b>			<b>.9</b>	<b>870</b>	
Leg. hind, fat:											
Edible portion.....	1		54.6	18.3	17.1	27.4			.9	1,495	
As purchased.....	1	13.4	47.3	15.8	14.8	23.7			.8	1,295	
Leg. hind, very fat:											
Edible portion.....	1		51.8	17.6	17.2	30.1			.9	1,595	
As purchased.....	1	7.0	48.2	16.4	16.0	28.0			.8	1,485	
Leg. hind, all analyses:											
Edible portion.....	4		58.6	18.6	17.8	22.6			1.0	1,300	
As purchased.....	4	13.8	50.3	16.0	15.2	19.7			.9	1,130	
Loin, without kidney and tallow:											
Edible portion—											
Minimum.....	4		48.6	16.9	15.5	25.1			.8	1,420	
Maximum.....	4		54.8	20.2	19.0	35.1			1.1	1,795	
Average.....	4		<b>53.1</b>	<b>18.7</b>	<b>17.6</b>	<b>28.3</b>			<b>1.0</b>	<b>1,540</b>	
As purchased—											
Minimum.....	4	12.2	40.8	14.2	13.0	21.1			.7	1,200	
Maximum.....	4	17.4	48.1	17.1	16.7	29.5			.9	1,510	
Average.....	4	<b>14.8</b>	<b>45.3</b>	<b>16.0</b>	<b>15.0</b>	<b>24.1</b>			<b>.8</b>	<b>1,315</b>	
Neck:											
Edible portion.....	1		56.7	17.7	17.5	24.8			1.0	1,375	
As purchased.....	1	17.7	46.7	14.6	14.4	20.4			.8	1,135	
Leg. free from all visible fat, as purchased.....	1		72.3	25.3	23.6	2.7			1.4	585	
Shoulder:											
Edible portion.....	1		51.8	18.1	17.5	20.7			1.0	1,590	
As purchased.....	1	20.3	41.3	14.4	14.0	23.6			.8	1,265	
Forequarter:											
Edible portion.....	1		55.1	18.3	18.1	25.8			1.0	1,430	
As purchased.....	1	18.8	44.7	14.9	14.7	21.0			.8	1,165	
Hind quarter:											
Edible portion.....	1		60.9	19.6	19.0	19.1			1.0	1,170	
As purchased.....	1	15.7	51.3	16.5	16.0	16.1			.9	985	
Side, without tallow:											
Edible portion—											
Minimum.....	3		56.8	17.0	16.5	21.2			1.0	1,235	
Maximum.....	3		60.0	18.0	18.5	25.7			1.1	1,400	
Average.....	3		<b>58.2</b>	<b>17.6</b>	<b>17.6</b>	<b>23.1</b>			<b>1.1</b>	<b>1,300</b>	
As purchased—											
Minimum.....	3	17.3	46.1	13.8	13.4	16.6			.8	965	
Maximum.....	3	21.6	47.9	15.6	15.3	20.9			.9	1,140	
Average.....	3	<b>19.3</b>	<b>47.0</b>	<b>14.1</b>	<b>14.2</b>	<b>18.7</b>			<b>.8</b>	<b>1,055</b>	
<b>LAMB, COOKED.</b>											
Chops, broiled:											
Edible portion—											
Minimum.....	4		43.4	10.2	10.2	24.3			1.1	1,495	
Maximum.....	4		50.4	25.2	23.6	34.7			1.7	1,860	
Average.....	4		<b>47.6</b>	<b>21.7</b>	<b>21.2</b>	<b>29.9</b>			<b>1.3</b>	<b>1,645</b>	
As purchased.....	1	13.5	40.1	18.4	18.5	26.7			1.2	1,470	
Cut not given, as purchased.....	1		47.1	23.7	22.1	29.4			1.4	1,680	
Leg. roast.....	1		67.1	19.7	19.4	12.7			.8	900	
<b>LAMB, CANNED.</b>											
Tongue, spiced and cooked:											
Edible portion.....	1		67.4	13.9	14.3	17.8			.5	1,010	
As purchased.....	1	2.6	65.7	13.5	13.9	17.3			.5	960	
<b>MUTTON, FRESH.</b>											
Chuck, lean:											
Edible portion.....	1		64.7	17.8	18.1	16.3			.9	1,020	
As purchased.....	1	19.5	52.1	14.3	14.5	13.1			.8	820	

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrate.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.				
ANIMAL FOOD—Continued.									
MUTTON, FRESH—continued.									
Chuck, medium fat:									
Edible portion—									
Minimum	6		P. ct. 47.9	P. ct. 14.4	P. ct. 13.5	P. ct. 26.0	P. ct. 0.7		1,400
Maximum	6		56.7	16.3	16.4	37.4			1,845
Average	6		50.9	15.1	14.6	33.6			1,700
As purchased—									
Minimum	6	14.4	26.6	11.2	10.5	20.6		.6	1,110
Maximum	6	25.2	45.1	13.0	13.1	30.6		.9	1,500
Average	6	21.3	39.9	11.9	11.5	26.7		.6	1,350
Chuck, fat:									
Edible portion—									
Minimum	2		37.6	13.7	15.3	42.5		.7	2,055
Maximum	2		43.5	14.0	14.3	47.2		1.0	2,245
Average	2		40.6	13.9	13.7	44.9		.8	2,155
As purchased—									
Minimum	2	14.9	32.0	11.5	10.9	34.8		.6	1,685
Maximum	2	18.1	35.6	11.7	11.1	40.1		.9	1,910
Average	2	16.5	33.8	11.6	11.5	37.5		.7	1,800
Chuck, very fat:									
Edible portion	1		29.9	9.6	9.4	60.1		.6	2,715
As purchased	1	13.8	25.8	8.3	8.1	51.8		.5	2,340
Chuck, all analyses:									
Edible portion	10		48.2	14.6	14.2	36.8		.8	1,825
As purchased	10	10.4	38.5	11.7	11.4	30.0		.7	1,435
Flank, medium fat:									
Edible portion—									
Minimum	8		38.7	12.4	11.9	32.1		.5	1,670
Maximum	8		51.2	17.1	16.0	45.0		.8	2,190
Average	8		46.2	15.2	14.3	38.3		.7	1,900
As purchased—									
Minimum	2	2.2	37.8	12.2	11.8	29.6		.5	1,475
Maximum	2	17.7	40.2	15.3	15.4	44.1		.7	2,145
Average	2	9.9	39.0	13.8	13.6	36.9		.6	1,815
Flank, very fat, as purchased:									
Minimum	2		25.0	8.6	9.5	54.7		.6	2,545
Maximum	2		32.7	12.8	15.0	64.9		.6	2,900
Average	2		28.9	10.7	10.7	59.8		.6	2,725
Flank, all analyses:									
Edible portion	10		42.7	14.3	14.0	42.6		.7	2,065
As purchased	2	9.9	39.0	13.8	13.6	36.9		.6	1,815
Leg, hind, lean:									
Edible portion—									
Minimum	3		66.6	19.3	18.5	11.9		1.0	875
Maximum	3		68.3	20.2	19.6	13.0		1.2	920
Average	3		67.4	19.3	19.1	12.4		1.1	890
As purchased—									
Minimum	3	3.4	51.0	14.7	14.1	9.3		.8	665
Maximum	3	23.7	65.0	19.5	19.0	11.5		1.1	850
Average	3	16.8	56.1	16.5	15.9	10.3		.9	740
Leg, hind, medium fat:									
Edible portion—									
Minimum	11		58.4	17.4	17.5	14.6		.9	955
Maximum	11		65.3	19.4	19.0	22.5		1.0	1,265
Average	11		62.8	18.6	18.2	18.0		1.0	1,105
As purchased—									
Minimum	11	9.8	48.0	13.8	13.4	11.0		.7	730
Maximum	11	26.0	55.7	17.5	17.1	19.3		.9	1,105
Average	11	18.4	51.2	15.1	14.9	14.7		.8	900
Leg, hind, fat:									
Edible portion	1		55.0	17.3	17.0	27.1		.9	1,465
As purchased	1	12.4	48.2	15.2	14.8	23.8		.8	1,290
Leg, hind, all analyses:									
Edible portion	15		63.2	18.7	18.3	17.5		1.0	1,085
As purchased	15	17.7	51.9	15.4	15.1	14.5		.8	900
Loin, without kidney or tallow, medium fat:									
Edible portion—									
Minimum	13		44.9	13.7	13.3	25.9		.7	1,430
Maximum	13		55.9	19.6	19.5	37.6		1.0	1,860
Average	13		50.2	16.0	15.9	33.1		.8	1,695
As purchased—									
Minimum	12	11.7	38.1	11.3	11.5	20.9		.5	1,155
Maximum	12	23.8	46.8	14.7	14.9	32.9		.9	1,640
Average	12	16.0	42.0	13.5	13.0	28.3		.7	1,445

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbohydrate.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.	Fat.			
ANIMAL FOOD—Continued.									
MUTTON, FRESH—continued.									
Loin, without kidney or tallow, fat:									
Edible portion—									
Minimum	3		42.0	14.5	13.9	40.9		0.7	1,995
Maximum	3		44.3	15.1	14.6	43.3		.8	2,100
Average	3		43.3	14.7	14.2	41.7		.8	2,035
As purchased—									
Minimum	3	11.3	37.1	12.8	12.3	36.0		.6	1,770
Maximum	3	12.0	39.3	13.3	12.9	38.2		.7	1,850
Average	3	11.7	38.2	13.0	12.5	36.8		.7	1,795
Loin, without kidney or tallow, very fat:									
Edible portion	1		30.8	10.6	10.0	58.7		.5	2,075
As purchased	1	9.0	28.1	9.6	9.1	53.4		.4	2,435
Loin, without kidney or tallow, all analyses:									
Edible portion	17		47.8	15.5	15.2	36.2		.8	1,815
As purchased	16	14.8	40.4	13.1	12.7	31.5		.8	1,575
Loin, free fat removed	1		56.5	23.7	23.9	18.5		1.1	1,225
Neck, medium fat:									
Edible portion—									
Minimum	10		54.7	12.8	13.4	17.8		.8	1,125
Maximum	10		61.9	20.0	19.2	29.5		1.1	1,540
Average	10		58.1	16.9	16.3	24.6		1.0	1,365
As purchased—									
Minimum	10	17.2	38.4	8.4	8.1	14.0		.6	840
Maximum	10	34.9	48.6	15.7	15.1	24.5		.8	1,280
Average	10	27.4	42.1	12.3	11.9	17.9		.7	955
Neck, very fat:									
Edible portion	1		42.1	13.9	13.6	43.5		.8	2,095
As purchased	1	16.1	35.3	11.7	11.4	36.5		.7	1,760
Neck, all analyses:									
Edible portion	11		56.6	16.7	16.1	26.3		1.0	1,420
As purchased	11	26.4	41.5	12.2	11.8	19.6		.7	1,055
Shoulder, lean:									
Edible portion	1		67.2	19.5	18.9	12.9		1.0	905
As purchased	1	25.3	50.2	14.6	14.2	9.6		.7	675
Shoulder, medium fat:									
Edible portion—									
Minimum	7		58.6	16.6	15.8	15.6		.9	1,115
Maximum	7		65.2	18.3	18.2	24.3		.9	1,335
Average	7		61.9	17.7	17.3	19.9		.9	1,170
As purchased—									
Minimum	7	14.6	45.0	12.6	12.1	13.4		.6	835
Maximum	7	27.2	55.7	15.5	15.5	18.8		.8	1,075
Average	7	22.5	47.9	13.7	13.4	15.5		.7	910
Shoulder, fat:									
Edible portion	1		53.0	16.2	15.9	30.3		.8	1,580
As purchased	1	19.5	42.7	13.0	12.8	24.4		.6	1,270
Shoulder, very fat:									
Edible portion	1		48.4	15.6	15.2	35.6		.8	1,790
As purchased	1	18.7	39.3	12.7	12.4	28.9		.7	1,455
Shoulder, all analyses:									
Edible portion	10		60.2	17.5	17.1	21.8		.9	1,245
As purchased	10	22.1	44.8	13.7	13.3	17.1		.7	975
Forequarter:									
Edible portion—									
Minimum	10		37.2	12.1	11.7	17.1		.7	1,040
Maximum	10		64.3	17.2	17.6	50.4		1.1	2,350
Average	10		52.9	15.6	15.3	30.9		.9	1,595
As purchased—									
Minimum	10	15.7	31.4	10.2	9.9	18.3		.5	810
Maximum	10	24.9	50.0	13.8	13.7	42.4		.8	1,980
Average	10	21.2	41.6	12.3	12.0	24.5		.7	1,265
Hind quarter:									
Edible portion—									
Minimum	10		40.4	13.2	12.9	21.4		.6	1,235
Maximum	10		50.4	18.2	17.4	45.1		1.0	2,190
Average	10		44.5	16.7	16.3	28.1		.8	1,495
As purchased—									
Minimum	10	8.8	36.5	11.9	11.6	17.7		.6	1,020
Maximum	10	22.4	50.0	15.7	14.7	41.5		.8	1,975
Average	10	17.2	45.4	13.8	13.5	28.2		.7	1,235

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo-hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ-ence.				
<b>ANIMAL FOOD—Continued.</b>									
<b>MUTTON, FRESH—continued.</b>									
Side, including tallow:									
Edible portion—									
Minimum	25			47.2	14.5	14.0	14.7	0.7	965
Maximum	25			55.9	18.9	16.4	38.0	1.0	1,860
Average	25			54.2	16.3	16.0	28.9	.9	1,520
As purchased—									
Minimum	25	13.0	40.7	12.2	11.7	11.2		.6	730
Maximum	25	22.8	55.2	14.9	14.4	33.1		.8	1,625
Average	25	18.1	48.4	13.0	12.7	22.1		.7	1,215
Side, not including tallow:									
Edible portion—									
Minimum	10		38.8	12.6	12.3	23.3		.7	1,295
Maximum	10		58.8	17.4	17.4	48.2		.9	2,265
Average	10		53.6	16.2	15.8	39.8		.8	1,560
As purchased—									
Minimum	10	12.9	33.8	11.0	10.7	18.1		.6	1,005
Maximum	10	22.7	47.3	14.7	15.8	42.0		.8	1,975
Average	10	19.3	43.3	13.0	12.7	34.0		.7	1,255
<b>MUTTON, COOKED.</b>									
Mutton, leg roast, edible portion:									
Minimum	2		50.8	23.3	23.2	20.5		1.2	1,380
Maximum	2		51.0	27.8	27.4	24.6		1.3	1,470
Average	2		50.9	25.0	25.3	22.6		1.2	1,420
<b>MUTTON ORGANS.</b>									
Heart, as purchased:									
Minimum	2		67.4	15.8	15.6	11.9		.9	795
Maximum	2		71.8	18.0	18.3	13.4		.9	890
Average	2		69.5	16.9	17.0	12.6		.9	845
Kidneys, as purchased:									
Minimum	1		78.7	16.5	16.8	3.2		1.3	440
Kidney and kidney fat, as purchased:									
Minimum	1		18.8	6.2	4.3	76.5		.4	3,345
Kidney fat, as purchased:									
Minimum	2		2.9	1.7	1.1	94.9		.1	4,035
Maximum	2		3.9	1.8	1.2	95.8		.1	4,075
Average	2		3.4	1.8	1.1	95.4		.1	4,060
Liver, as purchased:									
Minimum	2		52.7	23.1		4.7	2.1	1.4	645
Maximum	2		69.8	24.2		13.2	7.9	2.0	1,155
Average	2		61.2	23.1		9.0	5.0	1.7	905
Lungs, as purchased:									
Minimum	2		74.6	19.0	18.8	2.6		1.2	475
Maximum	2		77.1	21.4	21.5	2.9		1.3	505
Average	2		75.9	20.2	20.1	2.8		1.2	495
<b>MUTTON, CANNED.</b>									
Canned, as purchased:									
Tongue, as purchased	1		45.8	28.8	27.2	22.8		4.2	1,590
	1		47.6	24.4	23.6	24.0		4.8	1,465
<b>PORK, FRESH.</b>									
Chuck ribs and shoulder:									
Edible portion—									
Minimum	2		50.3	17.2	16.8	30.4		.9	1,665
Maximum	2		51.9	17.3	16.9	31.9		.9	1,695
Average	2		51.1	17.6	16.9	31.1		.9	1,625
As purchased—									
Minimum	2	15.9	40.1	13.7	13.5	25.4		.7	1,325
Maximum	2	20.3	43.6	14.5	14.1	25.6		.8	1,350
Average	2	18.1	41.8	14.1	13.8	25.5		.8	1,340
Flank:									
Edible portion—									
Minimum	3		56.0	17.2	16.2	19.4		.9	1,180
Maximum	3		60.7	18.5	18.3	26.9		1.0	1,435
Average	3		59.0	18.5	17.3	22.2		1.0	1,280
As purchased—									
Minimum	3	11.3	45.4	13.9	12.9	15.0		.6	900
Maximum	3	23.9	54.0	16.5	15.3	22.0		.8	1,180
Average	3	18.0	48.5	15.1	14.2	18.6		.7	1,045

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	Hydri- difer- ence.				
<b>ANIMAL FOOD—Continued.</b>									
<b>PORK, FRESH—continued.</b>									
Ham, fresh, lean:									
Edible portion—									
Minimum				P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cal.
Maximum				55.6	19.8	18.8	13.0	1.0	1,435
Average				64.4	30.2	30.2	15.8	1.6	1,110
<b>As purchased—</b>				<b>60.0</b>	<b>25.0</b>	<b>24.3</b>	<b>14.4</b>	<b>1.3</b>	<b>1,075</b>
As purchased—									
Minimum	2			55.6	19.4	18.5	13.0	.9	1,015
Maximum	2	1.8		63.3	30.2	29.8	15.5	1.6	1,110
Average	2	.9		59.4	24.8	24.3	14.2	1.3	1,060
Ham, fresh, medium fat: <sup>a</sup>									
Edible portion—									
Minimum	10			37.3	9.9	12.8	21.2	.6	1,225
Maximum	10			60.3	20.3	22.0	39.4	1.3	2,070
Average	10			53.9	15.3	16.4	28.9	.8	1,505
As purchased—									
Minimum	10	4.6		34.1	8.7	11.3	19.4	.6	1,120
Maximum	10	14.2		54.7	18.5	30.0	36.0	1.2	1,680
Average	10	10.7		48.0	13.5	14.6	25.0	.8	1,345
Ham, fresh, fat: <sup>b</sup>									
Edible portion—									
Minimum	5			30.4	10.7	8.0	43.8	.5	2,030
Maximum	5			44.3	14.2	12.1	61.1	.8	2,825
Average	5			38.7	12.4	10.6	50.0	.7	2,345
As purchased—									
Minimum	5	9.7		25.9	9.5	6.8	37.8	.4	1,790
Maximum	5	16.3		40.0	12.2	10.4	52.2	.7	2,410
Average	5	13.2		33.6	10.7	9.2	43.5	.5	2,035
Ham, fresh, average all analyses:									
Edible portion	17			50.1	15.7	15.6	33.4	.9	1,700
As purchased	17	10.3		45.1	14.3	14.1	29.7	.8	1,520
Ham, fresh, visible fat largely removed:	3			64.5	19.2	18.4	16.2	.9	1,040
Head:									
Edible portion—									
Minimum	3			38.4	11.6	10.5	34.5	.6	1,725
Maximum	3			50.5	14.5	14.2	50.5	.8	2,350
Average	3			45.3	13.4	12.7	41.3	.7	1,990
As purchased—									
Minimum	3	51.7		10.7	3.2	3.0	8.2	.2	410
Maximum	3	77.2		18.5	5.0	3.1	24.4	.3	1,185
Average	3	68.4		13.8	4.1	3.8	13.8	.2	600
Head cheese:									
Edible portion—									
Minimum	3			38.1	17.4	15.4	27.4	3.0	1,555
Maximum	3			48.1	21.5	21.1	40.5	3.4	2,035
Average	3			43.3	19.5	16.3	33.8	3.3	1,790
As purchased	1	12.1		42.3	18.9	18.6	24.0	3.0	1,365
Loin (chops), lean:									
Edible portion	1			60.3	20.3	16.7	19.0	1.0	1,160
As purchased	1	23.5		46.1	15.5	15.1	14.5	.8	990
Loin (chops), medium fat:									
Edible portion— <sup>c</sup>									
Minimum	19			49.1	13.8	14.9	25.0	.8	1,415
Maximum	19			55.2	19.4	18.9	35.2	1.1	1,785
Average	19			52.0	16.6	16.3	30.1	1.0	1,580
As purchased—									
Minimum	19	11.5		36.3	10.6	11.7	20.0	.6	1,090
Maximum	19	28.2		46.9	16.1	16.3	31.1	.8	1,575
Average	19	19.7		41.8	13.4	13.5	24.2	.8	1,270
Loin (chops), fat:									
Edible portion—									
Minimum	4			39.7	11.3	11.0	38.8	.6	1,995
Maximum	4			46.7	19.3	15.8	48.6	.7	2,280
Average	4			41.8	14.5	13.1	44.4	.7	2,145
As purchased—									
Minimum	4	10.1		32.0	10.2	9.9	30.4	.6	1,560
Maximum	4	22.2		36.5	15.1	12.3	43.7	.6	2,035
Average	4	16.5		34.8	11.9	10.9	37.2	.6	1,790
Loin (chops), average all analyses:									
Edible portion	24			50.7	16.4	16.4	32.0	.9	1,655
As purchased	24	19.3		40.8	13.2	13.1	26.0	.8	1,340

<sup>a</sup> Seven samples contained an average of lecithin 0.32, gelatinoids 0.8, and "flesh bases 1.23 per cent."

<sup>b</sup> One sample contained lecithin 0.45, gelatinoids 0.9, and "flesh bases 0.8 per cent."

<sup>c</sup> Eight samples contained an average of lecithin 0.35, gelatinoids 1.0, and "flesh bases 1.5 per cent."

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Protein.						Total carbo- hydrates.	Ash.	Fuel value per pound.
		Refuse.	Water.	N × 6.25.		Fat.				
				By differ- ence.						
ANIMAL FOOD—Continued.										
PORK, FRESH—continued.										
Loic, tenderloin, as purchased: a										
Minimum	11		P. ct. 62.4	P. ct. 15.8	P. ct. 16.6	P. ct. 9.3				770
Maximum	11		72.8	20.5	21.4	17.1				1,100
Average	11		66.5	18.9	19.5	13.0		1.0		990
Middle cuts:										
Edible portion—										
Minimum	3		46.0	15.7	14.5	34.9		.7		1,760
Maximum	3		49.4	15.7	15.3	38.8		.8		1,925
Average	3		48.2	15.7	14.8	36.3		.7		1,825
As purchased—										
Minimum	3	12.7	35.5	12.1	11.3	26.5		.6		1,345
Maximum	3	23.5	42.8	13.7	13.2	30.5		.8		1,510
Average	3	19.7	38.6	12.7	12.1	28.9		.7		1,455
Shoulder:										
Edible portion—b										
Minimum	19		44.0	9.4	10.4	18.5		.6		1,105
Maximum	19		63.6	17.4	17.0	49.3		.9		2,280
Average	19		51.2	13.3	13.8	34.2		.8		1,690
As purchased—										
Minimum	19	3.9	36.1	8.3	9.5	14.6		.5		870
Maximum	19	21.1	56.0	16.3	16.1	45.1		.9		2,065
Average	19	12.4	44.9	12.0	12.2	29.8		.7		1,480
Side, lard and other fat included:										
Edible portion—										
Minimum	3		26.2	8.4	7.8	59.1		.4		2,675
Maximum	3		31.8	9.9	8.9	65.6		.5		2,925
Average	3		29.4	9.4	8.5	61.7		.4		2,780
As purchased—										
Minimum	3	7.9	24.1	7.8	7.2	51.1		.4		2,315
Maximum	3	13.5	27.5	8.3	7.8	60.4		.4		2,695
Average	3	11.2	26.1	8.3	7.5	54.8		.4		2,465
Side, not including lard and kidney:										
Edible portion—c										
Minimum	11		29.4	7.1	8.1	44.0		.4		2,060
Maximum	11		43.1	11.0	12.2	64.4		.7		2,880
Average	11		34.4	9.1	9.8	55.3		.5		2,505
As purchased—										
Minimum	11	8.2	26.6	6.4	7.3	38.8		.4		1,815
Maximum	11	14.2	38.0	9.0	10.8	59.1		.6		2,645
Average	11	11.5	30.4	8.0	8.6	49.0		.5		2,215
Clear backs:										
Edible portion—d										
Minimum	8		20.2	4.9	5.6	57.8		.3		2,595
Maximum	8		32.3	8.4	9.4	74.4		.5		3,235
Average	8		25.1	6.4	6.9	67.6		.4		2,970
As purchased—										
Minimum	8	4.2	19.3	4.7	4.8	54.8		.3		2,460
Maximum	8	7.1	30.6	8.0	8.9	70.9		.5		3,080
Average	8	5.7	23.7	6.0	6.4	63.8		.4		2,805
Clear bellies:										
Edible portion—e										
Minimum	8		21.5	3.5	4.3	52.1		.2		2,360
Maximum	8		37.3	8.8	10.0	74.0		.6		3,590
Average	8		31.4	6.9	7.8	60.4		.4		2,675
As purchased—										
Minimum	8	4.9	20.3	3.3	4.0	49.1		.2		2,225
Maximum	8	8.6	35.2	8.3	9.4	69.8		.6		3,005
Average	8	6.2	29.5	6.5	7.3	56.6		.4		2,510
Back fat, as purchased:										
Minimum	3		5.5	3.2	2.0	86.7		.1		3,730
Maximum	3		10.5	4.1	2.7	92.4		.2		3,955
Average	3		7.7	3.6	2.3	89.9		.1		3,860
Belly fat, as purchased:										
Minimum	3		11.0	3.9	3.2	78.6		.2		3,430
Maximum	3		16.7	6.1	4.6	85.6		.2		3,695
Average	3		13.8	5.2	4.1	81.9		.2		3,555

a Eight samples contained an average of lecithin 0.51, gelatinoids 0.6, and "flesh bases" 0.9 per cent.

b Eight samples contained an average of lecithin 0.25, gelatinoids 0.8, and "flesh bases" 1.1 per cent.

c Eight samples contained an average of lecithin 0.25, gelatinoids 1.1, and "flesh bases" 1.5 per cent.

d Eight samples contained an average of lecithin 0.21, gelatinoids 0.8, and "flesh bases" 0.8 per cent.

e Eight samples contained an average of lecithin 0.18, gelatinoids 0.6, and "flesh bases" .9 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.				Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.							
				By differ- ence.							
<b>ANIMAL FOOD—Continued.</b>											
<b>PORK, FRESH—continued.</b>											
Ham fat, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>		<i>Cal.</i>	
Minimum	3	8.3	3.1	2.5	87.2	0.1	3,740				
Maximum	3	10.2	3.7	3.3	89.2	.2	3,825				
Average	3	9.1	3.5	2.7	88.0	.2	3,780				
Jowl fat, as purchased:											
Minimum	3	13.3	5.1	4.3	72.8	.2	3,200				
Maximum	3	21.2	6.9	5.7	82.2	.3	3,573				
Average	3	16.0	5.9	5.0	78.8	.2	3,435				
Feet:											
Edible portion— <i>a</i>											
Minimum	8	50.7	8.3	11.5	17.4	.4	1,090				
Maximum	8	61.3	19.2	20.5	31.5	.9	1,630				
Average	8	55.4	15.8	17.5	26.8	.5	1,405				
As purchased—											
Minimum	8	65.6	8.7	2.4	5.0	.1	235				
Maximum	8	84.0	17.3	5.6	5.8	.3	560				
Average	8	74.1	14.3	4.1	4.5	.2	365				
Tails:											
Edible portion— <i>b</i>											
Minimum	8	11.5	2.9	3.6	67.2	.2	2,940				
Maximum	8	25.8	6.8	7.2	84.7	.4	3,630				
Average	8	17.4	4.8	5.2	77.1	.3	3,340				
As purchased—											
Minimum	8	8.7	10.0	2.5	5.2	.2	2,420				
Maximum	8	19.8	21.8	5.5	74.2	.3	3,200				
Average	8	13.3	15.0	4.1	66.9	.3	2,900				
Trimnings:											
Edible portion—											
Minimum	8	16.5	3.9	4.3	62.1	.3	2,750				
Maximum	8	29.7	7.2	7.9	78.9	.4	3,465				
Average	8	23.3	5.4	6.2	70.2	.3	3,060				
As purchased—											
Minimum	8	5.3	15.5	3.7	4.0	.3	2,570				
Maximum	8	10.4	27.8	6.7	7.3	.4	3,200				
Average	8	7.4	21.6	5.0	5.7	.3	2,835				
<b>PORK ORGANS, ETC.</b>											
Brains, as purchased	1	75.8	11.7	12.3	10.3	1.6	655				
Heart, as purchased	1	75.0	17.1	17.1	6.3	1.0	585				
Kidneys, as purchased:											
Minimum	2	76.1	15.2	15.2	4.1	1.2	455				
Maximum	2	79.5	15.9	17.2	5.5	1.2	530				
Average	2	77.8	15.5	16.2	4.8	1.2	490				
Liver, as purchased	1	71.4	21.3	21.3	4.5	1.4	615				
Lungs, as purchased	1	83.3	11.9	11.8	4.0	.9	390				
Marrow, as purchased:											
Minimum	6	13.2	1.5	2.2	78.4		3,360				
Maximum	6	16.7	3.2	5.8	84.5	(c)	4,085				
Average	6	14.6	2.3	4.2	81.2		3,470				
Skin, as purchased:											
Minimum	7	35.5	18.5	27.4	14.4	.5	1,140				
Maximum	7	55.4	33.3	33.5	35.3	.8	1,860				
Average	7	46.5	26.4	30.4	22.7	.6	1,450				
<b>PORK, PICKLED, SALTED, AND SMOKED.</b>											
Ham smoked, lean:											
Edible portion—											
Minimum	3	49.5	10.5	12.8	17.0	5.4	1,080				
Maximum	3	57.4	20.2	20.7	24.4	5.8	1,405				
Average	3	53.5	19.8	20.2	20.8	5.5	1,245				
As purchased—											
Minimum	3	8.4	45.3	16.7	17.0	4.8	925				
Maximum	3	14.3	49.2	18.5	19.0	5.0	1,285				
Average	3	11.5	47.2	17.5	17.9	4.9	1,105				

*a* Eight samples contained an average of lecithin 0.32, gelatinoids 3.5, and "flesh bases" 2 per cent.

*b* Eight samples contained an average of lecithin 0.20, gelatinoids 0.6, and "flesh bases" 0.6 per cent.

*c* Ash not determined.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbo- hydrate.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.	Fat.			
ANIMAL FOOD—Continued.									
PORK, PICKLED, SALTED, AND SMOKED—cont'd.									
Ham, smoked, medium fat:									
Edible portion—									
Minimum	14		P. ct. 34.7	P. ct. 12.5	P. ct. 11.8	P. ct. 30.3	P. ct. 2.7	Cal. 1,690	
Maximum	14		45.6	22.9	24.5	44.7	7.4	2,145	
Average	14		40.3	16.3	16.1	38.8	4.8	1,940	
As purchased—									
Minimum	14	4.5	27.3	10.2	10.2	34.5	2.4	1,385	
Maximum	14	28.4	42.5	21.9	23.4	39.9	6.0	1,890	
Average	14	13.6	34.8	14.2	14.0	33.4	4.2	1,675	
Ham, smoked, fat:									
Edible portion—									
Minimum	4		22.4	12.0	14.3	42.0	.6	2,135	
Maximum	4		34.9	19.5	18.2	56.8	6.3	2,652	
Average	4		27.9	14.8	16.1	52.8	3.7	2,456	
As purchased—									
Minimum	2	2.0	22.0	11.4	14.0	51.9	.5	2,400	
Maximum	2	4.8	28.3	13.4	14.5	55.6	6.4	2,595	
Average	2	3.4	25.2	12.4	14.3	53.7	3.5	2,495	
Ham, smoked, all analyses:									
Edible portion	21		39.8	16.5	16.7	38.8	4.7	1,945	
As purchased	19	12.2	35.3	14.5	14.6	33.2	4.2	1,670	
Ham skin, as purchased.									
1	1		27.2	15.4	16.0	53.7	3.1	2,555	
Ham, smoked, boiled, as purchased:									
Minimum	2		39.2	18.1	18.2	7.8	5.6	740	
Maximum	2		63.4	22.2	22.2	37.0	6.6	1,900	
Average	2		51.3	20.2	20.2	22.4	6.1	1,320	
Ham, smoked, fried, as purchased									
1	1		36.6	22.2	24.4	33.2	5.8	1,815	
Ham, boneless, dry:									
Edible portion—									
Minimum	4		40.3	10.0	11.4	17.3	4.4	1,652	
Maximum	4		55.9	17.3	19.4	38.9	6.6	1,930	
Average	4		50.1	14.9	15.4	28.5	6.0	1,480	
As purchased—									
Minimum	4	2.2	38.1	9.7	11.1	16.9	4.3	1,030	
Maximum	4	5.6	54.7	16.9	18.9	36.7	7.3	1,820	
Average	4	3.8	48.5	14.3	14.9	27.5	5.8	1,425	
Ham, luncheon, cooked:									
Edible portion—									
Minimum	2		47.8	19.5	22.8	19.4	5.0	1,290	
Maximum	2		50.5	23.5	25.1	22.7	6.7	1,320	
Average	2		49.2	22.5	24.0	21.0	5.8	1,305	
As purchased—									
Minimum	2	1.5	46.5	19.0	22.2	19.1	4.9	1,270	
Maximum	2	2.8	49.7	25.1	24.8	22.0	6.5	1,290	
Average	2	2.1	48.1	22.1	23.5	20.6	5.7	1,250	
Shoulder, smoked, medium fat:									
Edible portion—									
Minimum	3		41.5	14.2	14.6	28.8	5.5	1,480	
Maximum	3		49.6	17.1	16.5	35.0	8.3	1,730	
Average	3		45.0	15.9	15.8	32.5	6.7	1,645	
As purchased—									
Minimum	3	17.4	34.3	11.7	11.7	23.7	4.5	1,220	
Maximum	3	19.4	40.8	14.1	13.6	28.2	6.8	1,440	
Average	3	18.2	36.8	13.0	12.9	26.6	5.5	1,365	
Shoulder, smoked, fat:									
Edible portion—									
Minimum	2		22.6	14.2	14.5	49.0	4.7	2,365	
Maximum	2		30.4	15.9	14.9	58.2	5.7	2,720	
Average	2		26.5	15.1	14.7	53.6	5.2	2,545	
As purchased—									
Minimum	2	14.1	16.7	10.5	10.7	42.1	3.5	2,015	
Maximum	2	26.0	26.1	13.7	12.8	43.1	4.9	2,030	
Average	2	20.0	21.4	12.1	11.9	42.6	4.2	2,020	
Shoulder, smoked, all analyses:									
Edible portion	5		37.6	15.5	15.3	41.0	6.1	2,020	
As purchased	5	18.9	30.7	12.6	12.4	33.0	5.0	1,625	
Pigs' tongues, pickled:									
Edible portion—									
Minimum	2		51.8	17.0	17.6	16.5	.5	1,015	
Maximum	2		65.4	18.3	18.4	22.1	6.7	1,310	
Average	2		58.6	17.7	18.0	19.8	3.8	1,165	

a Refuse, case.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	Hydiffer- ence.				
ANIMAL FOOD—Continued.									
PORK, PICKLED, SALTED, AND SMOKED—cont'd.									
Pigs' tongues, pickled—Continued.									
As purchased—									
Minimum	1222	1.2	49.1	16.8	17.4	16.3		6.5	1,600
Maximum	1222	5.2	64.6	17.3	17.5	21.9		6.3	1,245
Average		3.2	56.8	17.1	17.5	19.1		3.4	1,125
Pigs' feet, pickled:									
Edible portion—									
Minimum	1222		61.7	12.8	12.9	11.5		.9	725
Maximum	1222		74.7	19.8	19.2	18.1		1.0	1,130
Average			68.2	16.3	16.1	14.8		.9	930
As purchased—									
Minimum	1222	26.7	34.4	9.4	9.4	8.5		.5	595
Maximum	1222	44.3	54.7	11.0	10.7	10.1		.7	630
Average		35.5	44.6	10.2	10.0	9.3		.6	585
Dry-salted backs:									
Edible portion—									
Minimum	1222		17.0	6.7	5.7	71.6		2.2	3,180
Maximum	1222		17.0	8.7	8.6	73.8		3.5	3,240
Average			17.3	7.7	7.2	72.7		2.8	3,210
As purchased—									
Minimum	1222	7.0	15.8	6.2	5.3	65.0		2.1	2,890
Maximum	1222	9.2	15.9	7.9	7.8	68.6		3.3	3,010
Average		8.1	15.9	7.1	6.5	66.8		2.7	2,950
Dry-salted bellies:									
Edible portion—									
Minimum	1222		17.2	8.3	6.7	71.5		3.2	3,170
Maximum	1222		18.1	8.5	6.8	72.9		3.6	3,235
Average			17.7	8.4	6.7	72.2		3.4	3,200
As purchased—									
Minimum	1222	7.1	15.6	7.7	6.0	66.1		3.0	2,930
Maximum	1222	9.3	16.8	7.7	6.3	66.4		3.4	2,945
Average		8.2	16.2	7.7	6.3	66.2		3.2	2,935
Salt pork, clear fat, as purchased:									
Minimum	7		.5	.2	.6	60.5		2.6	3,505
Maximum	7		12.2	5.0	4.5	94.1		5.0	3,875
Average	7		7.0	1.9	2.0	86.2		3.9	3,670
Salt pork, lean ends:									
Edible portion—									
Minimum	4		18.2	7.7	6.6	62.3		5.3	2,810
Maximum	4		22.2	9.8	8.4	69.8		6.1	3,100
Average	4		19.9	8.4	7.3	67.1		5.7	2,985
As purchased—									
Minimum	4	9.0	16.2	6.7	5.8	53.6		4.8	2,415
Maximum	4	14.0	19.1	8.4	8.0	63.5		5.5	2,805
Average	4	11.2	17.6	7.4	6.5	59.6		5.1	2,655
Bacon, smoked, lean:									
Edible portion—									
Minimum	2		30.8	13.4	12.9	40.0		5.7	1,940
Maximum	2		32.7	17.6	16.4	45.2		16.3	2,435
Average	2		31.8	15.5	14.6	42.6		11.0	2,085
As purchased—									
Minimum	2	6.6	23.3	10.1	5.8	30.2		5.1	1,460
Maximum	2	24.4	29.6	15.9	14.9	40.8		12.3	2,020
Average	2	17.0	26.5	13.0	12.3	35.5		8.7	1,740
Bacon, smoked, medium fat:									
Edible portion—									
Minimum	17		7.7	6.3	6.6	57.4		2.7	2,665
Maximum	17		26.9	18.0	13.4	79.7		7.9	3,480
Average	17		18.8	9.9	5.4	67.4		4.4	3,030
As purchased—									
Minimum	17	2.9	7.1	5.7	6.0	52.7		2.4	2,425
Maximum	17	13.0	24.8	15.7	12.1	72.8		7.2	3,160
Average	17	7.7	17.4	9.1	8.6	62.2		4.1	2,795
Bacon, smoked, all analyses:									
Edible portion	19		20.2	10.5	9.9	64.8		5.1	2,930
As purchased	19	8.7	18.4	9.5	9.0	59.4		4.5	2,685
Ribs, cooked, as purchased	1		33.6	24.8	26.6	37.6		2.2	2,050
Steak, cooked, as purchased	1		33.2		19.9	45.4		1.5	2,385
PORK, CANNED.									
Brown, boars' brains, as purchased:									
Minimum	2		44.3	20.1	18.2	12.9		4.3	1,110
Maximum	2		53.7	30.3	28.5	33.2		4.9	1,775
Average	2		49.0	25.2	23.4	23.0		4.6	1,440

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrate.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.				
ANIMAL FOOD—Continued.									
PORK, CANNED—continued.									
Boars' heads, as purchased:									
Minimum	2		P. ct. 50.5	P. ct. 19.8	P. ct. 17.8	P. ct. 19.3	P. ct. 2.8		1,180
Maximum	13		60.1	21.6	20.7	25.0	3.8		1,455
Average	12		55.8	20.7	19.2	22.2	3.3		1,320
Ham, deviled, as purchased:									
Minimum	6		38.4	16.5	16.9	29.5	2.3		1,010
Maximum	6		49.4	21.4	20.5	38.9	4.4		1,075
Average	6		44.1	19.0	18.5	34.1	3.5		1,190
SAUSAGE, a									
Arles:									
Edible portion	1		17.2	26.8	24.9	50.6	7.3		2,635
As purchased	1	5.2	16.3	25.4	23.6	48.0	6.9		2,495
Banquet:									
Edible portion	1		62.7	18.3	17.0	15.7	3.7		1,005
As purchased	1	1.6	61.7	18.0	17.7	15.4	3.6		985
Bologna:									
Edible portion—									
Minimum	8		53.5	15.3	15.0	11.1	0.2	3.0	820
Maximum	8		67.0	21.2	20.7	24.0	.5	5.2	1,320
Average	8		60.0	18.7	18.4	17.6	.3	3.7	1,095
As purchased—									
Minimum	4	2.4	51.6	14.9	14.6	13.9	3.0	0.925	
Maximum	4	4.5	59.9	20.5	20.0	23.4	5.0	1.270	
Average	4	3.3	55.2	18.2	18.0	19.7	3.8	1.170	
Farmer:									
Edible portion	1		23.2	29.0	27.2	42.0	7.6		2,310
As purchased	1	3.9	22.2	27.9	26.2	40.4	7.3		2,225
Frankfort, as purchased:									
Minimum	8		40.3	14.6	15.4	14.8	2.4	.7	985
Maximum	8		64.8	26.9	26.9	25.9	8.0	8.1	1,595
Average	8		57.2	19.6	19.7	18.6	1.1	3.4	1,170
Holsteiner:									
Edible portion	1		25.6	29.4	29.4	37.3	3.4	4.3	2,220
As purchased	1	2.2	25.1	28.7	28.7	36.5	3.3	4.2	2,135
Lyons, pure ham:									
Edible portion	1		32.5	32.3	32.3	27.2	8.0		1,750
As purchased	1	10.0	29.2	29.1	29.1	24.5	7.2		1,575
Pork, as purchased:									
Minimum	11		25.7	7.3	7.3	28.2	1.0		1,485
Maximum	11		54.4	19.0	16.9	56.8	8.6		2,705
Average	11		39.8	13.0	12.7	41.2	1.1		2,125
Pork sausage meat, as purchased.	1		46.2	17.4	17.9	32.5	3.4		1,695
Pork and beef chopped together, as purchased.	1		55.4	19.4	19.5	24.1	1.0		1,380
Salmi:									
Edible portion—									
Minimum	2		28.6	23.4	22.5	37.8	6.9		2,055
Maximum	2		32.4	24.9	22.7	42.0	7.1		2,205
Average	2		30.5	24.1	22.6	39.9	7.0		2,130
As purchased—									
Minimum	2	7.5	26.5	21.6	20.2	33.6	6.4		1,830
Maximum	2	11.0	28.8	22.1	20.8	38.8	6.4		2,040
Average	2	9.3	27.6	21.8	20.5	36.2	6.4		1,935
Summer:									
Edible portion—									
Minimum	3		20.0	23.5	22.8	43.0	7.3		2,280
Maximum	3		25.0	29.4	26.6	45.7	8.0		2,480
Average	3		23.2	26.0	24.6	44.5	7.7		2,360
As purchased—									
Minimum	3	5.2	18.2	22.3	21.6	41.6	6.9		2,215
Maximum	2	8.9	23.7	26.8	24.3	42.6	7.0		2,245
Average	2	7.0	20.9	24.5	23.0	42.1	7.0		2,230
Tongue, as purchased	1		46.4	20.1	17.3	33.1	3.2		1,770
Wienerwurst, as purchased	1		43.9	28.0		22.1	1.6	4.4	1,485
SAUSAGE, CANNED.									
Beef, as purchased	1		59.6	17.9	17.3	20.6	2.0		1,200
Bologna, Italian, as purchased	1		42.6	24.9	23.2	27.8	6.4		1,635

a In some cases the sum of the percentages of water, protein, fat, and ash in sausage does not make 100. In such cases the difference is estimated as carbohydrates. There are, however, tests showing the presence of these, and it may be more nearly correct to give no value for carbohydrates.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.	Fat.			
ANIMAL FOOD—Continued.									
SAUSAGE, CANNED—continued.									
Frankfort, as purchased	1		P. ct. 72.7	P. ct. 14.9	P. ct. 14.6	P. ct. 9.9		P. ct. 2.8	Cals. 685
Oxford, as purchased	1		28.9	9.9	9.9	58.5	0.6	2.1	2,665
Perk:									
Edible portion	1		56.6	16.6	16.6	24.8		2.0	1,355
As purchased	1	12.6	49.5	14.5	14.5	21.6		1.8	1,180
POULTRY AND GAME, FRESH.									
Chicken, broilers:									
Edible portion—									
Minimum	3		72.2	19.0	19.0	1.6		1.0	449
Maximum	3		76.3	25.4	24.5	4.0		1.4	550
Average	3		74.8	21.5	21.6	2.5		1.1	605
As purchased—									
Minimum	3	31.4	44.6	9.0	8.5	1.1		.5	245
Maximum	3	55.1	52.4	15.7	15.1	1.8		.9	365
Average	3	41.6	48.7	12.8	12.6	1.4		.7	296
Fowls:									
Edible portion—									
Minimum	26		54.1	15.5	14.8	9.7		.8	770
Maximum	26		70.7	21.8	21.7	28.3		1.5	1,529
Average	26		68.7	19.3	19.0	16.8		1.0	1,045
As purchased—									
Minimum	26	18.0	38.3	11.5	11.0	6.9		.5	515
Maximum	26	42.7	53.7	16.0	15.8	21.5		1.2	1,155
Average	26	25.9	47.1	13.7	14.0	12.8		.7	774
Geese, young:									
Edible portion	1		46.7	16.3	16.3	36.2		.8	1,830
As purchased	1	17.6	38.5	13.4	13.4	29.8		.7	1,505
Turkey:									
Edible portion—									
Minimum	3		49.5	19.0	18.9	8.7		.9	830
Maximum	3		66.1	24.9	23.9	30.7		1.3	1,650
Average	3		58.5	21.1	20.6	22.9		1.0	1,560
As purchased—									
Minimum	3	17.1	41.1	15.8	15.5	5.9		.7	565
Maximum	3	32.4	44.7	16.8	16.1	25.5		.9	1,370
Average	3	22.7	42.4	16.1	15.7	18.4		.8	1,075
Chicken gizzard, as purchased	1		72.5	24.7	24.7	1.4		1.4	520
Chicken heart, as purchased	1		72.0	20.7	21.1	5.5		1.4	615
Chicken liver, as purchased	1		69.3	22.4		4.2	2.4	1.7	640
Goose gizzard	1		73.8	19.6	19.4	5.8		1.0	610
Goose liver, as purchased	1		62.6	16.6		15.9	3.7	1.2	1,050
Turkey gizzard, as purchased	1		62.7	20.5		14.5	1.2	1.1	1,015
Turkey heart, as purchased	1		68.6	16.8	17.8	12.2		1.0	870
Turkey liver, as purchased	1		69.6	22.9		5.2	.6	1.7	655
POULTRY AND GAME, COOKED.									
Capon:									
Edible portion	1		59.9	27.0	27.5	11.5		1.3	985
As purchased	1	10.4	53.6	24.2	24.5	10.3		1.2	885
Capon with stuffing:									
Edible portion	1		62.1	21.8		10.9	3.8	1.4	935
As purchased	1	7.7	57.2	20.1		19.3	3.5	1.2	875
Chicken, fricassee, edible portion	1		67.5	17.6		11.5	2.4	1.0	855
Turkey, roast, edible portion	1		52.0	27.8	28.4	18.4		1.2	1,295
Turkey, roast, light and dark meat and stuffing, edible portion	1		65.0		17.1	10.8	5.5	1.6	870
POULTRY AND GAME, CANNED.									
Chicken, sandwich, as purchased	1		46.9	20.8	20.5	20.0		2.8	1,656
Turkey, sandwich, as purchased	1		47.4	20.7	20.7	26.2		2.7	1,615
Plover, roast, as purchased	1		57.7	22.4		10.2	7.6	2.1	985
Quail, as purchased	1		66.9	21.8		8.0	1.7	1.6	775

a Refuse liquid.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbo-hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ-ence.	Fat.			
<b>ANIMAL FOOD—Continued.</b>									
<b>FISH, FRESH. a</b>									
<b>Alewife, whole:</b>									
Edible portion—									
Minimum	2			73.0	19.0	18.8	3.8	1.4	515
Maximum	2			75.9	19.7	19.5	6.0	1.5	620
Average	2			74.4	19.4	19.2	4.9	1.5	570
As purchased—									
Minimum	2	49.4	36.9	9.6	2.5	1.9		.8	360
Maximum	2	49.5	38.3	10.0	2.9	3.0		.8	315
Average	2	49.5	37.6	9.8	2.7	2.4		.8	285
<b>Bass, black, whole:</b>									
Edible portion—									
Minimum	2			74.8	19.4	19.2	1.0	1.2	405
Maximum	2			76.6	21.7	21.5	2.5	1.2	510
Average	2			76.7	20.6	20.4	1.7	1.2	458
As purchased—									
Minimum	2	53.6	34.6	8.5	8.5	4.4		.5	175
Maximum	2	56.0	34.7	10.1	10.0	1.1		.6	235
Average	2	54.8	34.6	9.3	9.3	.8		.5	205
<b>Bass, red, whole:</b>									
Edible portion	1			81.6	16.9	16.7	.5	1.2	335
As purchased	1	63.5		29.8	6.2	6.1	.2	.4	125
<b>Bass, sea, whole:</b>									
Edible portion	1			79.3	19.8	19.8	.5	1.4	390
As purchased	1	58.1		34.8	8.7	8.3	.2	.6	170

a A considerable number of determinations of phosphorus, sulphur, and chlorine have been made in the flesh of fresh fish. These are recorded in the following table in terms of phosphoric anhydride (P<sub>2</sub>O<sub>5</sub>), sulphuric anhydride (SO<sub>2</sub>), and chlorine (Cl), and in percentages of the total weight of the edible portion of flesh:

## Phosphoric anhydride, sulphuric anhydride, and chlorine in samples of fresh fish.

Kind of fish.	Phosphoric anhy-drid.		Sulphuric anhydrid.		Chlorin.	
	Number of deter-minations.	Average.	Number of deter-minations.	Average.	Number of deter-minations.	Average.
		Per cent.		Per cent.		Per cent.
Alewife	1	.50				
<b>Bass:</b>						
Black	1	.44	1	0.89		
Striped	2	.48		.47		
Blackfish	1	.52	1	.46	1	0.24
Bluefish	1	.62				
Cod	2	.45				
Eels, salt water	1	.51				
Flounder	2	.40	2	.42		
Haddock	2	.47	1	.41		
Halibut	2	.44	1	.49		
Herring	1	.55	1	.55		
Mackerel	4	.56	2	.47		
Muskellunge	1	.52	1	.37		
<b>Perch:</b>						
White	2	.44	2	.65		
Pike	1	.46	1	.90		
Porgy	2	.59	1	.52		
Red snapper	2	.47	2	.47		
Salmon	2	.57	1	.61		
Landlocked	2	.51	2	.40		
California	1	.69	1	.43		
Shad	2	.60	1	.52		
Sheepshead	1	.45	1	.48		
Smelt	1	.51	1	.55		
Spanish mackerel	1	.60	1	.56		
Trout, brook	1	.61	1	.48		
Turbot	1	.48	1	.32		
Whitefish	1	.71	1	.41		

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N x 6.25.	By difference.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Bass, striped, whole:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum	6	75.8	17.1	16.9	1.6	0.9	405		
Maximum	6	79.6	19.5	19.3	4.6	1.4	520		
Average	6	77.7	18.6	18.3	2.8	1.2	465		
As purchased—									
Minimum	5	48.6	32.5	7.4	7.2	.7	175		
Maximum	5	57.1	39.7	9.8	9.7	1.6	255		
Average	5	55.0	35.1	8.4	8.3	1.1	200		
Bass, striped, entrails removed, as purchased.	1	51.2	37.4	8.8	8.7	2.2	255		
Blackfish, whole:									
Edible portion—									
Minimum	4	78.9	17.6	17.4	.6	.6	350		
Maximum	4	81.4	19.3	19.0	2.8	1.4	475		
Average	4	79.1	18.7	18.5	1.3	1.1	405		
As purchased—									
Minimum	12	56.2	29.2	6.3	6.3	.2	125		
Maximum	12	64.1	33.7	8.5	8.3	1.2	205		
Average	12	60.2	31.4	7.4	7.3	.7	165		
Blackfish, entrails removed, as purchased:									
Minimum	2	53.6	33.5	8.0	7.9	.4	125		
Maximum	2	57.8	36.4	8.8	8.7	.7	205		
Average	2	55.7	35.0	8.4	8.3	.6	175		
Bluefish, entrails removed:									
Edible portion	1	78.5	19.4	19.0	1.2	1.3	410		
As purchased	1	48.6	40.3	10.0	9.8	.6	210		
Buffalo fish, entrails removed:									
Edible portion	1	78.6	18.0	17.9	2.3	1.2	430		
As purchased	1	52.5	37.3	8.5	8.5	1.1	205		
Butter-fish, whole:									
Edible portion	1	70.0	18.0	17.8	11.0	1.2	800		
As purchased	1	42.8	40.1	10.3	10.2	.6	460		
Cattish:									
Edible portion	1	64.1	14.4	14.4	20.6	.9	1,135		
As purchased	1	19.4	51.7	11.6	16.6	.7	915		
Ciscoe, whole:									
Edible portion—									
Minimum	3	72.3	17.7	17.6	3.5	.9	505		
Maximum	3	76.1	19.3	19.1	9.2	1.3	715		
Average	3	74.0	18.5	18.1	6.8	1.1	620		
As purchased	1	42.7	43.6	11.1	11.0	2.0	290		
Ciscoe, entrails removed, as purchased:									
Minimum	2	6.5	62.4	15.3	15.4	.2	615		
Maximum	2	13.7	68.8	17.2	16.5	7.8	625		
Average	2	10.1	65.6	16.3	15.9	7.5	620		
Cod, whole:									
Edible portion—									
Minimum	5	80.7	15.5	14.9	.3	1.0	300		
Maximum	5	83.5	18.3	17.7	5.5	1.4	370		
Average	5	82.6	16.5	15.8	.4	1.2	325		
As purchased—									
Minimum	2	48.5	35.1	8.0	7.7	1.1	155		
Maximum	2	56.5	42.3	8.7	8.3	.3	175		
Average	2	52.5	38.7	8.4	8.0	.6	165		
Cod, dressed, as purchased:									
Minimum	3	25.5	55.3	10.3	9.9	.2	200		
Maximum	3	33.7	62.1	11.8	11.4	.3	230		
Average	3	29.9	58.5	11.1	10.6	.2	215		
Cod, sections, edible portion:									
Minimum	3	81.8	15.6	15.0	.1	.8	300		
Maximum	3	85.5	17.7	17.2	.5	1.0	335		
Average	3	82.5	16.7	16.3	.3	.9	325		
Cod, steaks:									
Edible portion	1	79.7	18.7	18.6	.5	1.2	370		
As purchased	1	9.2	72.4	17.0	16.9	.5	335		
Cusk, entrails removed:									
Edible portion	1	82.0	17.0	16.9	.2	.9	225		
As purchased	1	40.3	49.0	10.1	10.1	.1	190		
Eels, salt water, head, skin, and entrails removed:									
Edible portion—									
Minimum	2	69.8	17.8	17.6	7.9	.9	665		
Maximum	2	73.4	19.3	19.0	10.3	1.1	795		
Average	2	71.6	18.6	18.3	9.1	1.0	730		

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.		Water.		Protein.			Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
		P. ct.	P. ct.	N × 6.25.	By differ- ence.	P. ct.	P. ct.	P. ct.				
ANIMAL FOOD—Continued.												
FISH, FRESH—continued.												
Eel, salt water, head, skin, and entrails re- moved—Continued.												
As purchased—			P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Calcs.
Minimum	2	23	19.0	54.9	14.4	74.3	6.4	.....	.....	.....	0.7	540
Maximum	2	24	21.4	59.4	15.2	74.9	8.1	.....	.....	.....	.....	625
Average	2	23	20.2	57.2	14.8	74.6	7.2	.....	.....	.....	.....	580
Flounder, whole:												
Edible portion—												
Minimum	3	33	.....	83.4	13.3	12.9	.4	.....	.....	.....	1.2	280
Maximum	3	33	.....	85.0	14.9	14.7	.8	.....	.....	.....	1.3	305
Average	3	33	.....	84.2	14.2	13.9	.6	.....	.....	.....	1.3	290
As purchased—												
Minimum	2	22	56.2	28.2	4.4	4.2	.2	.....	.....	.....	.5	95
Maximum	2	22	66.8	37.0	6.3	6.1	.3	.....	.....	.....	.5	130
Average	2	22	61.5	32.6	5.4	5.1	.3	.....	.....	.....	.5	115
Flounder, entrails removed, as purchased	1	1	57.0	35.8	6.4	6.8	.3	.....	.....	.....	.6	1.0
Haddock, entrails removed:												
Edible portion—												
Minimum	4	4	.....	80.3	15.9	15.9	.1	.....	.....	.....	1.0	315
Maximum	4	4	.....	82.6	18.6	18.4	.4	.....	.....	.....	1.6	355
Average	4	4	.....	81.7	17.2	16.8	.3	.....	.....	.....	1.2	335
As purchased—												
Minimum	4	4	48.0	38.5	8.0	7.8	.1	.....	.....	.....	.5	155
Maximum	4	4	52.9	42.9	9.0	8.9	.2	.....	.....	.....	.8	170
Average	4	4	51.0	40.0	8.4	8.2	.2	.....	.....	.....	.6	165
Hake, entrails removed:												
Edible portion—												
Minimum	1	1	.....	83.1	15.4	15.2	.7	.....	.....	.....	1.0	315
As purchased	1	1	52.5	39.5	7.3	7.2	.3	.....	.....	.....	.5	150
Halibut, steaks or sections:												
Edible portion—												
Minimum	3	3	.....	70.1	17.5	17.5	2.2	.....	.....	.....	.9	420
Maximum	3	3	.....	79.2	19.7	19.4	10.6	.....	.....	.....	1.1	790
Average	3	3	.....	75.4	18.6	18.4	5.2	.....	.....	.....	1.0	665
As purchased—												
Minimum	3	3	11.2	60.9	13.5	13.4	1.7	.....	.....	.....	.7	325
Maximum	3	3	23.1	62.6	16.4	16.1	9.4	.....	.....	.....	1.0	790
Average	3	3	17.7	61.9	15.8	15.1	4.4	.....	.....	.....	.9	470
Herring, whole:												
Edible portion—												
Minimum	2	2	.....	69.0	19.1	18.5	3.2	.....	.....	.....	1.5	505
Maximum	2	2	.....	76.0	19.8	19.2	11.0	.....	.....	.....	1.6	820
Average	2	2	.....	72.5	19.5	18.9	7.1	.....	.....	.....	1.5	660
As purchased—												
Minimum	2	2	39.3	37.3	10.3	10.0	1.9	.....	.....	.....	.8	305
Maximum	2	2	46.0	46.1	12.0	11.7	5.9	.....	.....	.....	1.0	440
Average	2	2	42.6	41.7	11.2	10.9	3.9	.....	.....	.....	.9	375
Kingfish, whole:												
Edible portion	1	1	.....	79.2	18.9	18.7	.9	.....	.....	.....	1.2	390
As purchased	1	1	56.6	34.4	8.2	8.1	.4	.....	.....	.....	.5	170
Lamprey, whole:												
Edible portion	1	1	.....	71.1	15.0	14.9	13.3	.....	.....	.....	.7	840
As purchased	1	1	45.8	38.5	8.1	8.1	7.2	.....	.....	.....	.4	455
Mackerel, whole:												
Edible portion—												
Minimum	6	6	.....	64.0	17.5	17.5	2.2	.....	.....	.....	1.0	430
Maximum	6	6	.....	78.7	19.5	19.2	16.3	.....	.....	.....	1.5	1,045
Average	6	6	.....	73.4	18.7	18.3	7.1	.....	.....	.....	1.2	645
As purchased—												
Minimum	5	5	33.8	35.8	8.4	8.4	1.4	.....	.....	.....	.6	265
Maximum	5	5	51.8	48.5	12.6	12.1	10.7	.....	.....	.....	1.0	685
Average	5	5	44.7	40.4	10.2	10.0	4.2	.....	.....	.....	.7	365
Mackerel, entrails removed, as purchased	1	1	40.7	43.7	11.6	11.4	3.5	.....	.....	.....	.7	365
Mullet, whole:												
Edible portion	1	1	.....	74.9	19.5	19.3	4.6	.....	.....	.....	1.2	555
As purchased	1	1	57.9	31.5	8.2	8.1	2.0	.....	.....	.....	.5	235
Muskellunge, whole:												
Edible portion	1	1	.....	76.3	20.2	19.6	2.5	.....	.....	.....	1.6	480
As purchased	1	1	49.2	38.7	10.2	10.0	1.3	.....	.....	.....	.8	245
Perc, white, whole:												
Edible portion—												
Minimum	2	2	.....	75.6	18.0	17.7	2.5	.....	.....	.....	1.7	490
Maximum	2	2	.....	75.8	20.6	20.4	5.6	.....	.....	.....	1.3	570
Average	2	2	.....	75.7	19.3	19.1	4.0	.....	.....	.....	1.2	530

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.					Total carbohydrate.	Ash.	Fuel value per pound.
				N x 6.25.							
						By differ- ence.					
ANIMAL FOOD—Continued.											
FISH, FRESH—continued.											
Perch, white, whole—Continued.											
As purchased—				P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cals.
Minimum	2			61.8	27.8	6.6	6.5	1.0		0.4	190
Maximum	2			63.2	28.9	7.9	7.8	2.1		.5	210
Average	2			62.5	28.4	7.8	7.2	1.5		.4	200
Perch, white (wall-eyed pike):											
Edible portion	1		79.7	18.6	18.4			.5		1.4	365
As purchased	1	57.3	34.0	7.9	7.9			.2		.6	155
Perch, yellow, whole:											
Edible portion—											
Minimum	2		78.1	17.8	17.9			.6		1.7	355
Maximum	2		80.4	18.7	19.5			1.1		1.3	410
Average	2		79.3	18.7	18.7			.8		1.2	350
As purchased	1	62.7	30.0	6.6	6.7			.2		.4	130
Perch, yellow, dressed, as purchased	1	35.1	50.7	12.8	12.6			.7		.9	285
Pickered, pike, whole:											
Edible portion—											
Minimum	3		79.5	18.4	18.4			.5		1.1	385
Maximum	3		79.9	19.0	18.9			.6		1.2	375
Average	3		79.8	18.7	18.6			.5		1.1	370
As purchased—											
Minimum	2		45.4	40.8	9.8	9.7		.2		.6	190
Maximum	2		48.7	43.6	10.0	10.0		.3		.7	200
Average	2		47.1	42.2	9.9	9.9		.2		.6	190
As purchased	1	42.7	45.7	10.7	10.7			.3		.6	210
Pike, gray, whole:											
Edible portion	1		80.8	17.9	17.3			.8		1.1	365
As purchased	1	63.2	29.7	6.6	6.4			.3		.4	135
Pollock, dressed, as purchased:											
Edible portion	1		76.0	21.6	21.7			.6		1.5	435
As purchased	1	28.5	54.3	15.4	15.5			.8		1.1	310
Pompano, whole:											
Edible portion—											
Minimum	2		67.4	18.4	18.1			1.6		1.0	425
Maximum	2		74.2	19.3	19.2			1.3		1.0	410
Average	2		72.8	18.8	18.7			1.5		1.0	405
As purchased—											
Minimum	2	42.4	38.8	9.9	9.9			.8		.5	220
Maximum	2	48.6	40.2	10.6	10.5			1.2		.5	255
Average	2	45.5	39.5	10.3	10.2			1.0		.5	235
Porgy, whole:											
Edible portion—											
Minimum	3		72.0	17.4	17.4			1.5		1.3	385
Maximum	3		79.7	19.4	19.3			1.9		1.4	435
Average	3		75.0	18.6	18.5			1.7		1.4	400
As purchased—											
Minimum	3	57.3	27.8	6.1	6.1			.5		.5	135
Maximum	3	65.1	31.1	8.2	8.2			1.0		.6	205
Average	3	60.0	29.9	7.4	7.4			.8		.6	225
Red grouper, entrails removed:											
Edible portion—											
Minimum	2		79.0	18.7	18.4			.5		1.1	370
Maximum	2		79.9	19.8	19.2			.7		1.2	395
Average	2		79.5	19.3	18.8			.6		1.1	385
As purchased—											
Minimum	2	55.8	34.8	8.3	8.2			.2		.5	160
Maximum	2	55.9	35.3	8.7	8.5			.3		.5	170
Average	2	55.9	35.0	8.5	8.4			.2		.5	165
Red snapper, whole:											
Edible portion—											
Minimum	3		77.4	19.3	18.4			.5		1.3	380
Maximum	3		79.8	20.2	19.9			1.9		1.3	445
Average	3		78.5	19.7	19.2			1.0		1.3	410
As purchased—											
Minimum	2	39.6	36.8	9.4	9.2			.4		.6	215
Maximum	2	52.5	47.2	12.2	12.0			.9		.8	245
Average	2	46.1	42.0	10.8	10.6			.6		.7	225
Red snapper, entrails and gills removed, as purchased:											
As purchased	1	45.3	43.7	10.6	10.0			.3		.7	210
Salmon, whole:											
Edible portion—											
Minimum	6		61.0	19.4	19.1			10.2		1.1	790
Maximum	6		69.5	25.2	24.5			15.0		1.6	1,035
Average	6		64.6	22.0	21.2			12.8		1.4	860



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbon hydrates.	Ash.	Fuel value per pound.
				N	By-difference.				
<b>ANIMAL FOOD—Continued.</b>									
<b>FISH, FRESH—continued.</b>									
<b>Salmon, whole—Continued.</b>									
As purchased—									
Minimum	4		30.8	30.5	14.4	13.3	7.9	0.9	510
Maximum	4		39.5	45.0	15.9	15.9	10.0	1.0	690
Average	4		<b>34.9</b>	<b>40.9</b>	<b>15.3</b>	<b>14.4</b>	<b>8.9</b>	<b>.9</b>	<b>660</b>
Salmon, entrails removed, as purchased:									
Minimum	2		23.8	45.0	12.6	12.4	6.6	.8	510
Maximum	2		35.2	51.2	15.0	14.6	9.5	.9	680
Average	2		<b>29.5</b>	<b>48.1</b>	<b>13.8</b>	<b>13.5</b>	<b>8.1</b>	<b>.8</b>	<b>600</b>
Salmon, landlocked, whole, spent:									
Edible portion—									
Minimum	4		75.3	16.6	16.8	2.0	1.1	295	
Maximum	4		79.2	19.1	19.2	4.4	1.2	500	
Average	4		<b>77.7</b>	<b>17.8</b>	<b>17.8</b>	<b>3.3</b>	<b>1.2</b>	<b>470</b>	
As purchased—									
Minimum	4		43.5	40.2	8.9	8.7	1.0	.6	295
Maximum	4		48.4	44.2	10.7	10.8	2.5	.7	305
Average	4		<b>45.9</b>	<b>42.3</b>	<b>9.7</b>	<b>9.8</b>	<b>1.8</b>	<b>.6</b>	<b>255</b>
Salmon, California, anterior sections:									
Edible portion—									
Minimum	2		62.7	17.0	17.0	16.5	1.0	1,040	
Maximum	2		64.5	18.6	18.0	19.2	1.1	1,125	
Average	2		<b>63.6</b>	<b>17.8</b>	<b>17.5</b>	<b>17.8</b>	<b>1.1</b>	<b>1,080</b>	
As purchased									
Minimum	1		10.3	57.9	16.7	16.1	14.8	.9	935
Shad, whole:									
Edible portion—									
Minimum	7		65.2	18.1	17.7	6.5	.9	635	
Maximum	7		73.6	20.1	20.0	13.6	1.5	945	
Average	7		<b>70.6</b>	<b>18.8</b>	<b>18.6</b>	<b>9.5</b>	<b>1.3</b>	<b>750</b>	
As purchased—									
Minimum	7		44.4	30.3	7.5	7.4	2.9	.5	290
Maximum	7		53.3	39.5	10.7	10.5	7.3	.8	505
Average	7		<b>50.1</b>	<b>35.2</b>	<b>9.4</b>	<b>9.4</b>	<b>4.8</b>	<b>.7</b>	<b>350</b>
Shad, roe, as purchased									
Minimum	1		71.2	20.9	.....	3.8	2.6	1.5	600
Sheepshead, whole:									
Edible portion—									
Minimum	2		72.0	19.4	18.9	.7	1.1	390	
Maximum	2		79.1	20.8	20.2	6.7	1.3	670	
Average	2		<b>75.6</b>	<b>20.1</b>	<b>19.5</b>	<b>3.7</b>	<b>1.2</b>	<b>530</b>	
As purchased—									
Minimum	1		66.0	25.9	6.6	6.4	.2	.5	130
Average	1		<b>56.6</b>	<b>31.2</b>	<b>9.0</b>	<b>8.8</b>	<b>2.9</b>	<b>.5</b>	<b>290</b>
Sheepshead, entrails removed, as purchased									
Minimum	1		56.6	31.2	9.0	8.8	2.9	.5	290
Skate, lobe of body:									
Edible portion									
Minimum	1		82.2	18.2	15.3	1.4	1.1	400	
Average	1		<b>51.6</b>	<b>40.2</b>	<b>8.9</b>	<b>7.5</b>	<b>.7</b>	<b>.6</b>	<b>195</b>
Smelt, whole:									
Edible portion—									
Minimum	2		78.2	16.5	15.9	1.6	1.4	385	
Maximum	2		80.2	18.7	18.8	1.9	2.0	415	
Average	2		<b>79.2</b>	<b>17.6</b>	<b>17.3</b>	<b>1.8</b>	<b>1.7</b>	<b>405</b>	
As purchased—									
Minimum	2		34.8	39.9	9.5	9.6	.8	.7	210
Maximum	2		49.0	52.3	10.8	10.4	1.2	1.3	250
Average	2		<b>41.9</b>	<b>46.1</b>	<b>10.1</b>	<b>10.0</b>	<b>1.0</b>	<b>1.0</b>	<b>230</b>
Spanish mackerel, whole:									
Edible portion									
Minimum	1		68.1	21.5	21.0	9.4	1.5	795	
Average	1		<b>34.6</b>	<b>44.5</b>	<b>14.1</b>	<b>13.7</b>	<b>6.2</b>	<b>1.0</b>	<b>525</b>
Sturgeon, anterior sections:									
Edible portion									
Minimum	1		78.7	18.1	18.0	1.9	1.4	415	
Average	1		<b>14.4</b>	<b>67.4</b>	<b>15.1</b>	<b>15.4</b>	<b>1.6</b>	<b>1.2</b>	<b>350</b>
Tunocod, whole:									
Edible portion									
Minimum	1		81.5	17.2	17.1	.4	1.0	335	
Average	1		<b>59.9</b>	<b>32.7</b>	<b>6.9</b>	<b>6.8</b>	<b>.2</b>	<b>.4</b>	<b>135</b>
Trout, brook, whole:									
Edible portion—									
Minimum	3		75.8	18.6	18.4	.8	1.0	385	
Maximum	3		79.8	20.3	20.0	2.9	1.4	500	
Average	3		<b>77.8</b>	<b>19.2</b>	<b>18.9</b>	<b>2.1</b>	<b>1.2</b>	<b>445</b>	
As purchased—									
Minimum	3		45.2	38.6	9.3	9.2	.5	.7	210
Maximum	3		50.1	43.8	10.1	10.2	1.4	.7	255
Average	3		<b>48.1</b>	<b>40.4</b>	<b>9.9</b>	<b>9.8</b>	<b>1.1</b>	<b>.6</b>	<b>230</b>

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N % 6.25.	By differ. calc.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Trout, salmon or lake:									
Edible portion—									
Minimum	2		68.8	17.6	17.3	8.1		1.0	675
Maximum	2		72.9	17.9	18.0	12.6		1.3	860
Average	2		70.8	17.8	17.7	10.3		1.2	765
As purchased—									
Minimum	2	40.7	30.0	7.7	7.7	4.8		.6	370
Maximum	2	56.3	43.2	10.6	10.7	5.4		.6	400
Average	2	48.5	36.6	9.1	9.2	5.1		.6	385
Turbot:									
Edible portion	1		71.4	14.8	12.9	14.4		1.3	885
As purchased	1	47.7	37.3	7.7	6.8	7.5		.7	460
Weakfish, whole:									
Edible portion	1		79.0	17.8	17.4	2.4		1.2	430
As purchased	1	51.9	38.0	8.6	8.4	1.1		.6	295
Whitefish, whole:									
Edible portion	1		60.8	22.9	22.1	6.5		1.6	700
As purchased	1	53.5	32.5	10.6	10.3	3.0		.7	325
FISH, COOKED.									
Bluefish, cooked, edible portion	1		68.2	25.0	26.1	4.5		1.2	670
Spanish mackerel, broiled:									
Edible portion	1		68.9	23.7	23.2	6.5		1.4	715
As purchased	1	7.9	63.5	21.8	21.4	5.9		1.3	655
FISH, PRESERVED AND CANNED. <sup>a</sup>									
Cod, salt: <sup>b</sup>									
Edible portion—									
Minimum	2		53.5	24.9	21.2	.2		24.4	405
Maximum	2		53.6	25.9	21.7	.4		25.0	420
Average	2		53.5	25.4	21.5	.3		24.7	410
As purchased—									
Minimum	2	24.3	40.0	18.5	15.7	.3		18.4	300
Maximum	2	25.5	40.5	19.6	16.4	.4		18.5	320
Average	2	24.9	40.2	19.0	16.0	.4		18.5	315

<sup>a</sup> A considerable number of determinations of phosphorus, sulphur, and chlorine have been made in the flesh of preserved and canned fish. These are recorded in the following table in terms of phosphoric anhydride (P<sub>2</sub>O<sub>5</sub>), sulphuric anhydride (SO<sub>2</sub>), and chlorine (Cl), and in percentages of the total weight of "edible portion" or flesh:

*Phosphoric anhydride, sulphuric anhydride, and chlorine in samples of preserved and canned fish.*

Kind of fish.	Phosphoric anhydride.		Sulphuric anhydride.		Chlorine.	
	Number of determinations.	Average.	Number of determinations.	Average.	Number of determinations.	Average.
Cod, salt	2	Per cent.	2	Per cent.	2	Per cent.
Cod, salt, boneless	1	.36	1	.68	1	11.19
Halibut, smoked	1	.47	1	.44	1	8.66
Herring, smoked	1	.84	1	1.24	1	7.21
Mackerel, salt	1	.35	1	.61		
Salmon, canned	1	.61	1	.44		

<sup>b</sup> It is observable that in salt cod the proportion of protein by difference is much smaller than by factor. The former value is apparently more nearly correct, and has been used in estimating the fuel value per pound.

<sup>c</sup> Two samples averaged 23 per cent common salt.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbon-hydrates.	Ash.	Fuel value per pound.
				N	By difference.				
ANIMAL FOOD—Continued.									
FISH, PRESERVED AND CANNED—continued.									
Cod, salt, "boneless":									
Edible portion—									
Minimum	2		54.4	26.3	22.2	0.3		14.9	425
Maximum	2		55.7	28.2	29.1	.3		23.1	555
Average	2		55.0	27.3	25.7	.3		19.0	490
As purchased	1	1.6	54.8	27.7	28.6	.3		14.7	545
Haddock, smoked:									
Edible portion	1		72.5	23.3	23.7	.2		3.6	440
As purchased	1	32.2	49.2	15.8	16.1	.1		2.4	305
Haddock, smoked, cooked, canned, as purchased									
Edible portion	1		68.7	22.3	21.8	2.3		7.2	510
Halibut, smoked:									
Edible portion—									
Minimum	2		47.7	18.5	18.1	14.4		14.9	1,000
Maximum	2		51.1	23.0	23.0	15.6		15.2	1,035
Average	2		49.4	20.7	20.6	15.0		15.0	1,020
As purchased	2	5.9	44.9	17.0	16.7	13.6		13.9	925
Minimum	2		8.0	47.0	21.6	14.4		14.0	975
Average	2		7.0	46.0	19.3	19.1		13.9	950
Herring, smoked:									
Edible portion	1		34.6	36.9	36.4	15.8		13.2	1,355
As purchased	1	44.4	19.2	20.5	20.2	8.8		7.4	750
Lamprey, canned:									
Edible portion	1		63.3	16.9		12.2	2.6	4.0	895
As purchased	1	18.2	51.7	13.8		10.0	3.0	3.3	735
Mackerel, salt, entrails removed:									
Edible portion	1		42.2	21.1	22.0	22.6		13.2	1,345
As purchased	1	22.9	32.5	16.3	17.0	17.4		10.2	1,035
Mackerel, salt, canned, as purchased									
Edible portion	1		68.2	19.6	19.9	8.7		3.2	730
Mackerel, salt, canned in oil:									
Edible portion	1		58.3	25.4	23.5	14.1		4.1	1,095
As purchased	1	31.5	39.9	17.4	16.1	9.7		2.8	735
Mackerel, salt, dressed:									
Edible portion—									
Minimum	2		43.2	16.6	16.9	24.9		12.0	1,345
Maximum	2		43.6	17.9	17.7	27.9		13.8	1,485
Average	2		43.4	17.3	17.3	26.4		12.9	1,435
As purchased	2	17.0	33.8	13.8	13.7	19.3		10.0	1,075
Minimum	2		22.4	35.8	13.9	14.0		10.8	1,285
Average	2		19.7	34.8	13.9	13.9		10.4	1,155
Minogy, pickled, canned:									
Edible portion	1		56.5	22.0	21.9	18.6		3.0	1,195
As purchased	1	18.7	46.0	17.9	17.8	15.1		2.4	970
Pilchard in tomatoes, canned, Russia, as purchased									
Edible portion	1		52.7	27.9	27.5	15.8		4.0	1,185
Salmon, canned:									
Edible portion—									
Minimum	7		57.5	19.5	19.2	5.3		1.8	675
Maximum	7		67.1	24.3	24.3	21.5		3.5	1,270
Average	7		63.5	21.8	21.8	12.1		2.6	915
As purchased	3	11.7	54.6	18.6	18.8	5.6		1.5	615
Minimum	3		16.9	58.2	20.2	20.3		2.4	760
Average	3		14.2	56.8	19.5	19.5		2.0	690
Sardines, canned:									
Edible portion—									
Minimum	3		48.2	21.2	19.4	12.7		5.6	1,000
Maximum	2		58.4	24.9	25.3	26.7		5.7	1,520
Average	2		52.3	23.0	22.4	19.7		5.6	1,260
As purchased	1	5.0	53.6	23.7	24.0	12.1		5.3	950
Sturgeon, dried, Russia:									
Edible portion	1		50.6	31.8	32.2	9.6		7.6	955
As purchased	1	12.7	44.1	27.8	28.1	8.4		6.7	870
Sturgeon, catlare, pressed, Russian, as purchased									
Edible portion	1		38.1	30.0		19.7	7.6	4.6	1,530

a One sample contained 19.1 per cent common salt.

b One sample contained 12.1 per cent common salt.

c Contained 11.7 per cent common salt.

d Refuse, oil.

e Contained 9.2 per cent common salt.

f Contained 10.4 per cent common salt.

g Refuse, liquids.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.		Water.		Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
		N	X	N	X	N	X				
ANIMAL FOOD—Continued.											
FISH, PRESERVED AND CANNED—continued.											
Trout, brook:		<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>Calc.</i>	
Edible portion.....	1	68.4	22.3	22.8	6.1	.....	3.7	.....	670		
As purchased.....	1	3.5	66.1	21.5	20.9	.....	3.6	.....	630		
Tunney, as purchased.....	1	.....	72.7	21.7	21.5	.....	4.1	.....	575		
Tunney, canned in oil, Russia:											
Edible portion.....	1	.....	51.3	23.8	.....	20.0	0.6	4.3	1,300		
As purchased.....	1	616.7	42.7	20.3	.....	16.7	.....	3.6	1,085		
AMPHIBIA.											
Frogs, legs:											
Edible portion—											
Minimum.....	1	.....	81.2	13.2	12.8	.....	.....	.....	.8	255	
Maximum.....	1	.....	86.2	17.7	17.4	.....	.....	.....	1.2	335	
Average.....	1	.....	83.7	15.5	15.1	.....	.....	.....	1.0	295	
As purchased—											
Minimum.....	2	31.3	54.8	9.1	8.8	.....	.....	.....	.6	175	
Maximum.....	2	32.6	59.1	12.0	11.7	.....	.....	.....	.8	225	
Average.....	2	32.0	56.9	10.5	10.3	.....	.....	.....	.7	200	
SHELLFISH, ETC., FRESH. <sup>b</sup>											
Clams, long, in shell:											
Edible portion—											
Minimum.....	4	.....	85.0	8.1	.....	1.0	1.6	2.0	.....	225	
Maximum.....	4	.....	86.1	9.0	.....	1.2	2.5	3.0	.....	235	
Average.....	4	.....	85.8	8.6	.....	1.0	2.0	2.6	.....	240	
As purchased—											
Minimum.....	4	39.9	47.2	4.4	.....	.5	.9	1.2	.....	120	
Maximum.....	4	45.2	51.7	5.2	.....	.7	1.5	1.7	.....	150	
Average.....	4	41.9	49.9	5.0	.....	.6	1.3	1.5	.....	140	
Clams, round, in shell:											
Edible portion.....	1	.....	86.2	6.5	.....	.4	4.2	2.7	.....	215	
As purchased.....	1	67.5	28.0	2.1	.....	.1	1.4	.9	.....	70	
Clams, round, removed from shell, as purchased.....	1	.....	80.8	10.6	.....	1.4	5.2	2.3	.....	340	
Crabs, hardshell, whole:											
Edible portion.....	1	.....	77.1	16.6	.....	2.0	1.2	3.1	.....	415	
As purchased.....	1	52.4	36.7	7.9	.....	.9	.6	1.5	.....	195	
Crayfish, abdomen, whole:											
Edible portion.....	1	.....	81.2	16.0	.....	.5	1.0	1.3	.....	340	
As purchased.....	1	66.6	16.9	2.1	.....	.1	.1	.2	.....	45	

<sup>a</sup> Refuse, oil.

<sup>b</sup> A considerable number of determinations of phosphorus and sulphur have been made in the flesh of shellfish. These are recorded in the following table in terms of phosphoric anhydride (P<sub>2</sub>O<sub>5</sub>) and sulphuric anhydride (SO<sub>2</sub>) and in percentages of the total weight of "edible portion" or flesh:

## Phosphoric anhydride and sulphuric anhydride in samples of shellfish.

*Kind of fish.	Phosphoric anhy- drid.		Sulphuric anhy- drid.	
	Number of de- termina- tions.	Average.	Number of de- termina- tions.	Average.
		Per cent.		Per cent.
Clams, long.....	2	0.48	2	0.56
Clams, round.....	1	.40	1	.89
Crayfish.....	1	.53	1	.26
Lobster.....	3	.38	3	.42
Oysters.....	14	.30	14	.68
Scallops.....	2	.48	2	.49
Lobster, canned.....	1	.23	1	.48
Oysters, canned.....	1	.35	1	.20

Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Protein.							Fuel value per pound.
		Refuse.	Water.	N × 6.25.	By difference.	Fat.	Total carbohydrates.	Ash.	
ANIMAL FOOD—Continued.									
SHELLFISH, ETC., FRESH—continued.									
Lobster, whole:									
Edible portion—									
Minimum	5		68.6	11.6		1.5		1.6	345
Maximum	5		84.3	25.4		2.5	0.9	4.0	555
Average	5		79.2	16.4		1.8	.1	2.2	390
As purchased—									
Minimum	5	44.0	18.0	4.4		.5		.6	115
Maximum	5	73.7	47.2	6.7		.9	.4	1.0	165
Average	5	61.7	30.7	5.9		.7	.2	.8	140
Mussels in shell:									
Edible portion	1		84.2	8.7		1.1	4.1	1.9	285
As purchased	1	46.7	44.9	4.6		.6	2.2	1.0	150
Oysters in shell:									
Edible portion—									
Minimum	34		81.7	4.2		.6	1.8	1.2	135
Maximum	34		91.4	10.0		1.9	6.7	2.8	370
Average	34		86.9	6.2		1.2	3.7	2.0	235
As purchased—									
Minimum	34	74.0	10.7	.7		.1	2.2	.2	15
Maximum	34	88.3	25.1	1.8		.4	1.3	.6	65
Average	34	81.4	16.1	1.2		.2	.7	.4	45
Oysters, solids, as purchased:									
Minimum	9		82.2	4.5		.5	1.5	.7	135
Maximum	9		92.4	7.3		1.8	6.2	2.5	325
Average	9		88.3	6.0		1.3	3.3	1.1	230
Scallops, as purchased:									
Minimum	2		77.8	14.5			1.1	1.3	305
Maximum	2		82.8	15.1		.3	5.6	1.5	385
Average	2		80.3	14.8		.1	3.4	1.4	345
Terrapin:									
Edible portion	1		74.5	21.2	27.0	3.5		1.0	545
As purchased	1	75.4	18.3	5.2	5.2	.9		.2	135
Turtle, green, whole:									
Edible portion	1		79.8	19.8	18.5	.5		1.2	390
As purchased	1	76.0	19.2	4.7	4.4	.1		.5	90
SHELLFISH, ETC., CANNED.									
Clams, long, as purchased	1		84.5	9.0		1.3	2.9	2.3	275
Clams, round, as purchased	1		82.9	10.5		.8	3.0	2.8	285
Crabs, as purchased:									
Minimum	2		78.9	15.6		.8	.7	1.8	340
Maximum	2		81.0	16.0		2.3	.8	2.1	410
Average	2		80.0	15.8		1.5	.7	2.0	370
Lobster, as purchased:									
Minimum	2		76.2	16.7		.5	.5	2.1	345
Maximum	2		79.4	19.5		1.7	.6	2.8	445
Average	2		77.8	18.1		1.1	.5	2.5	390
Oysters, as purchased:									
Minimum	4		78.1	7.0		2.0	2.6	1.2	280
Maximum	4		86.0	13.0		3.4	5.2	1.9	310
Average	4		84.4	8.8		2.4	3.9	1.5	335
Shrimp, as purchased	1		70.8	25.4		1.0	.2	2.6	520
EGGS.									
Hens', uncooked: <i>a</i>									
Edible portion—									
Minimum	60		67.2	11.6	71.4	8.6		.6	660
Maximum	60		75.8	16.0	77.4	15.1		1.6	910
Average	60		73.7	13.4	74.8	10.6		1.0	750
As purchased		611.2	65.5	11.9	73.1	9.8		.9	635
Hens', boiled:									
Edible portion—									
Minimum	19		63.6	10.0	10.3	9.1		.6	575
Maximum	19		79.9	15.6	16.8	14.7		1.1	880
Average	19		73.2	13.2	14.0	12.0		.8	765
As purchased		611.2	65.0	11.7	13.4	10.7		.7	680

*a* Eggs are difficult of analysis and the discrepancy between the protein by factor and by difference may be due in part to incomplete determination of nitrogen and fat. It is also probable that the factor 6.25 is not correct for eggs. The value of protein by difference is perhaps the more nearly correct and has been used in the computation of the fuel value per pound.

*b* Average percentage refuse (shell) in 34 samples.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Protein.				Total carbohydrates.	Ash.	Fuel value per pound.
			Water.	N × 6.25.	By difference.	Fat.			
ANIMAL FOOD—Continued.									
EGGS—continued.									
Hens, boiled whites:									
Edible portion— <i>a</i> :			<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum.....	11		83.1	11.6	12.5			0.4	235
Maximum.....	11		87.1	14.8	15.4	0.3		1.0	295
Average.....	11		86.2	12.3	13.0	.2		.6	250
Hens', boiled yolks:									
Edible portion— <i>b</i> :									
Minimum.....	11		48.4	15.3	15.5	32.2		1.0	1,685
Maximum.....	11		50.2	16.8	18.0	34.4		1.4	1,745
Average.....	11		49.5	15.7	16.1	33.3		1.1	1,705
DAIRY PRODUCTS, ETC.									
Butter, as purchased <i>c</i> .....			11.0	1.0		85.0		3.0	2,605
Buttermilk, as purchased.....			91.0	3.0		.5	4.8	.7	165
Cheese, American, pale, as purchased <i>d</i> .....	1		31.6	28.8		35.9	e.8	3.4	2,055
Cheese, American, red, as purchased <i>f</i> .....	1		28.6		29.6	38.3		3.5	2,165
Cheese, London, as purchased <i>g</i> .....	1		55.2	15.4		29.8	h1.6	7.0	1,195
Cheese, California flat, as purchased.....	4		34.0	24.3		33.4	4.5	3.8	1,945
Cheese, Cheddar, as purchased <i>i</i> .....	6		27.4	27.7		36.8	4.1	4.0	2,145
Cheese, Cheshire, as purchased <i>j</i> .....	1		37.1	25.9		30.7	e.9	4.4	1,810
Cheese, cottage, as purchased:									
Minimum.....	2		67.0	16.1		.4	3.7	1.6	435
Maximum.....	2		77.0	25.7		1.6	4.9	2.0	585
Average.....	2		72.0	20.9		1.0	4.2	1.8	510
Cheese, Crown brand cream, as purchased <i>k</i> .....	1		31.4	5.2		58.0	2.2	3.2	2,585
Cheese, Dutch, as purchased:									
Minimum.....	2		27.6		29.6	16.3		8.7	1,240
Maximum.....	2		42.7		44.7	19.0		11.4	1,630
Average.....	2		35.2		37.1	17.7		10.0	1,435
Cheese, Fromage de Brie, as purchased <i>l</i> .....	1		60.2	15.9		21.0	1.4	1.5	1,210
Cheese, full cream, as purchased: <i>m</i>									
Minimum.....	25		27.0	17.9		24.5	1.2	2.5	1,790
Maximum.....	25		44.1	37.0		44.6	4.0	4.9	2,430
Average.....	25		34.2	25.9		33.7	2.4	3.8	1,950
Cheese, imitation full cream, Ohio, as purchased.....	1		37.9		25.9	31.7		4.5	1,820
Cheese, imitation old English, as purchased <i>n</i> .....	1		20.7	30.1		42.7	1.3	5.2	2,385
Cheese, Limburger, as purchased <i>o</i> .....	1		42.1	23.0		29.4	.4	5.1	1,675
Cheese, Neuchâtel, as purchased: <i>p</i>									
Minimum.....	2		42.7	15.1		22.3	.2	2.3	1,275
Maximum.....	2		57.2	22.3		32.5	2.9	4.5	1,790
Average.....	2		50.0	18.7		27.4	1.5	2.4	1,580

*a* The ash of the whites of 73 eggs contained 3.3 per cent phosphoric anhydrid.

*b* The ash of the yolks of 73 eggs contained 57.2 per cent phosphoric anhydrid.

*c* The averages given for butter, buttermilk, cream, skimmed milk, and whole milk are assumed from the most reliable data available, but are not averages of all analyses.

*d* Contained 0.22 per cent common salt.

*e* Lactic acid.

*f* Contained 0.72 per cent common salt.

*g* Contained 3.16 per cent common salt.

*h* Milk sugar 0.7 per cent; lactic acid 0.9 per cent.

*i* One sample contained 0.45 per cent lactic acid and 1.43 per cent common salt.

*j* Contained 1.69 per cent common salt.

*k* Contained 2.75 per cent common salt.

*l* Contained 0.46 per cent common salt.

*m* Four cheeses were analyzed when 1, 3, and 5 weeks old. The average composition is as follows: When 7 days old, water 35.4, protein 21.6, fat 35.8, carbohydrates 3.9, and ash 3.3 per cent; when 21 days old, water 34.7, protein 22.7, fat 36.6, carbohydrates 2.1, and ash 3.9 per cent; when 35 days old, water 34.9, protein 23.3, fat 36.7, carbohydrates 0.7, and ash 4.4 per cent. The average of 20 analyses in which protein and carbohydrates were determined by difference gives: Water 28.3, protein and carbohydrates 38, fat 32.7, and ash 4 per cent. The average of 78 analyses in which the carbohydrates and ash were determined by difference gives: Water 24.9, protein 38, fat 32.7, carbohydrates and ash 4.4 per cent. The average of 148 analyses of green cheese in which the carbohydrates and ash were determined by difference gives: Water 33, protein 28.6, fat 33.7, carbohydrates and ash 4.7 per cent.

*n* Contained 1.47 per cent common salt.

*o* Contained 3.51 per cent common salt.

*p* The average of 10 analyses in which protein and sugar were not determined gives: Water 53.6, protein and sugar (by difference) 18.9, fat 27.7, lactic acid 1.2, and ash 2.6 per cent (including 1.4 per cent common salt).

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Protein.						Fuel value per pound.
			Water.	N. 0.25.		By differ. ence.	Fat.	Total carbo- hydrates.	
ANIMAL FOOD—Continued.									
DAIRY PRODUCTS, ETC.—continued.									
Cheese, partly skimmed milk, as purchased: <i>a</i>			<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	3		34.8	23.5		23.7	12.3	3.2	1,580
Maximum	3		42.0	27.6		34.5	4.9	3.4	1,970
Average	3		38.2	25.4		29.5	3.6	3.3	1,785
Cheese, pineapple, as purchased: <i>b</i>									
Minimum	5		11.6	27.0		33.3	2.2	5.1	1,985
Maximum	5		31.0	34.5		45.2	1.1	6.2	2,600
Average	5		23.0	29.9		38.9	2.6	5.6	2,245
Cheese, Roquefort, as purchased: <i>c</i>	1		39.3	22.6		29.5	1.8	6.8	1,700
Cheese, skimmed milk, as purchased: <i>d</i>									
Minimum	9		37.3	26.3		6.8		2.4	1,090
Maximum	9		53.1	38.4		27.8	3.0	3.0	1,740
Average	9		45.7	31.5		16.4	2.2	4.2	1,320
Cheese, Swiss, as purchased: <i>e</i>									
Minimum	2		28.9	26.1		33.2	.9	4.4	1,920
Maximum	2		33.8	29.1		36.7	1.7	5.2	2,105
Average	2		31.4	27.6		34.9	1.3	4.8	2,010
Cheese, whole milk. (See Full cream cheese.)									
Cream, as purchased: <i>f</i>			74.0	2.5		18.5	4.5	.5	910
Koumiss, as purchased: <i>g</i>									
Minimum	8		88.8	2.6		1.7	5.1	.4	215
Maximum	8		90.0	3.0		2.4	5.9	.4	265
Average	8		89.3	2.8		2.1	5.4	.4	240
Milk, condensed, sweetened, as purchased: <i>h</i>									
Minimum	24		21.6	6.0		4	44.4	1.5	1,270
Maximum	24		37.3	10.5		10.6	56.9	2.1	1,650
Average	24		26.0	8.3		8.8	54.1	1.9	1,520
Milk, condensed, unsweetened, "evaporated cream," as purchased:									
Minimum	6		66.3	8.6		7.8	10.4	1.5	740
Maximum	6		69.6	10.5		10.4	12.2	2.1	835
Average	6		68.2	9.6		9.3	11.2	1.7	780
Milk, skimmed, as purchased: <i>f</i>			90.5	3.4		3	5.1	.7	170
Milk, whole, as purchased: <i>f</i>			87.0	3.3		4.0	5.0	1.7	325
Whey, as purchased			93.0	1.0		.3	5.0	.7	125
MISCELLANEOUS.									
Gelatin, as purchased:									
Minimum	6		9.6	89.3	82.2			1.4	1,600
Maximum	6		15.4	97.5	88.3	.4		4.4	1,830
Average	6		13.6	91.4	84.2	.1		2.1	1,705
Calf's-foot jelly, as purchased	1		77.6	4.3			17.4	.7	405
Isinglass, sturgeon, as purchased	1		19.0	89.3	77.4	1.6		2.0	1,730
Spinal column, sturgeon, as purchased	1		17.7	59.8		17.1	.8	4.6	1,850
Lard, refined, as purchased	1					100.0			4,220
Lard, unrefined, as purchased:									
Minimum	3		3.1	1.7	.9	92.0		.1	3,895
Maximum	3		6.6	2.9	1.3	85.9		.1	4,065
Average	3		4.8	2.2	1.1	94.0		.1	4,010
Tallow, refined, as purchased	1					100.0			4,220
Cottolene, as purchased	1					100.0			4,220
Oleomargarine, as purchased	41		9.5	1.2		83.0		6.3	3,525
Beef juice, as purchased	1		93.0	4.9		.6		1.5	115

*a* Three cheeses were analyzed when 1, 3, and 5 weeks old. The average composition is as follows: When 1 week old, water 38.4, protein 25, fat 30, carbohydrates 3.3, and ash 3.3 per cent; when 3 weeks old, water 38.4, protein 25.3, fat 29, carbohydrates 4, and ash 3.3 per cent; when 5 weeks old, water 37.7, protein 26, fat 29.7, carbohydrates 3.2, and ash 3.4 per cent.

*b* Four samples contained an average of 2.13 per cent common salt.

*c* Contained 5.3 per cent common salt.

*d* Two samples contained an average of 1.5 per cent common salt.

*e* Contained 1.9 per cent common salt.

*f* The averages given for butter, buttermilk, cream, skim milk, and whole milk are assumed from the most reliable data available, but are not averages of all analyses.

*g* Contained, on the average, 4.4 per cent cane sugar and 0.76 per cent alcohol. Ash not reported, but assumed from European analyses.

*h* Sixteen samples contained, on the average, 43.6 per cent cane sugar.

*i* According to Farrington and Wolf the ash of cows' milk contains, on the average,  $K_2O$  25.6,  $Na_2O$  12.5,  $CaO$  24.6,  $P_2O_5$  21.2, and  $Cl$  16.3 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD.									
FLOURS, MEALS, ETC.									
Barley, granulated	1		10.9	7.5	6.9	79.8	0.7	0.9	1,660
Barley meal and flour:									
Minimum	3		9.9	9.0	1.5	70.4	5.9	1.6	1,535
Maximum	3		13.6	12.7	3.2	74.5	7.0	3.3	1,680
Average	3		11.9	10.5	2.2	72.8	(3)6.5	2.6	1,640
Barley, pearled:									
Minimum	3		9.8	7.0	.7	77.3		.6	1,635
Maximum	3		12.9	10.1	1.5	78.1		1.6	1,675
Average	3		11.5	8.5	1.1	77.8	(3)5.3	1.1	1,650
Buckwheat flour:									
Minimum	17		11.2	2.9	.5	71.6	.2	.5	1,560
Maximum	17		17.6	10.4	2.3	81.5	.7	1.8	1,650
Average	17		13.6	6.4	1.2	77.9	(7)4	.9	1,620
Buckwheat preparations:									
Farina and groats—									
Minimum	2		10.6	3.3	.3	83.4	.1	.4	1,650
Maximum	2		11.2	4.8	.6	84.8	.3	.6	1,665
Average	2		10.9	4.1	.4	84.1	.2	.5	1,660
Self-raising—									
Minimum	14		9.8	5.5	.3	70.1		4.4	1,515
Maximum	14		13.6	11.1	1.4	77.3		7.0	1,600
Average	14		11.6	8.2	1.2	73.4	(1)4	5.6	1,570
Corn flour: a									
Minimum	3		12.0	5.9	1.0	76.9	.6	.5	1,630
Maximum	3		13.0	8.5	1.3	79.3	1.2	.8	1,665
Average	3		12.6	7.1	1.3	78.4	.9	.6	1,645
Corn meal, granular: b									
Minimum	10		8.8	6.7	1.0	68.4		.5	1,550
Maximum	19		17.9	11.6	5.3	80.6		1.9	1,720
Average	19		12.5	9.2	1.9	75.4	(1)1.0	1.0	1,655
Corn meal, unbolled:									
Edible portion—									
Minimum	7		10.9	7.8	4.5	71.9		1.2	1,720
Maximum	7		12.4	9.3	5.2	75.4		1.4	1,740
Average	7		11.6	8.4	4.7	74.0		1.3	1,730
As purchased—									
Minimum	7	84.2	9.2	6.5	3.5	55.7		1.0	1,305
Maximum	7	24.1	10.8	8.0	4.5	72.2		1.3	1,670
Average	7	10.9	10.3	7.5	4.2	65.9		1.2	1,545
Pop corn:									
Minimum	2		4.1	10.3	4.7	78.6	1.3	1.3	1,870
Maximum	2		4.4	11.1	5.4	78.7	1.4	1.4	1,880
Average	2		4.3	10.7	5.0	78.7	1.4	1.3	1,875
Corn preparations:									
Cerealine: d—									
Minimum	5		9.5	9.1	.9	76.6	.2	.2	1,635
Maximum	5		11.0	9.9	1.3	79.2	.7	.3	1,710
Average	5		10.3	9.6	1.1	78.3	(1)4	.7	1,680
Hominy—									
Minimum	17		9.2	6.3	.2	77.3	.2	1	1,610
Maximum	17		13.4	9.5	1.0	81.4	1.0	.7	1,700
Average	17		11.8	8.3	.6	79.0	(12)2	.8	1,650
Hominy, cooked									
Parched—									
Minimum	2		4.9	11.1	8.2	71.1		1.7	1,895
Maximum	2		5.6	11.8	8.7	73.4		3.5	1,930
Average	2		5.2	11.5	8.4	72.3		2.6	1,915
Parched—									
Minimum	1		10.8	6.6	3.8	70.6	1.1	2.2	1,595
Kafir corn	1								
Oatmeal: e									
Minimum	16		2.0	12.9	6.0	63.8	.6	1.5	1,810
Maximum	16		8.8	20.8	8.8	70.2	1.2	2.2	1,875
Average	16		7.3	16.1	7.2	67.5	(9)2	1.8	1,850
Oatmeal, bolled	1		84.5	2.8	5	11.5		.7	285

a Average of 77 analyses of corn meal used for fodder gives water 15, protein 8.2, fat 3.8, carbohydrate 68.7, fiber 1.9, and ash 1.4 per cent, and fuel value 1,610 calories.

b The ash of 1 sample contained 0.185 per cent phosphorus.

c Refuse, bran removed by sifting.

d The ash of 1 sample contained 0.192 per cent phosphorus.

e The ash of 1 sample contained 0.414 per cent phosphorus.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FLOURS, MEALS, ETC.—continued.									
Oatmeal ground:									
Minimum	12		47.5	0.9	0.2	2.9		0.3	80
Maximum	12		95.2	1.6	.5	9.6		.9	230
Average	12		91.6	1.2	.4	6.3		.3	155
Oatmeal water:									
Minimum	12		94.0	.4	.1	1.3		.1	35
Maximum	12		98.1	.9	.1	4.5		.5	105
Average	12		96.0	.7	.1	2.9		.3	70
Oats, other preparations: <sup>a</sup>									
Rolled oats:									
Minimum	20		5.5	13.6	5.6	62.8	1.2	1.6	1,755
Maximum	20		11.2	19.1	8.8	70.8	1.4	4.7	1,885
Average	20		7.7	16.7	7.3	66.2	(?) 1.3	2.1	1,850
Miscellaneous—									
Minimum	26		6.4	13.7	6.1	63.9	.6	1.3	1,830
Maximum	26		7.9	18.4	8.2	70.5	1.7	1.9	1,890
Average	26		7.9	16.3	7.3	66.8	(?) 0.9	1.7	1,855
All analyses, average <sup>b</sup>	46		7.8	16.5	7.3	66.5	(?) 1.0	1.9	1,850
Rice:									
Minimum	21		9.1	5.9	.1	75.4	.1	.2	1,600
Maximum	21		14.0	11.3	.7	81.9	.4	.5	1,690
Average	21		12.3	8.0	.3	79.0	(?) 1.2	.4	1,630
Rice, boiled:									
Minimum	3		52.7	1.6		15.5		.1	330
Maximum	3		82.7	5.0	.1	41.9		.3	875
Average	3		72.5	2.8	.1	24.4		.3	525
Rice, flaked:									
Minimum	2		9.4	7.5	.3	81.4	.1	.3	1,680
Maximum	2		9.7	8.3	.5	82.2	.2	.4	1,690
Average	2		9.5	7.9	.4	81.9	.2	.3	1,685
Rice flour: <sup>c</sup>									
Minimum	4		3.7	4.7	1.7	58.3	0.1	6.6	1,635
Maximum	4		10.9	12.0	10.4	79.2	28.3	10.7	1,765
Average	4		8.5	8.6	6.1	68.0	16.1	8.8	1,680
Rye flour:									
Minimum	8		11.9	4.9	.2	77.6	.4	.6	1,615
Maximum	8		13.8	8.8	1.3	80.2	.5	.9	1,630
Average	8		12.9	6.8	.9	78.7	(?) .4	.7	1,630
Rye meal:									
Minimum	1		11.4	13.6	2.6	71.5	1.8	1.5	1,665
Wheat flour, California fine: <sup>d</sup>									
Minimum	3		12.4	7.2	1.2	73.9		.4	1,590
Maximum	3		15.6	8.8	1.6	77.8		.5	1,660
Average	3		13.8	7.9	1.4	76.4		.5	1,625
Wheat flour, entire wheat:									
Minimum	9		6.4	12.2	1.5	69.5	.5	.6	1,635
Maximum	9		13.1	14.6	2.1	77.0	1.2	1.5	1,760
Average	9		11.4	13.8	1.9	71.9	(?) .9	1.0	1,675
Wheat flour, gluten:									
Minimum	5		10.5	12.8	1.1	69.6		.5	1,635
Maximum	5		13.0	15.0	2.4	72.8	.6	1.3	1,690
Average	5		12.0	14.2	1.8	71.1	(?) .6	.9	1,665
Wheat flour, Graham:									
Minimum	13		9.9	8.5	1.5	66.0	1.8	1.9	1,615
Maximum	13		13.7	17.7	3.6	75.8	2.0	2.7	1,710
Average	13		11.3	13.3	2.2	71.4	(?) 1.9	1.8	1,670
Wheat flour, prepared (self-raising): <sup>e</sup>									
Minimum	29		8.0	8.0	.6	67.4	.4	1.5	1,550
Maximum	29		13.0	13.3	2.2	78.6	.5	7.1	1,730
Average	29		10.8	10.2	1.2	73.0	(?) .4	4.8	1,600

<sup>a</sup> The preparations analyzed include a considerable number of brands, each of which varies in composition only slightly from the average.

<sup>b</sup> The ash of 5 samples contained an average of 0.418 per cent phosphorus.

<sup>c</sup> Rice flour is used mainly as a fodder, and varies considerably in composition. The ash of 2 samples contained an average of  $P_2O_5$  29.1,  $K_2O$  12.6,  $CaO$  1,  $MgO$  7.6, and  $SO_3$  0.3 per cent. Two samples contained an average of protein (N X 6.25) 11.3, and proteins 11.9 per cent.

<sup>d</sup> The ash of 2 complete samples contained an average of 49.3 per cent  $P_2O_5$ .

<sup>e</sup> The flours analyzed included 18 varieties or brands. The variation between different samples of the same brand is as wide as that between the averages of the different brands. The wide variation is in the ash, which of course depends upon the mineral matters added for raising.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including lignin fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FLOURS, MEALS, ETC.—continued.									
Wheat flour, patent roller process, bakers' grade:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	14	10.1	10.3	0.9	70.3	0.3	0.5	1,640	
Maximum	14	13.3	14.9	2.0	75.5	1.5	.9	1,705	
Average	14	11.9	13.3	1.5	72.7	(6) .7	.6	1,665	
Wheat flour, patent roller process, family and straight grade:									
Spring wheat—									
Minimum	3	10.3	9.6	1.0	72.7		.4	1,635	
Maximum	3	13.1	13.3	1.2	78.5		.6	1,680	
Average	3	11.9	10.9	1.1	75.6	(1) .1	.5	1,655	
Winter wheat— <i>a</i>									
Minimum	6	11.7	10.8	1.0	72.1		.3	1,615	
Maximum	6	14.0	13.7	1.3	73.7		.6	1,655	
Average	6	13.1	12.3	1.1	73.0	(4) .3	.5	1,635	
Undesignated—									
Minimum	19	8.4	9.3	.8	72.8		.3	1,610	
Maximum	19	14.1	12.6	1.6	77.9		.6	1,705	
Average	19	12.9	10.4	1.0	75.2	(1) .1	.5	1,635	
All analyses, average	28	12.8	10.8	1.1	74.8	(6) .2	.5	1,640	
Wheat flour, patent roller process, grade not indicated:									
Minimum	111	8.2	8.4	.3	70.3		.3	1,640	
Maximum	111	13.9	14.7	1.6	80.0		.8	1,730	
Average	111	11.5	11.4	1.0	75.6	(13) .2	.5	1,660	
Wheat flour, patent roller process, high grade:									
Spring wheat—									
Minimum	23	8.8	8.7	.7	71.7		.3	1,615	
Maximum	23	14.3	13.8	1.0	78.1		.5	1,715	
Average	23	12.3	11.7	1.1	74.5	(7) .1	.4	1,660	
Winter wheat— <i>b</i>									
Minimum	6	12.1	9.3	.8	71.0		.3	1,615	
Maximum	6	14.0	14.9	1.0	75.5		.6	1,645	
Average	6	13.3	11.0	.9	74.4		.4	1,625	
Undesignated—									
Minimum	28	9.6	8.2	.7	72.4		.3	1,615	
Maximum	28	13.8	14.5	1.9	77.5		.6	1,700	
Average	28	12.5	10.8	1.0	75.2	(1) .1	.5	1,640	
All analyses, average	57	12.4	11.2	1.0	74.9	(14) .2	.5	1,645	
Average of all analyses of high and medium grades and grade not indicated	210	12.0	11.4	1.0	75.1	(41) .3	.5	1,650	
Wheat flour, patent roller process, low grade:									
Minimum	13	9.3	10.0	.8	64.2		.5	1,645	
Maximum	13	13.9	17.9	3.9	75.9		.9	2.0 1,735	
Average	13	12.0	14.0	1.9	71.2	(7) .8	.9	1,665	
Wheat flour, unclassified process, grade not indicated:									
Spring wheat— <i>d</i>									
Minimum	4	11.4	9.6	.6	73.5		.5	1,610	
Maximum	4	13.5	12.1	1.3	77.4		.9	1,650	
Average	4	12.4	10.5	1.0	75.4	(5) .3	.7	1,640	
Winter wheat— <i>e</i>									
Minimum	21	9.0	8.5	.4	73.2		.3	1,605	
Maximum	21	14.4	12.5	1.5	78.2		.6	1,680	
Average	21	11.9	10.7	1.0	75.8	(8) .4	.6	1,650	
Undesignated— <i>f</i>									
Minimum	8	6.7	8.7	.6	75.3		.4	1,645	
Maximum	8	11.7	11.4	1.6	82.1		.9	1,780	
Average	8	9.4	10.4	1.2	78.4	(3) .9	.6	1,700	
All analyses, average	33	11.4	10.6	1.1	76.3	(10) .7	.6	1,665	

*a* The ash of 1 sample contained  $K_2O$  36.3,  $CaO$  5.7,  $MgO$  6.4, and  $P_2O_5$  49.3 per cent. In 1 sample protein ( $N \times 6.25$ ) 11.4 and proteids 10.8 per cent.

*b* The ash of 1 sample contained  $K_2O$  38.5,  $CaO$  5.6,  $MgO$  4.4,  $P_2O_5$  48.1, and  $SO_2$  0.2 per cent. In 1 sample protein ( $N \times 6.25$ ) 10.6 and proteids 10.3 per cent.

*c* The ash of 1 sample contained  $K_2O$  32.3,  $CaO$  4.5,  $MgO$  9.3, and  $P_2O_5$  53.1 per cent. In 1 sample protein ( $N \times 6.25$ ) 14.1 and proteids 13.8 per cent.

*d* Three samples contained an average of starch 70.8, dextrin 1.5, and sugar, etc., 1.8 per cent.

*e* Four samples contained an average of starch 71.9, dextrin 2.3, and sugar, etc., 1.6 per cent.

*f* Three samples contained an average of starch 71.8, dextrin 2, and sugar, etc., 1.7 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FLOURS, MEALS, ETC.—continued.									
Wheat preparations, breakfast foods: <i>a</i>									
Cracked and crushed— <i>b</i>									
Minimum	11	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Maximum	11	8.9	9.5	1.3	73.7	1.2	1.4	1.845	
Average	11	11.7	12.9	2.2	77.2	2.0	2.2	1.710	
	11	10.1	11.1	1.7	75.5	(?) 1.7	1.6	1.685	
Farina— <i>c</i>									
Minimum	9	6.1	10.4	.8	74.6	.2	.1	1.630	
Maximum	9	13.2	11.7	3.8	78.5	.6	.7	1.825	
Average	9	10.9	11.0	1.4	76.3	(?) .4	.4	1.686	
Flaked— <i>d</i>									
Minimum	7	7.9	9.7	1.1	69.7	1.3	1.2	1.640	
Maximum	7	10.1	15.6	1.5	77.8	2.2	3.3	1.705	
Average	7	8.7	13.4	1.4	74.3	1.8	2.2	1.690	
Germ— <i>e</i>									
Minimum	10	9.1	8.6	1.2	73.1	.8	.5	1.665	
Maximum	10	13.3	13.4	2.5	80.0	1.2	1.6	1.720	
Average	10	10.4	10.5	2.0	76.0	(?) .9	1.1	1.695	
Gluten— <i>f</i>									
Minimum	3	6.8	12.7	.7	69.2	.5	.7	1.695	
Maximum	3	11.1	14.4	3.3	78.8	2.5	2.0	1.730	
Average	3	8.9	13.6	1.7	74.6	1.3	1.2	1.715	
Miscellaneous— <i>g</i>									
Minimum	22	3.8	10.4	1.3	70.5	.5	.9	1.665	
Maximum	22	11.9	16.6	4.0	81.0	1.5	1.6	1.820	
Average	22	9.4	13.1	2.1	74.1	(?) .9	1.3	1.710	
Parbed and toasted— <i>g</i>									
Minimum	6	6.4	11.8	.9	72.3	.1	.2	1.660	
Maximum	6	11.5	15.5	3.7	76.9	1.4	1.6	1.800	
Average	6	8.6	13.6	2.4	74.5	.8	.9	1.740	
Shredded—									
Minimum	6	7.2	9.6	1.3	75.0	.....	1.4	1.670	
Maximum	6	10.7	11.4	1.6	79.7	.....	3.3	1.720	
Average	6	8.1	10.5	1.4	77.9	(?) 1.7	2.1	1.700	
All analyses, average	74	9.6	12.1	1.8	75.2	1.0	1.8	1.700	
Wheat preparations:									
Macaroni—									
Minimum	11	7.0	7.9	.0	67.2	.....	.3	1.540	
Maximum	11	12.3	16.6	4.9	78.4	.....	7.0	1.775	
Average	11	10.3	13.4	.9	74.1	.....	1.3	1.665	
Macaroni, cooked	1	78.4	3.0	1.5	15.8	.....	1.3	415	
Noodles—									
Minimum	2	10.6	11.7	.5	74.7	.3	.5	1.665	
Maximum	2	10.7	11.7	1.5	76.6	.4	1.5	1.670	
Average	2	10.7	11.7	1.0	75.6	.4	1.0	1.665	
Spaghetti—									
Minimum	3	10.0	11.2	.1	74.9	.5	.6	1.645	
Maximum	3	11.1	13.3	.8	77.1	.7	.7	1.680	
Average	3	10.6	12.1	.4	76.3	(?) .4	.6	1.660	
Vermicelli—									
Minimum	15	8.4	7.9	.3	66.7	.....	.5	1.540	
Maximum	15	12.3	16.4	5.2	76.5	.....	6.8	1.730	
Average	15	11.0	10.9	2.0	72.0	.....	4.1	1.625	
BREAD, CRACKERS, PASTRY, ETC.									
Bread, brown, as purchased:									
Minimum	2	40.0	5.0	1.2	43.6	.....	1.9	970	
Maximum	2	47.2	5.8	2.4	50.7	.....	2.2	1.135	
Average	2	43.6	5.4	1.8	47.1	.....	2.1	1.050	
Bread, casava, as purchased	1	10.5	9.1	.3	79.0	.....	1.1	1.650	

*a* The different groups of wheat breakfast foods contain various brands, which have been arranged as far as possible according to similarity in method of preparation. The varieties under each group differ only slightly from the average in percentage composition.

*b* The ash of 2 samples contained an average of 0.282 per cent of phosphorus.

*c* The ash of 1 sample contained 0.153 per cent of phosphorus.

*d* The ash of 2 samples contained an average of 0.247 per cent of phosphorus.

*e* The ash of 1 sample contained 0.251 per cent of phosphorus.

*f* The ash of 4 samples contained an average of 0.35 per cent of phosphorus.

*g* The ash of 1 sample contained 0.288 per cent of phosphorus.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refine.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOODS—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Bread, corn (johnnycake), as purchased— <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum	5	28.4	6.5	2.3	40.3			0.8	975
Maximum	5	48.0	10.1	9.8	54.3			4.1	1,330
Average	5	38.9	7.9	4.7	46.3			2.2	1,205
Bread, rye, as purchased—									
Minimum	21	20.6	6.4	.1	45.6	.1		.6	1,020
Maximum	121	44.0	11.1	1.4	65.8	1.0		2.7	1,440
Average	121	35.7	9.0	.6	53.2	( <sup>3</sup> ) 5.5		1.5	1,180
Bread, rye, black, as purchased	1	36.9	9.6	.6	48.9			4.0	1,115
Bread, rye, whole, as purchased—									
Minimum	2	49.8	11.8	.5	35.0	.5		.9	895
Maximum	2	51.6	12.0	.6	38.8	1.6		1.0	850
Average	2	50.7	11.9	.6	35.9	1.2		.9	915
Bread, rye and wheat, as purchased	1	35.3	11.9	.3	51.5			1.0	1,190
Bread, wheat—									
Buns, as purchased	1	29.0	6.3	6.5	57.3	.4		.9	1,455
Buns, cinnamon, as purchased	1	23.6	9.4	7.2	59.1			.7	1,575
Buns, currant, as purchased	1	27.5	6.7	7.6	57.6	1.1		.6	1,515
Buns, hot cross, as purchased	1	36.7	7.9	4.8	49.7			.9	1,275
Buns, sugar, as purchased— <i>b</i>									
Minimum	3	26.6	7.6	4.5	49.0			.8	1,340
Maximum	3	35.3	8.4	9.4	58.5			1.6	1,575
Average	3	29.6	8.1	6.9	54.2	( <sup>1</sup> ) 3.3		1.2	1,450
Gluten bread, as purchased—									
Minimum	6	34.8	8.2	.7	44.6			2.8	1,085
Maximum	6	43.1	11.1	2.4	53.0			1.7	1,210
Average	6	38.2	9.3	1.4	49.8			1.3	1,160
Graham bread, as purchased— <i>c</i>									
Minimum	27	27.8	6.8	.4	38.6	.6		.7	886
Maximum	127	42.4	10.9	3.8	59.1	1.3		3.0	1,350
Average	27	35.7	8.9	1.8	52.1	( <sup>11</sup> ) 1.1		1.5	1,210
Biscuit, homemade, as purchased— <i>d</i>									
Minimum	3	30.7	7.8	2.0	58.7	.4		.1	1,280
Maximum	3	34.7	10.2	3.3	56.6	.2		.9	1,325
Average	3	32.9	8.7	2.6	55.3	( <sup>2</sup> ) .7		.5	1,300
Biscuit, Maryland, as purchased— <i>e</i>									
Minimum	2	24.2	7.5	4.3	59.3	.6		1.2	1,490
Maximum	2	25.0	9.3	6.8	61.0	2.1		1.4	1,530
Average	2	24.6	8.4	5.6	60.1	1.3		1.3	1,510
Biscuit, soda, as purchased— <i>f</i>	1	22.9	9.3	13.7	52.6			2.5	1,750
Rolls, French, as purchased— <i>g</i>									
Minimum	2	31.9	8.0	2.3	55.2	.3		1.2	1,290
Maximum	2	32.2	9.0	2.7	56.2	.9		1.3	1,310
Average	2	32.0	8.5	2.5	55.7	.6		1.3	1,300
Rolls, plain, as purchased—									
Minimum	5	18.4	8.6	.4	56.7	.5		.7	1,240
Maximum	5	28.4	11.9	9.4	64.7	.3		1.4	1,635
Average	5	25.2	9.7	4.2	59.9	( <sup>2</sup> ) .3		1.0	1,470
Rolls, Vienna, as purchased	1	31.7	8.5	2.2	56.5	.4		1.1	1,300
Rolls, water, as purchased—									
Minimum	2	31.2	8.5	2.0	52.5			1.1	1,300
Maximum	2	34.0	9.6	3.9	55.8			2.4	1,300
Average	2	32.6	9.0	3.0	54.2			1.2	1,300
Rolls, all analyses, as purchased—	20	29.2	8.9	4.1	56.7	( <sup>12</sup> ) .6		1.1	1,395
Rolls, large cheap, as purchased	1	29.4	9.4	.8	59.4			1.0	1,315
Toasted bread, as purchased—									
Minimum	5	15.3	10.6	.6	56.7			1.4	1,240
Maximum	5	28.6	12.8	3.2	67.1			2.0	1,620
Average	5	24.0	11.5	1.6	61.2			1.7	1,420
White bread, biscuit, as purchased—									
Minimum	3	31.2	7.6	.6	50.1	.2		.5	1,110
Maximum	3	39.7	8.3	2.1	58.8	.3		1.4	1,295
Average	3	35.2	8.0	1.4	54.3	( <sup>2</sup> ) .3		1.1	1,220

- a* Corn bread (johnnycake), made of Indian meal mixed with sour milk or buttermilk.  
*b* One sample contained sugar 7.9, dextrin 3.2, and starch 47 per cent.  
*c* Two samples contained an average of sugar 3.2, dextrin 3.1, and starch 40.8 per cent.  
*d* Two samples contained an average of sugar 2.7, dextrin 5.5, and starch 41.5 per cent.  
*e* One sample contained sugar 3.9, dextrin 2.8, and starch 52.2 per cent.  
*f* One sample contained sugar 2.9, dextrin 2.8, and starch 48.6 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
<b>VEGETABLE FOOD—Continued.</b>									
<b>BREAD, CRACKERS, PASTRY, ETC.—continued.</b>									
<b>Bread, wheat—Continued.</b>									
White bread, butter, as purchased.....	1		<i>P. ct.</i> 32.2	<i>P. ct.</i> 7.9	<i>P. ct.</i> 1.1	<i>P. ct.</i> 57.7	<i>P. ct.</i> 0.4	<i>P. ct.</i> 1.1	<i>Calo.</i> 1,265
White bread, cheap grade, as purchased—									
Minimum.....	6		27.9	8.7	.5	44.3		.9	1,105
Maximum.....	6		40.7	16.3	2.1	60.4		1.3	1,370
Average.....	6		33.2	10.9	1.3	53.6		1.0	1,255
White bread, cream, as purchased—									
Minimum.....	6		29.3	6.5	.2	50.8		.8	1,150
Maximum.....	6		38.2	15.4	1.9	60.9		1.6	1,335
Average.....	6		33.2	9.8	.9	55.0	(1)	1.1	1,245
White bread, home-made, as purchased—									
Minimum.....	38		29.8	6.6	.4	47.6	.1	.4	1,115
Maximum.....	38		40.4	11.0	3.5	58.9	.3	2.0	1,360
Average.....	38		35.0	9.1	1.6	53.3	(2)	1.0	1,225
White bread, milk, as purchased—									
Minimum.....	8		34.1	8.8	.3	49.0		.9	1,110
Maximum.....	8		39.8	10.8	2.8	53.7		2.0	1,235
Average.....	8		36.5	9.6	1.4	51.1		1.4	1,190
White bread, miscellaneous, as purchased a—									
Minimum.....	103		25.8	7.0	.0	42.0	.5	.6	940
Maximum.....	103		49.1	13.9	3.7	61.5		3.0	1,415
Average.....	103		35.6	9.3	1.2	52.7	(*)	1.2	1,205
White bread, New England, as purchased—									
Minimum.....	7		31.1	8.5	.6	48.8		.8	1,095
Maximum.....	7		40.5	9.9	2.1	55.3		1.3	1,245
Average.....	7		36.6	9.1	1.2	52.1		1.0	1,190
White bread, Quaker, as purchased—									
Minimum.....	4		31.1	7.0	.8	49.1	.2	.9	1,230
Maximum.....	4		40.4	9.8	1.8	58.1	.3	1.3	1,305
Average.....	4		35.8	8.3	1.1	53.7	(*)	1.1	1,200
White bread, split, as purchased—									
Minimum.....	3		33.2	9.0	.6	52.4		.8	1,200
Maximum.....	3		35.4	9.6	1.5	56.2		1.3	1,245
Average.....	3		34.6	9.3	1.0	54.1	(1)	1.0	1,220
White bread, Vienna, as purchased—									
Minimum.....	25		27.1	8.1	.1	48.4	.2	.9	1,110
Maximum.....	25		39.7	11.0	3.8	60.3	.9	1.5	1,380
Average.....	25		34.2	9.4	1.2	54.1	(*)	1.1	1,230
White bread, all analyses, as purchased, average b—	198		35.3	9.2	1.3	53.1	(2)	1.1	1,215
Whole wheat bread, as purchased—									
Minimum.....	12		32.3	8.1	.4	37.2		.8	895
Maximum.....	12		51.0	11.7	2.7	56.2		1.9	1,260
Average.....	12		38.4	9.7	.9	49.7	(1)	1.3	1,140
Zwieback, as purchased—									
Minimum.....	4		5.0	8.6	8.1	72.1		.8	915
Maximum.....	4		7.7	11.7	11.3	74.2		1.0	2,015
Aggregate.....	4		5.8	9.8	9.9	73.5		1.0	1,970
<b>Crackers:</b>									
Boston (split) crackers, as purchased—									
Minimum.....	2		6.8	10.7	7.1	68.8		1.4	1,875
Maximum.....	2		8.2	11.3	9.9	73.4		2.4	1,895
Average.....	2		7.5	11.0	8.5	71.1	(*)	1.9	1,885

a Four samples contained an average of sugar 2.3, dextrin 4.2, and starch 48.2 per cent.

b Table of comparison of bread made from different grades of flour, from high to low grade:

	Water.	Protein.	Fat.	Carbohydrates.	Fiber.	Ash.	Fuel value per pound.
White bread from high-grade patent flour.....	<i>Per ct.</i> 32.9	<i>Per ct.</i> 8.7	<i>Per ct.</i> 1.4	<i>Per ct.</i> 56.5	.....	0.5	1,270
White bread from regular patent flour.....	34.1	9.0	1.3	54.9	.....	.7	1,245
White bread from baker's flour.....	39.1	10.6	1.2	48.3	.....	.6	1,145
White bread from low-grade flour.....	40.7	12.6	1.1	44.3	.....	1.	1,105

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Crackers—Continued.									
Butter crackers, as purchased—		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cal.
Minimum	3	5.2	8.2	8.0	76.3	0.3	0.9	1,840	
Maximum	3	9.5	11.2	13.6	69.4	.4	2.5	2,250	
Average	3	7.2	9.6	10.1	71.6	(7) .4	1.6	1,935	
Cream crackers, as purchased—									
Minimum	9	4.3	8.6	10.7	68.0	.2	1.1	1,945	
Maximum	9	8.9	11.2	13.8	72.4	.1	2.6	2,080	
Average	9	6.8	9.7	12.1	69.7	(6) .6	1.7	1,990	
Egg crackers, as purchased—									
Minimum	12	5.4	12.4	11.9	63.7	.3	.8	2,100	
Maximum	12	6.3	12.8	16.0	69.5	.5	1.2	2,025	
Average	12	5.8	12.6	14.0	66.6	.4	1.0	2,060	
Flatbread, as purchased—									
Minimum	3	9.4	13.5	.2	72.7	.....	.5	1,660	
Maximum	3	10.5	15.6	.7	75.3	.....	1.5	1,675	
Average	3	9.8	14.9	.5	73.6	.....	1.2	1,665	
Graham crackers, as purchased—									
Minimum	4	3.1	7.4	1.1	69.7	.....	1.2	1,705	
Maximum	4	8.4	14.4	13.6	77.2	2.4	1.9	2,050	
Average	4	5.4	10.0	9.4	73.8	(7) 1.5	1.4	1,955	
Miscellaneous, as purchased—									
Minimum	21	3.1	7.1	.5	63.5	.1	.4	1,840	
Maximum	21	11.3	14.2	12.8	82.2	.2	3.7	2,010	
Average	21	7.1	10.2	8.8	72.4	(7) .4	1.6	1,905	
Oatmeal crackers, as purchased—									
Minimum	2	4.9	10.4	8.5	68.3	.....	1.4	1,870	
Maximum	2	7.8	13.1	13.7	69.6	.....	2.3	2,065	
Average	2	6.3	11.8	11.1	69.0	(1) 1.9	1.8	1,970	
Oyster crackers, as purchased—									
Minimum	7	3.8	9.1	4.8	69.1	.....	.9	1,855	
Maximum	7	6.5	17.3	13.0	77.5	.....	5.9	2,055	
Average	7	4.8	11.3	10.5	70.5	(1) .2	2.9	1,965	
Pilot bread, as purchased—									
Minimum	3	7.9	10.4	.5	70.3	.3	.9	1,665	
Maximum	3	9.9	12.4	10.2	78.0	.3	1.1	1,930	
Average	3	8.7	11.1	5.0	74.2	(7) .3	1.0	1,800	
Pretzels, as purchased—									
Minimum	2	8.1	9.1	3.9	71.1	.4	3.2	1,655	
Maximum	2	11.0	10.3	3.9	74.5	.5	4.9	1,740	
Average	2	9.6	9.7	3.9	72.8	(7) .5	4.0	1,700	
Saltines, as purchased—									
Minimum	12	4.6	9.9	12.7	67.1	.3	2.3	1,995	
Maximum	12	6.7	11.2	12.8	69.9	.6	2.8	2,025	
Average	12	5.6	10.6	12.7	68.5	.5	2.6	2,005	
Soda crackers, as purchased—									
Minimum	5	3.7	8.8	7.7	70.5	.....	1.8	1,850	
Maximum	5	8.4	10.7	10.0	75.4	.....	2.6	1,980	
Average	5	5.9	9.8	9.1	73.1	(1) .3	2.1	1,925	
Water crackers, as purchased—									
Minimum	6	4.7	10.4	.2	72.9	.2	.5	1,730	
Maximum	6	9.5	12.5	10.1	80.8	.8	2.0	1,910	
Average	6	6.4	11.7	5.0	75.7	.4	1.2	1,825	
All analyses, as purchased, average	71	6.8	10.7	8.8	71.9	(6) .5	1.8	1,905	
Cracker meal, as purchased—									
Minimum	2	9.2	9.6	.6	68.3	.1	.5	1,690	
Maximum	2	9.3	12.2	11.3	77.4	.3	1.6	1,925	
Average	2	9.2	10.9	6.0	72.9	.....	1.0	1,810	
Cake:									
Baker's cake, as purchased—									
Minimum	2	28.3	4.6	3.4	53.3	.....	.7	1,285	
Maximum	2	34.4	8.0	5.9	60.5	.....	.9	1,460	
Average	2	31.4	6.3	4.6	56.9	.....	.8	1,370	
Chocolate layer cake, as purchased	1	20.5	6.2	8.1	64.1	.....	1.1	1,650	
Coffee cake, as purchased—									
Minimum	5	11.0	4.9	4.7	52.4	.2	.6	1,395	
Maximum	5	32.0	9.0	10.5	78.8	.6	1.1	1,820	
Average	5	21.3	7.1	7.5	68.2	(5) .4	.9	1,625	
Cup cake, as purchased—									
Minimum	2	14.8	5.2	2.5	63.2	.....	.8	1,600	
Maximum	2	16.3	6.6	15.6	73.8	.....	1.2	1,920	
Average	2	15.6	5.9	9.0	68.5	(1) .3	1.0	1,765	

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Cake—Continued.									
Drop cake, as purchased	1	P. et.	P. et.	P. et.	P. et.	P. et.	P. et.	P. et.	Calc.
Frosted cake, as purchased	7	11.4	5.0	7.5	58.3	60.3	6.1	0.8	1,545
Minimum	7	26.5	7.5	10.6	71.0				1,835
Maximum	7	18.2	5.9	9.0	64.8				1,695
Average	7								
Fruit cake, as purchased—									
Minimum	4	14.4	4.8	9.3	60.9			1.4	1,720
Maximum	4	38.4	6.7	12.6	67.5			2.2	1,790
Average	4	17.3	5.9	10.9	64.1			1.8	1,760
Gingerbread, as purchased—									
Minimum	2	16.1	5.4	8.4	62.3			1.5	1,630
Maximum	2	21.5	6.3	9.5	64.7		.9	4.3	1,705
Average	12	18.8	5.8	9.0	63.5		(1).9	2.9	1,670
Miscellaneous, as purchased—									
Minimum	4	12.0	5.1	6.7	53.6			1.1	1,380
Maximum	4	32.2	7.1	14.7	66.7			2.3	1,940
Average	4	21.9	5.9	10.6	60.1			1.5	1,675
Sponge cake, as purchased—									
Minimum	3	6.3	5.7	6.4	57.3			1.2	1,665
Maximum	3	22.7	7.3	13.0	71.1			2.5	1,995
Average	3	15.3	6.3	10.7	65.9			1.8	1,795
All analyses, except fruit, as purchased, average	27	19.9	6.3	9.0	63.3		(7).4	1.5	1,675
Cookies, cakes, etc.									
Molasses cookies, as purchased a—									
Minimum	6	4.0	6.0	3.9	70.3			1.5	1,725
Maximum	6	10.2	9.7	11.8	78.4			3.0	1,995
Average	6	6.2	7.2	8.7	75.7			2.2	1,910
Miscellaneous cookies, as purchased—									
Minimum	5	5.5	4.3	4.8	61.3		.1	.5	1,760
Maximum	5	18.7	9.0	14.2	77.3		.4	2.3	1,955
Average	5	10.3	6.7	9.6	72.4		1.2	1.0	1,875
Sugar cookies, as purchased b—									
Minimum	9	4.3	4.5	4.8	69.1		.8	.6	1,715
Maximum	9	13.3	8.0	16.7	84.4		2.9	3.4	2,135
Average	9	8.3	7.0	10.2	73.2		(9).1	1.3	1,920
All analyses, as purchased, average	20	8.1	7.0	9.7	73.7		.5	1.5	1,910
Fig biscuits or bars, as purchased	1	17.9	4.6	6.6	69.2		1.7	1.1	1,660
Ginger snaps, as purchased—									
Minimum	7	4.3	5.8	2.3	71.9		.4	1.8	1,695
Maximum	7	9.7	7.3	15.4	80.8		.9	2.7	2,100
Average	7	6.3	6.5	8.6	76.0		(8).7	2.6	1,895
Lady fingers, as purchased—									
Minimum	3	10.5	6.8	3.1	67.9		.1	.5	1,513
Maximum	3	21.7	10.5	7.6	72.9		.4	6.1	1,835
Average	3	15.0	8.8	5.0	70.6		(7).2	.6	1,685
Macaroons, as purchased—									
Minimum	4	5.9	3.1	9.6	57.1		.6	.4	1,565
Maximum	4	27.5	10.6	21.5	71.4		1.8	1.0	2,220
Average	4	12.3	6.5	15.2	65.2		1.1	.8	1,975
Wafers, miscellaneous, as purchased—									
Minimum	5	5.3	7.6	2.5	63.5		.2	.6	1,780
Maximum	5	8.5	10.4	14.7	81.3		.5	2.9	1,995
Average	5	6.6	8.7	8.6	74.5		.4	1.6	1,910
Wafers, vanilla, as purchased—									
Minimum	6	4.8	5.6	6.4	65.0		.1	.5	1,850
Maximum	6	9.3	2.8	19.6	77.9		.4	1.5	2,150
Average	6	6.7	6.6	14.0	71.6		(7).3	1.1	2,045
Wafers, all analyses, as purchased, average	11	6.6	7.6	11.6	72.9		(16).3	1.3	1,985
Miscellaneous cakes, as purchased—									
Minimum	17	3.2	4.2	1.7	62.0		.2	.6	1,560
Maximum	17	17.9	15.1	17.2	84.6		.7	1.9	2,060
Average	17	8.2	7.6	9.0	74.0		(16).3	1.2	1,900
Doughnuts, as purchased:									
Minimum	9	11.0	5.1	16.4	45.8		.6	.3	1,795
Maximum	9	25.8	7.6	25.7	63.2		.8	1.9	2,155
Average	9	18.3	6.7	21.0	53.1		(7).6	.9	2,000

a One sample contained sugar 32.4, dextrin 3.2, and starch 40.0 per cent.

b One sample contained sugar 25.2, dextrin 1.8, and starch 42.7 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Food value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Jumbles, as purchased:									
Minimum	4		6.7	6.3	10.9	51.9	0.2	0.6	1,745
Maximum	4		24.8	7.9	15.7	72.1	1.0	1.3	2,025
Average	4		14.3	7.4	13.5	63.7	(9.5)	1.1	1,890
Pie, apple, as purchased:									
Minimum	4		40.2	2.6	7.7	40.3		.9	1,180
Maximum	4		45.5	3.8	11.3	46.2		2.8	1,320
Average	4		42.5	3.1	9.8	42.8		1.8	1,270
Pie, cream, as purchased:									
Minimum	3		27.6	2.1	6.9	42.3		.5	1,425
Maximum	3		37.2	5.6	17.9	55.8		1.5	1,580
Average	3		32.0	4.4	11.4	51.2		1.0	1,515
Pie, custard, as purchased	1		62.4	4.2	6.3	26.1		1.0	830
Pie, lemon, as purchased	1		47.4	3.6	10.1	37.4		1.5	1,190
Pie, mince, as purchased:									
Minimum	3		34.1	4.5	9.7	30.4		1.3	1,115
Maximum	3		51.1	7.5	14.5	44.0		4.4	1,535
Average	3		41.3	5.8	12.3	38.1		2.5	1,335
Pie, raisin, as purchased	1		37.0	3.0	11.3	47.2		1.5	1,410
Pie, squash, as purchased	1		64.2	4.4	8.4	21.7		1.3	840
Pudding, Indian meal, as purchased	1		60.7	5.5	4.8	27.5		1.5	815
Pudding, rice custard, as purchased	1		59.4	4.0	4.0	31.4		.6	825
Pudding, tapioca, as purchased:									
Minimum	3		52.0	2.8	2.3	21.9		.5	570
Maximum	3		71.6	4.2	4.8	38.1		.9	990
Average	3		64.5	3.3	3.2	28.2		.8	720
Pudding, tapioca, with apples, as purchased	1		70.1	.3	.1	29.3		.2	575
SUGARS, STARCHES, ETC.									
Candy, as purchased <i>a</i>						96.0			1,785
Honey, as purchased: <i>b</i>									
Minimum	17		14.3	.2		77.3		.1	1,450
Maximum	17		21.8	1.1		85.4		.8	1,590
Average	17		18.2	.4		81.2		.2	1,520
Molasses, cane, as purchased:									
Minimum	15		10.0	.6		58.8		.6	1,180
Maximum	15		33.6	5.1	.2	76.7		7.2	1,945
Average	15		25.1	2.4		69.3		3.2	1,290
Starch, arrowroot, as purchased	1		2.3			97.5		.2	1,815
Starch, cornstarch, as purchased	1					90.0			1,675
Starch, manioc, as purchased	1		10.5	.5	.1	88.8		.1	1,665
Starch, sago, as purchased	1		12.2	9.0	.4	78.1		.3	1,635

*a* Average composition of some common candies.

	Num- ber of analy- ses.	Water.	Suc- crose.	Invert sugar.	Ash.	Insoluble in cold water.	Remarks.
		<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per cent.</i>	
Broken candy	8	4.5	75.3	14.0	2.7	0.9	in one sample.
Cream candy	20	5.3	77.1	8.7	.1	2	in one sample.
Marshmallows	3	5.6	33.3	24.1	1.1	27.0	One sample contained 44.8 per cent insoluble matter (starch and flour).
Caramels	3	3.3	37.5	15.2	1.4	32.2	One sample contained 66.3 per cent insoluble matter (starch and flour).
Chocolate creams	1	3.8	56.3	13.8	.5	15.4	

*b* Contained an average of cane sugar 2.8 and reducing sugar 71.1 per cent. The reducing sugar was composed of about equal amounts of glucose (dextrose) and fruit sugar (levulose).

*c* Nitrogenous matter, probably not proteids.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
SUGARS, STARCHES, ETC.—continued.									
Starch, tapioca, as purchased:									
Minimum	7		10.3	0.2		86.6	0.1		1,635
Maximum	7		12.3	0.5		89.0	0.3		1,656
Average	7		11.4	.4		88.0	( <sup>1</sup> ) .1		1,650
Sugar, coffee or brown sugar, as purchased	328					95.0			1,785
Sugar, granulated sugar, as purchased						100.0			1,860
Sugar, maple, as purchased:									
Minimum	17					74.0			1,375
Maximum	17					95.2			1,770
Average	17					82.5			1,540
Sugar, powdered, as purchased						100.0			1,860
Sirup, maple, as purchased:									
Minimum	50					45.9			855
Maximum	50					81.9			1,525
Average	50					71.4			1,330
VEGETABLES. a									
Artichokes, as purchased: b									
Minimum	2		77.5	2.2	1	15.3	.8	.9	330
Maximum	2		81.5	2.9	2	18.3	.9	1.1	395
Average	2		79.5	2.6	2	16.7	.8	1.0	365
Asparagus, fresh, as purchased: c									
Minimum	3		93.6	1.6	2	3.6	7	.5	100
Maximum	3		94.3	2.1	3	3.1	.8	1.0	110
Average	3		94.0	1.8	2	3.3	.8	.7	105
Asparagus, cooked, as purchased	1		91.6	2.1	3.3	2.2		.8	220
Beans, butter, green:									
Edible portion	1		58.9	9.4	.6	29.1		2.0	740
As purchased	1	50.0	29.4	4.7	3	14.6		1.0	370
Beans, dried, as purchased:									
Minimum	11		9.6	19.9	1.4	57.2	3.2	2.7	1,540
Maximum	11		15.5	26.6	3.1	63.5	7.2	4.4	1,690
Average	11		12.6	22.6	1.8	59.6	( <sup>1</sup> ) 4.4	3.5	1,605
Beans, frijoles (New Mexico), as purchased:									
Minimum	4		6.3	30.9	1.0	60.7		4.0	1,625
Maximum	4		9.9	24.4	1.5	66.9		4.4	1,695
Average	4		7.5	21.9	1.3	65.1		4.2	1,675
Beans, Lima, dried, as purchased:									
Minimum	4		8.3	12.8	6	61.6		3.6	1,600
Maximum	4		12.2	24.5	1.9	70.1		4.7	1,645
Average	4		10.4	18.1	1.5	65.9		4.1	1,625
Beans, Lima, fresh: d									
Edible portion	1		68.5	7.1	7	22.0	1.7	1.7	570
As purchased	1	55.0	30.8	3.2	3	9.9	.8	.8	255
Beans, mesquite, dry, as purchased	1		4.8	12.2	2.5	77.1		3.4	1,765
Beans, string, cooked, edible portion	1		95.3	.8	1.1	1.9		.9	95
Beans, string, fresh: e									
Edible portion—									
Minimum	5		83.5	1.7	2	5.1	1.2	.7	165
Maximum	5		91.7	2.8	4	12.6	2.6	.9	300
Average	5		89.2	2.3	3	7.4	( <sup>1</sup> ) 1.9	.8	195
As purchased	1	7.0	83.0	2.1	3	6.9	1.8	.7	180
Beets, cooked, edible portion	1		88.6	2.3	.1	7.4		1.6	185
Beets, fresh: f									
Edible portion—									
Minimum	24		79.5	.9	1	3.8	.6	.7	95
Maximum	24		94.1	3.0	2	16.3	1.7	2.0	365
Average	24		87.5	1.6	1	9.7	( <sup>1</sup> ) .9	1.1	215
As purchased	1	20.0	70.0	1.3	.1	7.7		.9	170

a Such vegetables as potatoes, squash, beets, etc., have a certain amount of inedible material, skin, seeds, etc. The amount varies with the method of preparing the vegetables, and can not be accurately estimated. The figures given for refuse of vegetables, fruits, etc., are assumed to represent approximately the amount of refuse in these foods as ordinarily prepared.

b In one sample, protein ( $N \times 6.25$ ) 2.2 and proteins 1.2 per cent.

c Two samples contained an average of 0.23 per cent free acid. Three samples contained an average protein ( $N \times 6.25$ ) 1.83 and proteins 0.94 per cent.

d Contained protein ( $N \times 6.25$ ) 7.1 and proteins 5.7 per cent.

e One sample contained free acid 0.49, protein ( $N \times 6.25$ ) 1.7, and proteins 0.87 per cent.

f The ash of 8 samples contained an average of  $CaO$  6.2,  $K_2O$  4.4,  $MgO$  3.1,  $P_2O_5$  9.4,  $Na_2O$  1.3, and  $Fe_2O_3$  0.3 per cent. Seven samples contained an average of protein ( $N \times 6.25$ ) 1.6, and proteins 0.55 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Cabbage: <i>a</i>									
Edible portion—									
Minimum	16		86.0	0.2	0.1	3.4	0.5	0.4	100
Maximum	16		94.2	2.9	.7	8.0	1.6	2.4	225
Average	16		91.5	1.6	.8	5.6	(9) 1.1	1.0	145
As purchased		15.0	77.7	1.4	.2	4.8		.9	125
Cabbage, curly, as purchased	1		87.3	4.1	.6	6.2		1.8	215
Cabbage sprouts:									
Edible portion	1		88.2	4.7	1.1	4.3		1.7	215
As purchased	1	61.8	33.7	1.8	.4	1.7		.6	80
Carrots, fresh: <i>b</i>									
Edible portion—									
Minimum	18		83.1	.7		6.5	.6	.6	155
Maximum	18		91.1	2.0	.7	13.8	2.8	1.6	295
Average	18		88.2	1.1	.4	9.3	(16) 1.1	1.0	210
As purchased		20.0	70.6	.9	.2	7.4		.9	160
Carrots, cooked, edible portion	1		3.5	7.7	3.6	80.3		4.9	1,790
Caiflower as purchased: <i>c</i>									
Minimum	2		90.8	1.6	.2	3.4		.6	110
Maximum	2		93.8	2.0	.8	6.0		.8	175
Average	2		92.3	1.8	.5	4.7	(1) 1.0	.7	140
Celery:									
Edible portion—									
Minimum	5	93.0	93.1	1.0	.1	3.0		.9	75
Maximum	5		95.9	1.4	.2	4.8		1.1	115
Average	5		94.5	1.1	.1	3.5		1.0	85
As purchased		20.0	75.6	.9	.1	2.5		.8	70
Collards: <i>d</i>									
Edible portion—									
Minimum	2		85.8	3.3	.5	6.2		1.4	205
Maximum	2		88.3	5.7	.7	6.5		1.6	250
Average	2		87.1	4.5	.6	6.3		1.5	225
As purchased	1	55.3	39.5	1.5	.2	2.9		.6	90
Corn, green: <i>e</i>									
Edible portion—									
Minimum	3		72.1	2.8	1.0	14.1		.7	360
Maximum	3		81.3	3.7	1.1	22.6		.8	530
Average	3		75.4	3.1	1.1	19.7	(1) .5	.7	470
As purchased		61.0	29.4	1.2	.4	7.7		.3	160
Cucumbers: <i>f</i>									
Edible portion—									
Minimum	4		94.7	.5	.1	2.2	.5	.3	65
Maximum	4		96.3	.9	.5	4.0	.9	.6	95
Average	4		95.4	.8	.2	3.1	(?) .7	.5	80
As purchased		15.0	81.1	.7	.2	2.6		.4	70
Eggplant, edible portion <i>g</i>	1		92.9	1.2	.3	5.1		.5	130
Greens, beet, cooked, as purchased	1		89.5	2.2	3.4	3.2		1.7	245
Greens, dandelion, as purchased	1		81.4	2.4	1.0	10.6		4.6	285
Greens, turnip-salad, as purchased:									
Minimum	2		84.4	3.2	.5	5.5		1.8	180
Maximum	2		89.0	5.2	.8	7.1		2.5	265
Average	2		86.7	4.2	.6	6.3		2.2	220
Kohlrabi, edible portion: <i>h</i>									
Minimum	2		90.9	1.7	.1	5.4	1.1	1.3	140
Maximum	2		91.3	2.3	.1	5.6	1.4	1.3	145
Average	2		91.1	2.0	.1	5.5	1.3	1.3	145

*a* The ash of 2 samples contained an average of CaO 4.7, MgO 1.9, P<sub>2</sub>O<sub>5</sub> 5.5, Na<sub>2</sub>O 6.3, and K<sub>2</sub>O 61.5 per cent. Five samples contained an average of protein (N × 6.25) 2.4 and proteids 1.4 per cent.

*b* The ash of 1 sample contained CaO 7.3, K<sub>2</sub>O 53.7, MgO 2.3, P<sub>2</sub>O<sub>5</sub> 9.8, Na<sub>2</sub>O 1.4, and Fe<sub>2</sub>O<sub>3</sub> 0.8 per cent. One sample contained protein (N × 6.25) 1 and proteids 0.5 per cent. One sample contained cane sugar 3.6 and fruit sugar 3 per cent.

*c* One sample contained free acid 0.6, protein (N × 6.25) 1.6, and proteids 1 per cent.

*d* One sample contained protein (N × 6.25) 5.7 and proteids 2.9 per cent.

*e* One sample contained free acid 0.01, protein (N × 6.25) 2.3, and proteids 2.2 per cent.

*f* One sample contained 0.02 per cent free acid. Two samples contained an average of protein (N × 6.25) 0.8, and proteids 0.4 per cent.

*g* Contained free acid 0.01, protein (N × 6.25) 1.2, and proteids 0.6 per cent.

*h* Two samples contained an average of protein (N × 6.25) 2 and proteids 0.5 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Letuse.	Water.	Proteib.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Leeks:									
Edible portion	1	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>P. et.</i>	<i>Cal.</i>
As purchased	1	15.0	78.0	1.0	.4	5.0	0.6	.6	180
Lentils, dried, as purchased:									
Minimum	3		6.4	24.5	7	58.6		3.2	1,595
Maximum	3		10.7	26.6	1.5	59.8		8.8	1,635
Average	3		8.4	25.7	1.0	59.2		5.7	1,620
Lettuce: <sup>a</sup>									
Edible portion—									
Minimum	8		91.5	.7	.1	1.6	.4	.5	65
Maximum	8		97.0	1.8	.6	4.9	1.1	1.2	150
Average	8		94.7	1.2	.3	2.9	(.7)	.9	90
As purchased		15.0	80.5	1.0	.2	2.5		.8	75
Mushrooms, as purchased: <sup>b</sup>									
Minimum	11		70.8	1.7	.2	2.4	.1	.7	90
Maximum	11		94.4	6.0	.9	20.3	2.0	2.2	525
Average	11		88.1	3.5	.4	6.8	(1.8)	1.2	210
Okra:									
Edible portion—									
Minimum	2		87.4	1.2	.1	5.3		.5	125
Maximum	2		92.9	2.0	.4	9.5		.7	230
Average	2		90.2	1.6	.2	7.4	(13.4)	.6	175
As purchased		12.5	78.9	1.4	.2	6.5		.5	155
Onions, fresh: <sup>c</sup>									
Edible portion—									
Minimum	15		81.5	.2	.1	4.2	.7	.1	90
Maximum	15		95.2	4.4	.8	15.5	1.3	1.2	335
Average	15		87.6	1.6	.5	9.9	(1.8)	.6	225
As purchased		10.0	78.9	1.4	.3	8.9		.5	205
Onions, cooked, prepared, as purchased.	1		91.2	1.2	1.8	4.9		.9	190
Onions, green (New Mexico):									
Edible portion—									
Minimum	2		85.4	.8	.1	9.9		.5	205
Maximum	2		88.7	1.3	.2	12.4		.7	265
Average	2		87.1	1.0	.1	11.2		.6	230
As purchased		51.0	42.6	.5	.1	5.5		.3	115
Paranips: <sup>d</sup>									
Edible portion—									
Minimum	3		79.5	1.4	.2	8.5		.7	190
Maximum	3		89.2	1.9	.8	16.7		1.9	375
Average	3		83.0	1.6	.5	13.5	(12.5)	1.4	300
As purchased		20.0	66.4	1.3	.4	10.8		1.1	240
Peas, dried as purchased:									
Minimum	8		6.9	20.4	.8	58.0	1.2	2.2	1,570
Maximum	8		15.0	28.0	1.3	67.4	7.0	4.3	1,670
Average	8		9.5	24.6	1.0	62.0	(54.5)	2.9	1,655
Peas, green: <sup>e</sup>									
Edible portion—									
Minimum	5		71.6	4.4	.3	13.4		.9	400
Maximum	5		78.1	8.0	.6	18.9		1.2	520
Average	5		74.6	7.0	.5	16.9	(11.7)	1.0	465
As purchased		745.0	40.8	3.6	.2	9.8		.6	255
Peas, green, cooked, as purchased	1		73.8	6.7	3.4	14.6		1.5	540
Peas, sugar, green, edible portion	1		81.8	3.4	.4	13.7	1.6	.7	335
Cowpeas, dried, as purchased:									
Minimum	13		10.0	19.3	1.1	53.1	3.4	2.9	1,450
Maximum	13		20.9	23.0	1.6	65.4	5.0	3.8	1,850
Average	13		13.0	21.4	1.4	60.8	4.1	3.4	1,590
Cowpeas, green, edible portion.	1		65.9	9.4	.8	22.7		1.4	620

<sup>a</sup>The ash of 2 samples contained an average of CaO 5.1, K<sub>2</sub>O 46.8, MgO 0.8, P<sub>2</sub>O<sub>5</sub> 5.3, and Na<sub>2</sub>O 3.3 per cent. Five samples contained an average of protein (N × 6.25) 1.4 and proteins 0.8 per cent.

<sup>b</sup>Eight samples contained an average of 8.1 protein (N × 6.25) and 2.2 per cent protein.

<sup>c</sup>The ash of 1 sample contained CaO 6.4, K<sub>2</sub>O 30.2, MgO 2.9, and P<sub>2</sub>O<sub>5</sub> 12.4 per cent. Four samples contained an average of protein (N × 6.25) 1.3 and proteins 0.6 per cent.

<sup>d</sup>One sample contained CaO 6, K<sub>2</sub>O 42.2, MgO 3.1, P<sub>2</sub>O<sub>5</sub> 12.8, Na<sub>2</sub>O 0.4, and Fe<sub>2</sub>O<sub>3</sub> 0.3 per cent.

<sup>e</sup>One sample contained protein (N × 6.25) 4.4, and proteins 4.3 per cent.

<sup>f</sup>Refuse, pods.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Potatoes, raw or fresh: <i>a</i>									
Edible portion—									
Minimum	136	67.8	1.1	1.1	13.5	0.2		0.5	285
Maximum	136	84.0	3.0	0.2	27.4	.9		1.9	570
Average	136	78.3	2.2	.1	18.4	( <sup>8</sup> ) .4		1.0	385
As purchased		20.0	62.6	1.8	.1	14.7		.8	310
Potatoes, evaporated, as purchased:									
Minimum	3	4.8	7.3	.4	79.5			2.7	1,640
Maximum	3	8.7	9.5	.4	82.2			3.6	1,725
Average	3	7.1	8.5	.4	80.9			3.1	1,680
Potatoes, cooked, boiled, as purchased: <i>b</i>									
Minimum	11	69.7	1.8	.0	16.1			.7	340
Maximum	11	81.9	3.1	.4	26.5			1.4	545
Average	11	75.5	2.5	.1	20.9	( <sup>9</sup> ) .5		1.0	440
Potatoes, cooked, chips, as purchased:									
Minimum	2	1.8	6.0	35.5	42.7			4.5	2,580
Maximum	2	2.6	7.6	44.2	50.6			4.5	2,770
Average	2	2.2	6.8	39.8	46.7			4.5	2,675
Potatoes, cooked, mashed, and creamed, as purchased:									
Minimum	4	68.9	2.0	1.0	13.9			1.1	420
Maximum	4	78.0	3.6	4.5	22.4			2.0	615
Average	4	75.1	2.6	3.0	17.8			1.5	595
Potatoes, sweet, raw, or fresh: <i>c</i>									
Edible portion—									
Minimum	95	45.8	.4	.2	17.1	.6		.7	385
Maximum	95	79.0	3.7	1.4	49.1	4.6		2.9	915
Average	95	69.0	1.8	.7	27.4	( <sup>8</sup> ) 1.3		1.1	570
As purchased		20.0	55.2	1.4	.0	21.9		.9	460
Potatoes, sweet, cooked and prepared, as purchased:	1	51.9	3.0	2.1	42.1			.9	925
Pumpkins:									
Edible portion—									
Minimum	3	92.3	.9	1	3.9	.9		.6	95
Maximum	3	94.4	1.1	.2	5.9	1.7		.7	135
Average	3	93.1	1.0	.1	5.2	1.2		.6	120
As purchased		50.0	46.5	.5	.1	2.6		.3	60
Radishes:									
Edible portion—									
Minimum	4	86.6	.5	.0	3.4	.7		.7	85
Maximum	4	94.8	3.0	.3	8.3	.7		1.8	225
Average	4	91.8	1.3	.1	5.8	( <sup>7</sup> ) .7		1.0	135
As purchased		30.0	64.3	.9	.1	4.0		.7	95
Rhubarb: <i>d</i>									
Edible portion—									
Minimum	2	92.7	.3	.1	2.9			.6	65
Maximum	2	96.1	.8	1.2	4.4			.9	145
Average	2	94.4	.6	.7	3.6	( <sup>1</sup> ) 1.1		.7	105
As purchased		40.0	56.6	.4	.4	2.2		.4	65
Ruta-bagas: <i>e</i>									
Edible portion—									
Minimum	5	87.1	.9	.1	6.2	1.1		.7	185
Maximum	5	91.8	2.0	.3	10.3	2.4		1.4	220
Average	5	88.9	1.3	.2	8.5	1.2		1.1	190
As purchased		30.0	62.2	.9	.1	6.0		.8	135

*a* One sample contained 0.92 per cent free acid. In 4 samples the average amount of protein nitrogen was 57 per cent of the total nitrogen. Twenty samples contained an average of 0.8 per cent malic acid, pectose substances, etc. The ash of 40 samples contained an average of CaO 1, K<sub>2</sub>O 89.2, MgO 4.5, P<sub>2</sub>O<sub>5</sub> 13.8, Na<sub>2</sub>O 4, and SO<sub>3</sub> 6.5 per cent.

*b* One sample contained cane sugar 0.2, glucose 0.2, and starch 17.4 per cent.

*c* The edible portion of 26 samples contained an average of cane sugar 2.5 and invert sugar 2.4 per cent. Two samples contained, in the edible portion, an average of protein (N×6.25) 1.8 and proteids 1.3 per cent.

*d* The edible portion of 1 sample contained free acid 0.5, protein (N×6.25) 0.7, and proteids 0.4 per cent.

*e* The ash of the edible portion of 3 samples contained an average of CaO 9.4, K<sub>2</sub>O 43.6, MgO 2.8, P<sub>2</sub>O<sub>5</sub> 11.7, Na<sub>2</sub>O 10.2, and Fe<sub>2</sub>O<sub>3</sub> 0.5 per cent. One sample contained protein (N×6.25) 2 and proteids 0.9 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Sauerkraut, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Calz.</i>
Minimum	2	86.3	1.9	1.5	0.2	3.3		3.3	105
Maximum	2	91.3	1.9	1.8	0.8	4.4		7.0	145
Average	12	88.8	1.7	1.5	0.5	3.8		6.2	125
Spinach, fresh, as purchased: <i>a</i>									
Minimum	3	91.6	1.8	2	3.1	0.7	1.9	100	
Maximum	3	92.8	2.4	5	3.4	1.0	2.4	120	
Average	3	92.3	2.1	3	3.2	0.9	2.1	110	
Spinach, cooked, as purchased.	1	89.8	2.1	4.1	2.6		1.4	250	
Squash: <i>b</i>									
Edible portion—									
Minimum	10	78.9	0.6	1	3.5	0.5	0.4	90	
Maximum	10	95.2	3.1	1.4	16.1	1.2	1.6	385	
Average	10	88.3	1.4	1.5	9.0	( <sup>5</sup> ) 0.8	0.8	215	
As purchased		50.0	44.2	7	2	4.5	0.4	105	
Tomatoes, fresh, as purchased: <i>c</i>									
Minimum	27	91.3	0.3	2	2.2	0.5	0.3	75	
Maximum	27	96.3	1.3	1.4	6.5	1.2	0.8	180	
Average	27	94.3	0.9	1.4	3.0	( <sup>22</sup> ) 0.6	0.5	105	
Tomatoes, dried, as purchased.	1	7.3	12.9	8.1	62.3		9.4	1,740	
Turnips: <i>d</i>									
Edible portion—									
Minimum	10	70.1	7	1	2.8	0.8	0.5	100	
Maximum	10	95.7	3.9	4	23.8	3.2	2.1	520	
Average	19	89.6	1.3	2	8.1	( <sup>7</sup> ) 1.3	0.8	185	
As purchased		30.0	62.7	9	1	5.7	0.6	125	
VEGETABLES, CANNED.									
Artichokes, as purchased:									
Minimum	3	90.2	0.5	3.7	0.5	1.4	85		
Maximum	3	93.9	1.0	6.8	0.6	2.2	140		
Average	3	92.5	0.8	5.0	0.6	1.7	110		
Asparagus, as purchased:									
Minimum	14	92.9	0.9	0	2.2	0.4	0.8	70	
Maximum	14	95.4	2.4	2	4.1	0.8	1.8	120	
Average	14	94.4	1.6	1	2.8	0.5	1.2	85	
Beans, baked, as purchased:									
Minimum	21	59.9	5.1	3	13.1	1.3	1.4	425	
Maximum	21	78.2	8.1	6.8	23.2	4.5	1.6	870	
Average	21	68.9	6.9	2.5	19.6	( <sup>12</sup> ) 2.5	2.1	600	
Beans, string, as purchased:									
Minimum	29	77.3	6	0	2.0	0.4	0.5	50	
Maximum	29	93.3	4.0	5	13.5	0.8	4.7	345	
Average	29	93.7	1.1	1	8.8	( <sup>18</sup> ) 0.5	1.3	95	
Beans, little green, as purchased	1	93.8	1.2	1	3.4	0.6	1.5	90	
Beans, wax, as purchased.	1	94.6	1.0	1	3.1	0.6	1.2	80	
Beans, haricots verts, as purchased:									
Minimum	7	94.3	0.9	0	2.1	0.4	0.9	55	
Maximum	7	96.1	1.4	3	3.0	0.5	1.3	95	
Average	7	95.2	1.1	1	2.5	0.5	1.1	70	
Beans, haricots diagonets, as purchased:									
Minimum	3	80.4	4.0	0	10.8	1.0	0.9	280	
Maximum	3	83.9	5.2	1	13.4	1.0	1.7	350	
Average	3	81.6	4.6	1	12.5	1.0	1.2	320	
Beans, haricots panaches, as purchased.	1	86.1	3.7		9.2	1.0	1.0	240	
Beans, Lima, as purchased:									
Minimum	16	75.7	3.2	2	10.5	0.9	1.0	280	
Maximum	16	89.9	5.6	6	17.9	1.4	2.6	445	
Average	16	79.6	4.0	3	14.6	( <sup>10</sup> ) 1.2	1.6	360	

*a* The ash of 2 samples contained an average of CaO 2.6, K<sub>2</sub>O 39.9, MgO 2.2, P<sub>2</sub>O<sub>5</sub> 2.2, and Na<sub>2</sub>O 9.4 per cent. One sample contained 0.01 per cent free acid. One sample contained protein (N×6.25) 2.1 and proteins 1.3 per cent.

*b* The edible portion of 2 samples contained an average of protein (N×6.25) 0.6 and proteins 0.5 per cent.

*c* The ash of 1 sample contained CaO 5.3, K<sub>2</sub>O 66.1, MgO 3.7, and P<sub>2</sub>O<sub>5</sub> 8.7 per cent. Six samples contained an average of protein (N×6.25) 0.8 and proteins 0.5 per cent.

*d* The ash of the edible portion of 4 samples contained an average of CaO 8.8, MgO 4.3, P<sub>2</sub>O<sub>5</sub> 11.4, and Na<sub>2</sub>O 8.3 per cent. One sample contained protein (N×6.25) 0.8 and proteins 0.2 per cent. One sample contained 4.4 per cent sugar.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
<b>VEGETABLE FOOD—Continued.</b>									
<b>VEGETABLES, CANNED—continued.</b>									
Beans, red kidney, as purchased <i>a</i> .....	1		<i>P. ct.</i> 72.7	<i>P. ct.</i> 7.0	<i>P. ct.</i> 0.2	<i>P. ct.</i> 18.5	<i>P. ct.</i> 1.2	<i>P. ct.</i> 1.6	<i>Cal.</i> 480
Brussels sprouts, as purchased .....	1		93.7	1.5	1	3.4	5	1.3	95
Corn, green, as purchased: <i>b</i>									
Minimum .....	52		68.3	2.0	5	9.8	4	5	250
Maximum .....	52		86.1	3.7	1.9	25.8	1.2	1.6	619
Average .....	52		76.1	2.8	1.2	19.0	(4) 5	.9	453
Corn and tomatoes, as purchased:									
Minimum .....	12		83.6	1.2	4	6.4	3	5	160
Maximum .....	12		91.5	2.1	4	12.7	6	1.2	295
Average .....	12		87.6	1.6	4	9.6	5	.8	225
Macedoine (mixed vegetables), as purchased:									
Minimum .....	5		91.3	7		2.3	4	8	55
Maximum .....	5		95.9	1.7		5.7	7	1.2	135
Average .....	5		93.1	1.4		4.5	6	1.0	110
Okra, as purchased: <i>c</i>									
Minimum .....	4		94.0	.5	0	3.3	3	.3	75
Maximum .....	4		94.9	.9	2	3.9	1.4	1.7	95
Average .....	4		94.4	.7	1	3.6	7	1.2	85
Okra and tomatoes, as purchased: <i>d</i>									
Minimum .....	3		91.4	1.1	2	4.8	4	1.4	125
Maximum .....	3		92.3	1.2	3	5.7	6	1.8	135
Average .....	3		91.8	1.1	3	5.2	5	1.6	130
Peas, green, as purchased: <i>e</i>									
Minimum .....	88		77.5	1.6	0	4.9	6	.3	130
Maximum .....	88		92.7	6.1	8	17.4	7.5	2.0	405
Average .....	88		85.3	3.6	2	9.8	(8) 1.2	1.1	255
Potatoes, sweet, as purchased:									
Minimum .....	2		42.0	1.3	3	29.2		.8	580
Maximum .....	13		68.4	2.6	.5	53.6		1.3	1,065
Average .....	2		55.2	1.9	4	41.4	(1) 8	1.1	820
Pumpkins, as purchased:									
Minimum .....	7		88.2	.5	1	4.7	6	.4	100
Maximum .....	7		94.3	1.2	4	9.6	1.5	1.5	295
Average .....	7		91.0	.8	2	6.7	(4) 1.1	.7	150
Squash, as purchased:									
Minimum .....	5		85.6	.2	1	8.2	3	.2	185
Maximum .....	5		89.9	1.6	1.2	13.9	1.1	.7	265
Average .....	5		87.6	.9	.5	10.5	(2) 7	.5	235
Succotash, as purchased:									
Minimum .....	12		71.4	2.9	.7	14.9	7	.4	375
Maximum .....	12		79.9	4.4	1.7	22.4	1.1	1.4	540
Average .....	12		75.9	3.6	1.0	18.6	(4) 5	.9	455
Tomatoes, as purchased: <i>f</i>									
Minimum .....	19		92.5	.3	1	1.4	4	.2	80
Maximum .....	19		97.9	1.7	.3	8.1	7	1.2	135
Average .....	19		94.0	1.2	.2	4.0	(1) 5	.6	105
<b>PICKLES, CONDIMENTS, ETC.</b>									
Catsup, tomato, as purchased:									
Minimum .....	2		77.7	1.1	1	8.5		2.5	185
Maximum .....	12		87.8	2.0	4	16.1		3.8	355
Average .....	12		82.8	1.5	.2	12.3		3.2	265
Horse-radish, as purchased:									
Minimum .....	2		85.4	1.2	1	9.6		1.5	210
Maximum .....	2		87.5	1.6	.2	11.3		1.6	245
Average .....	2		86.4	1.4	.2	10.3		1.5	230
Horse-radish, evaporated, as purchased .....	1		4.3	11.0	8	77.7		6.2	1,685
Olives, green:									
Edible portion .....	1		58.0	1.1	27.6	11.6		1.7	1,400
As purchased .....	1		27.0	42.3	.8	20.2	8.5	1.2	1,025
Olives, ripe:									
Edible portion .....	1		64.7	1.7	25.9	4.3		3.4	1,205
As purchased .....	1		19.0	82.4	1.4	21.0	3.5	2.7	975
Peppers (paprica), green, dried, as purchased .....	1		5.0	15.5	8.5	63.0		8.0	1,820

*a* Shelled.*b* Thirty-two samples contained an average of 0.4 per cent NaCl.*c* Three samples contained an average of 1.1 per cent NaCl.*d* Three samples contained an average of 1 per cent NaCl.*e* Eighty samples contained an average of 0.7 per cent NaCl.*f* Seven samples contained an average of 0.1 per cent NaCl.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbonyl- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
<b>VEGETABLE FOOD—Continued.</b>									
<b>PICKLES, CONDIMENTS, ETC.—continued.</b>									
Peppers, red chili, as purchased: <i>a</i>									
Minimum	5	P. ct. 3.9	P. ct. 8.2	P. ct. 6.3	P. ct. 67.3	P. ct. 7.4			1.770
Maximum	5	6.4	11.1	10.3	71.9	8.0			1.895
Average	5	5.3	9.4	7.7	70.0	7.6			1.800
Pickles, cucumber, as purchased:									
Minimum	3		89.0	.4	.1	1.3			2.7
Maximum	3		95.5	.7	.5	5.4			4.6
Average	3		92.9	.5	.3	2.7			3.6
Pickles, mixed, as purchased									
Minimum	1		93.8	1.1	.4	4.0			.7
Maximum	1		77.1	.4	.1	20.7			1.7
<b>FRUITS, BERRIES, ETC., FRESH. <i>b</i></b>									
Apples: <i>c</i>									
Edible portion—									
Minimum	29		77.3	.1	.1	8.8	(?) 0.9		.2
Maximum	29		90.9	.8	1.4	21.3	1.4		.6
Average	29		84.6	.4	.5	14.2	(?) 1.2		.3
As purchased		25.0	63.3	.3	.3	10.8			.3
Apples: <i>d</i>									
Edible portion, average									
Minimum	11		85.0	1.1		13.4			.5
Maximum		6.0	79.9	1.0		12.6			.5
Bananas, yellow: <i>e</i>									
Edible portion—									
Minimum	6		66.3	1.0	.0	16.3			.5
Maximum	6		81.6	1.6	1.4	23.8			1.1
Average	6		75.3	1.3	.6	22.0	(?) 1.6		.8
As purchased		36.0	48.9	.8	.4	14.3			.6
Blackberries, as purchased: <i>f</i>									
Minimum	9		78.4	.9	.5	7.5			.4
Maximum	9		88.9	1.5	2.9	16.7			.9
Average	9		86.3	1.3	1.0	10.9	(?) 2.5		.5
Cherries: <i>g</i>									
Edible portion—									
Minimum	16		76.9	.7	.8	11.4			.5
Maximum	16		86.1	1.1	.8	20.6			1.0
Average	16		80.9	1.0	.8	16.7	(?) .2		.6
As purchased		5.0	76.8	.9	.8	15.9			.6
Cranberries, as purchased:									
Minimum	3		87.6	.4	.4	9.3	1.2		.2
Maximum	3		89.5	.5	.9	10.9	1.7		.2
Average	3		88.9	.4	.6	9.9	(?) 1.5		.2
Currants, as purchased									
Minimum	1		85.0	1.5		12.8			.7
Maximum	1		79.1	1.5		18.8			.6
Figs, fresh, as purchased, average: <i>h</i>									
Grapes: <i>i</i>									
Edible portion, average									
Minimum	5		77.4	1.3	1.6	19.2	(?) 4.3		.5
Maximum		25.0	58.0	1.0	1.2	14.4			.4
As purchased		81.9	.6	.6	16.6				.3
Huckleberries, edible portion									

*a* Refuse, seeds and stem.

*b* Fruits contain a certain proportion of inedible materials, as skin, seeds, etc., which are properly classed as refuse. In some fruits, as oranges and prunes, the amount rejected in rating is practically the same as the refuse. In others, as apples and pears, more or less of the edible material is ordinarily rejected with the skin and seeds and other inedible portions. The edible material which is thus thrown away, and should properly be classed with the waste, is here classed with the refuse. The figures for refuse here given represent, as nearly as can be ascertained, the quantities ordinarily rejected.

*c* The edible portion of 1 sample contained glucose 6.4, cane sugar 6, and starch, acids, etc., 1.2 per cent. The edible portion of 1 sample contained protein (N $\times$ 6.25) 0.8 and proteins 0.4 per cent.

*d* The edible portion of 1 sample contained 11.9 per cent sugar. The fat was not determined.

*e* The edible portion of 1 sample contained protein (N $\times$ 6.25) 1.4 and proteins 1.2 per cent. The edible portion of 1 sample contained 0.1 per cent free acid.

*f* One sample contained protein (N $\times$ 6.25) 0.9 and proteins 0.7 per cent.

*g* The ash of 1 sample contained CaO 4.2, K<sub>2</sub>O 57.7, MgO 5.5, P<sub>2</sub>O<sub>5</sub> 15.1, Na<sub>2</sub>O 6.8, and SO<sub>2</sub> 5.8 per cent. The edible portion of 1 sample contained protein (N $\times$ 6.25) 1.1 and proteins 0.4 per cent. The edible portion of 1 sample contained 0.1 per cent free acid. Six samples contained an average of 11 per cent sugar.

*h* The ash of 3 samples contained an average of CaO 2.4, K<sub>2</sub>O 55.8, MgO 5.6, P<sub>2</sub>O<sub>5</sub> 12.4, and SO<sub>2</sub> 3.9 per cent. Fat not determined.

*i* The ash of 5 samples contained an average of CaO 5, K<sub>2</sub>O 50.9, MgO 3, P<sub>2</sub>O<sub>5</sub> 21.2, and SO<sub>2</sub> 4.3 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbony- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FRUITS, BERRIES, ETC., FRESH—continued.									
Lemons <i>a</i>									
Edible portion—									
Minimum	4		88.4	0.8	0.1	8.2	0.9	0.5	186
Maximum	4		90.2	1.1	1.5	9.0	1.3	.5	240
Average	4		<b>89.3</b>	<b>1.0</b>	<b>.7</b>	<b>8.6</b>	<b>(9) 1.1</b>	<b>.5</b>	<b>205</b>
As purchased	4		30.0	62.5	.7	.5	5.9	.4	145
Lemon juice	22					69.8			180
Muskmelons:									
Edible portion	1		89.5	.6		9.3	2.1	.6	185
As purchased	1		50.0	44.8	.3	4.6		.3	90
Nectarines <i>c</i>									
Edible portion	1		82.9	.6		15.9		.6	305
As purchased	1		6.6	77.4	.6	14.8		.6	285
Oranges <i>d</i>									
Edible portion—									
Minimum	23		80.0	1.1	.1	11.6		.5	215
Maximum	23		88.3	.8	.3	18.5		.5	375
Average	23		<b>86.9</b>	<b>.8</b>	<b>.2</b>	<b>11.6</b>		<b>.5</b>	<b>240</b>
As purchased	23		27.0	63.4	.6	1.1	8.5	.4	170
Pears <i>e</i>									
Edible portion—									
Minimum	2		83.9	.6	.1	14.1		.4	275
Maximum	2		84.8	.6	.8	14.2		.5	310
Average	2		84.4	.6	.5	14.1	(1) 2.7	.4	295
As purchased	2		10.0	76.0	.5	4	12.7	.4	260
Persimmons, edible portion <i>f</i>	1		66.1	.8	.7	31.5	1.8	.9	630
Pineapple, edible portion <i>g</i>	1		89.3	.4	.3	9.7	.4	.3	200
Plums <i>h</i>									
Edible portion, average	3		78.7	1.0		20.1		.5	395
As purchased	3		5.0	74.5	.9	19.1		.5	370
Pomegranates, edible portion <i>i</i>									
Minimum	2		75.4	1.3	1.2	18.5	2.6	.5	420
Maximum	2		78.2	1.6	2.1	20.4	2.8	.8	495
Average	2		<b>76.8</b>	<b>1.5</b>	<b>1.6</b>	<b>19.5</b>	<b>2.7</b>	<b>.6</b>	<b>460</b>
Prunes <i>j</i>									
Edible portion, average	24		79.6	.9		18.9		.6	370
As purchased	20		5.8	75.6	.7	17.4		.5	335
Raspberries, red, as purchased <i>k</i>	1		85.8	1.0		12.6	2.9	.6	255
Raspberries, black, edible portion:									
Minimum	3		82.2	1.5		11.7		.4	245
Maximum	3		86.4	2.1	1.7	13.6		.7	350
Average	3		<b>84.1</b>	<b>1.7</b>	<b>1.0</b>	<b>12.6</b>		<b>.6</b>	<b>310</b>
Raspberry juice, edible portion	1		49.3	.5		49.9		.3	935
Strawberries <i>l</i>									
Edible portion—									
Minimum	22		85.4	.6	.4	4.4	.7	.4	130
Maximum	22		94.0	1.2	1.1	12.3	2.3	.9	235
Average	22		<b>90.4</b>	<b>1.0</b>	<b>.6</b>	<b>7.4</b>	<b>(19) 1.4</b>	<b>.6</b>	<b>180</b>
As purchased	22		5.0	85.9	.9	.6	7.0	.6	175

*a* The ash of 2 samples contained an average of CaO 29.9, K<sub>2</sub>O 48.3, MgO 4.4, P<sub>2</sub>O<sub>5</sub> 11.1, and SO<sub>2</sub> 2.8 per cent. Two samples contained an average of protein (N×6.25) 0.9 and proteins 0.5 per cent.

*b* Sugar 2.3, citric acid 7.5 per cent.

*c* Fat not determined.

*d* The ash of 9 samples contained an average of CaO 22.7, K<sub>2</sub>O 48.9, MgO 5.4, P<sub>2</sub>O<sub>5</sub> 12.4, and SO<sub>2</sub> 5.2 per cent. Fat determined in 8 samples, the mean of these assumed to be an average. Eight samples contained an average of 9 per cent sugar.

*e* One sample contained protein (N×6.25) 0.6 and proteins 0.3 per cent.

*f* Contained glucose 13.5, cane sugar 1 per cent.

*g* Contained protein (N×6.25) 0.4 and proteins 0.1 per cent.

*h* The edible portion contained 13.2 per cent sugar. Fat not determined.

*i* Two samples contained an average of glucose 11, of cane sugar 0.7 per cent.

*j* The ash of the edible portion of 3 samples contained an average of CaO 47.7, K<sub>2</sub>O 63.8, MgO 5.5, P<sub>2</sub>O<sub>5</sub> 14.1, and SO<sub>2</sub> 2.7 per cent. Edible portion of 20 samples contained an average of 16.1 per cent sugar. Fat was not determined.

*k* Fat not determined.

*l* Probably sweetened.

*m* Four samples contained an average of protein (N×6.25) 0.7 and proteins 0.5 per cent. Fifteen samples contained an average of glucose 5.5 and free acid, calculated as malic acid, 1.4 per cent.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FRUITS, BERRIES, ETC., FRESH—continued.									
Watermelons: <i>a</i>									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum	12	92.0	0.3	0.1	6.5			0.2	125
Maximum		92.9	.6	.2	6.9			.3	160
Average		92.4	.4	.2	6.7			.3	140
As purchased		59.4	37.5	1.2	2.7			.1	60
Whortleberries, as purchased <i>b</i>	1	82.4	.7	3.0	13.5		5.2	.4	390
FRUITS, ETC., DRIED.									
Apples, as purchased: <i>c</i>									
Minimum	3	8.6	1.2	.1	48.6			1.4	.985
Maximum		47.4	2.5	5.0	86.9			2.7	1,635
Average	3	28.1	1.6	2.2	66.1			2.0	1,350
Apricots, as purchased: <i>d</i>									
Minimum	2	26.4	2.9	1.0	62.7			1.4	1,230
Maximum		32.4	6.4	1.1	63.3			3.4	1,330
Average	12	29.4	4.7	1.0	62.5			2.4	1,290
Citron, as purchased:									
Minimum	2	12.4	.4	.6	72.5			.8	1,380
Maximum		25.6	.6	2.5	83.7			1.9	1,675
Average	12	19.0	.5	1.5	78.1			.9	1,525
Currants, Zante, as purchased:									
Minimum	4	5.3	1.0	.4	60.0			2.2	1,195
Maximum	4	35.1	4.7	4.7	85.3			9.1	1,690
Average	4	17.2	2.4	1.7	74.2			4.5	1,495
Dates:									
Edible portion—									
Minimum	2	9.9	2.1	.6	70.4			1.1	1,565
Maximum		20.8	2.2	5.1	86.3			1.5	1,670
Average	12	15.4	2.1	2.8	78.4			1.3	1,615
As purchased		10.0	13.8	1.9	2.5	70.6		1.2	1,450
Figs, as purchased: <i>e</i>									
Minimum	3	11.6	2.6	.3	68.3			2.2	1,355
Maximum	3	25.0	3.7	.3	83.1			2.5	1,595
Average	3	18.8	4.3	.3	74.2			2.4	1,475
Grapes, ground, as purchased: <i>f</i>	1	34.8	2.8	.6	60.5		3.7	1.2	1,205
Pears, as purchased	1	16.5	2.8	5.4	72.9			2.4	1,635
Prunes: <i>h</i>									
Edible portion—									
Minimum	15	16.9	1.4		68.1			1.5	1,340
Maximum	15	27.5	3.2		78.6			3.0	1,500
Average	15	22.3	2.1		73.3			2.3	1,400
As purchased		15.0	19.0	1.8		62.2		2.0	1,190
Raisins:									
Edible portion—									
Minimum	3	7.1	2.3	.5	71.3			2.0	1,540
Maximum	3	21.0	3.0	7.2	78.8			5.0	1,805
Average	3	14.6	2.6	3.3	76.1			3.4	1,605
As purchased	3	10.0	13.1	2.3	3.0	65.5		3.1	1,445
Raspberries, as purchased	1	8.1	7.3	1.8	80.2			2.6	1,705
FRUITS, ETC., CANNED: AND JELLIES, PRESERVES, ETC.									
Apples, crab, as purchased	1	42.4	.3	2.4	54.4			.5	1,120
Apple sauce, as purchased	1	61.1	.2	.8	37.2			.7	780
Apricots, as purchased	1	81.4	.9		17.3			.4	340
Apricot sauce, as purchased	1	45.2	1.9	1.3	48.8			2.8	1,000
Blackberries, as purchased	1	49.0	.8	2.1	56.4			.7	1,150

*a* In one melon the rind was 55.8 of the whole, the pulp 6.9, the seeds 2.2, and the juice 35.1 per cent. The edible portion of 1 sample contained protein (N×6.25) 0.9 and proteids 0.3 per cent.

*b* Contained protein (N×6.25) 0.7 and proteids 0.5 per cent.

*c* One sample contained 2 per cent free acid calculated as sulphuric acid.

*d* One sample contained 1.5 per cent free acid calculated as sulphuric acid.

*e* One sample contained 0.4 per cent free acid calculated as sulphuric acid.

*f* Contained 0.3 per cent free acid calculated as sulphuric acid and 1.3 per cent tannin.

*g* The percentage of fat given is evidently too high.

*h* Twelve samples contained an average of sugar 25.4 and free acid 0.3 per cent, calculated as sulphuric acid. Fat not determined.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analy- ses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued									
FRUITS, ETC., CANNED; AND JELLIES, PRE- SERVES, ETC.—Continued.									
Blueberries, as purchased:			<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum	3		84.9	0.4	0.4	12.2		0.19	290
Maximum	3		86.4	.8	.9	12.2		0.19	290
Average	3		85.6	.6	.6	12.8		.4	275
Cherries, as purchased	1		77.2	1.1	1.1	21.1		.5	415
Cherry jelly:									
1st quality, as purchased	1		21.0	1.1		77.2		.7	1,455
2d quality, as purchased	1		38.4	1.2		59.8		.6	1,135
Figs, stewed, as purchased	1		56.5	1.2	.3	40.0		1.1	785
Grape butter, as purchased	1		36.7	1.2	1	58.5		3.5	1,115
Marmalade (orange peel), as purchased	1		14.5	.6	.1	84.5		.3	1,585
Peaches, as purchased:									
Minimum	3		81.4	.5		5.3		.3	115
Maximum	3		93.7	.9	.2	17.3		.4	340
Average	3		88.1	.7	.1	10.8		.3	220
Pears, as purchased:									
Minimum	4		79.0		.7	15.6		.2	300
Maximum	4		83.6	.5	.9	19.5		.3	400
Average	4		81.1	.3	.8	18.0		.3	355
Pineapples, as purchased	1		61.8	.4	.7	36.4		.7	715
Prune sauce, as purchased	1		76.6	.5	1	22.3		.5	430
Strawberries, stewed, as purchased	1		74.8	.7		24.0		.5	460
Tomato preserves, as purchased	1		40.9	.7	.1	57.6		.7	1,990
NUTS.									
Almonds: <i>b</i>									
Edible portion—									
Minimum	11		2.0	16.6	48.9	12.8	1.6	1.6	2,870
Maximum	11		5.3	25.3	60.0	21.4	2.5	2.5	3,145
Average	11		4.8	21.0	54.9	17.3	2.0	2.0	3,030
As purchased		45.0	2.7	11.5	30.2	9.5		1.1	1,960
Beechnuts:									
Edible portion	1		4.0	21.9	57.4	13.2		3.5	3,075
As purchased	1	40.8	2.3	13.0	34.0	7.8		2.1	1,820
"Biotex" (acorns) ( <i>Quercus encoryi</i> ):									
Edible portion	1		4.1	8.1	37.4	48.0		2.4	2,620
As purchased	1	35.6	2.6	5.2	24.1	30.9		1.6	1,690
Brazil nuts ( <i>Bertholletia excelsa</i> ):									
Edible portion	1		5.3	17.0	66.8	7.7		3.9	3,265
As purchased	1	49.6	2.6	8.6	33.0	3.5		2.0	1,955
Butternuts ( <i>Juglans cinerea</i> ):									
Edible portion	1		4.4	27.9	61.2	3.5		2.9	3,165
As purchased	1	86.4	.6	3.8	8.3	5		.4	430
Chestnuts, fresh: <i>c</i>									
Edible portion—									
Minimum	9		29.2	4.1	2.0	36.9	1.4	1.7	895
Maximum	9		53.8	8.0	10.8	54.9	2.5	1.8	1,480
Average	9		45.0	6.2	5.4	42.1	1.8	1.3	1,125
As purchased	9	16.0	37.8	5.2	4.5	35.4		1.1	945
Chestnuts, dried:									
Edible portion—									
Minimum	8		4.8	8.2	3.9	65.7	2.4	1.5	1,815
Maximum	8		6.6	13.5	15.3	80.3	3.0	2.9	2,085
Average	8		5.9	10.7	7.0	74.2	2.7	2.2	1,875
As purchased	8	21.0	4.5	8.1	5.3	56.4		1.7	1,425
Cocoanuts:									
Edible portion	1		14.1	5.7	50.6	27.9		1.7	2,760
As purchased	1	48.8	7.2	2.9	25.9	14.3		.9	1,418
Cocconut without milk, as purchased	1	37.3	8.9	3.6	31.7	17.5		1.0	1,730
Cocconut milk, as purchased	1		92.7	.4	1.5	4.6		.8	155
Cocconut, prepared, as purchased:									
Minimum	2		2.8	6.0	51.0	24.1		1.2	2,990
Maximum	2		4.3	6.5	63.7	39.0		1.4	3,290
Average	2		3.5	6.8	57.4	31.5		1.3	3,125

*a* Fifteen samples of marmalade contain an average of water 30.8, sugar 32.8, invert sugar 32.3, glucose 14.2, acid 0.5, and undetermined 3.6 per cent.

*b* Fresh almonds contain from 40 to 42 per cent water. The ash of the kernel contains CaO 14.5, MgO 18.3, Na<sub>2</sub>O 1.8, K<sub>2</sub>O 11, MnO<sub>2</sub> 0.3, Fe<sub>2</sub>O<sub>3</sub> + Al<sub>2</sub>O<sub>3</sub> 0.8, P<sub>2</sub>O<sub>5</sub> 46.1, SO<sub>3</sub> 4.6, SiO<sub>2</sub> 0.2, and Cl 0.3 per cent.

*c* The ash of 2 samples contained an average of CaO 4.6, MgO 8, Na<sub>2</sub>O 1.2, K<sub>2</sub>O 48.7, MnO<sub>2</sub> 0.2, Fe<sub>2</sub>O<sub>3</sub> + Al<sub>2</sub>O<sub>3</sub> 0.4, P<sub>2</sub>O<sub>5</sub> 23.5, SO<sub>3</sub> 12.8, SiO<sub>2</sub> 0.2, and Cl 0.3 per cent.

*d* Milk and shell.

*e* Shell only.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of the analyses in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
NUTS—continued.									
Filberts:									
Edible portion	1	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Calis.
As purchased	1	32.1	1.8	7.5	31.3	13.0	6.2	2.4	3,290
Hickory nuts:									
Edible portion	1	62.2	1.4	5.8	25.5	4.3		2.1	3,345
As purchased	1							8	1,265
Larch nuts:									
Edible portion	1	41.0	17.9	2.9	.2	77.5		1.5	1,505
As purchased	1		10.5	1.7	.1	45.2		.9	875
Peanuts:									
Edible portion—									
Minimum	4		4.9	19.5	32.3	15.9	3.0	1.9	2,415
Maximum	4		13.2	29.1	48.8	40.4	3.0	2.4	2,885
Average	4		9.2	15.8	38.6	24.4	2.5	2.0	2,500
As purchased			24.5	5.9	19.5	29.1	18.5	1.5	1,935
Peanut butter, as purchased	2		2.1	29.3	46.5	17.1		0.5	2,825
Pecans, polished:									
Edible portion	1		3.0	11.0	71.2	13.3		1.5	3,455
As purchased	1		53.2	1.4	5.2	33.3	6.2	7	1,620
Pecans, unpolished:									
Edible portion	1		2.7	9.6	70.5	15.3		1.9	3,435
As purchased	1		46.3	1.5	5.1	37.9	8.2	1.0	1,846
Pine nuts:									
Pignolias, edible portion	1		6.4	33.9	49.4	6.9		3.4	2,845
Pinonias ( <i>Pinus monophylla</i> )—									
Edible portion	1		3.8	6.5	60.7	20.2		2.8	3,170
As purchased	1		41.7	2.2	3.8	35.4	15.3	1.6	1,650
Pinet ( <i>Pinus edulis</i> )—									
Edible portion	1		3.4	14.6	61.9	17.3		2.8	3,205
As purchased	1		40.6	2.0	8.7	36.8	10.2	1.7	1,905
<i>Pinus sabiniana</i> —									
Edible portion	1		5.1	28.1	53.7	8.4		4.7	2,945
As purchased	1		77.0	1.2	6.5	12.3	1.9	1.1	675
Pistachios:									
First quality, shelled, edible portion	1		4.2	22.3	54.0	16.3		3.2	2,995
Second quality, shelled, edible portion	1		4.3	22.8	54.9	14.9		3.0	3,020
Walnuts, California: <i>b</i>									
Edible portion	1		2.5	18.4	64.4	13.0	1.4	1.7	3,365
As purchased	1		73.1	.7	4.9	17.3	3.5	.5	885
Walnuts, California, black:									
Edible portion—									
Minimum	2		2.5	24.9	54.7	7.4	1.0	1.8	3,070
Maximum	2		2.5	30.3	57.8	16.1	1.8	2.0	3,140
Average	2		2.5	27.6	56.3	11.7	1.7	1.9	3,105
As purchased			74.1	.6	7.2	14.6	3.0	.5	805
Walnuts, California, soft shell:									
Edible portion—									
Minimum	4		2.5	14.3	60.0	14.5	1.4	1.2	3,195
Maximum	4		2.5	20.4	67.0	19.1	3.2	1.6	3,370
Average	4		2.5	16.6	63.4	16.1	2.0	1.4	3,285
As purchased			58.1	1.0	6.9	26.6	6.8	.6	1,375
"Malted nuts," as purchased	1		2.6	23.7	27.6	43.9		2.2	2,240
MISCELLANEOUS.									
Chocolate, as purchased:									
Minimum	2		1.5	12.5	47.1	26.8		1.1	2,720
Maximum	2		10.3	13.4	59.2	33.8		3.3	2,995
Average	2		5.9	12.9	48.7	30.3		2.2	2,860
Cocoa, as purchased:									
Minimum	3		3.2	29.6	27.1	35.3		5.4	2,235
Maximum	3		5.4	22.7	31.5	40.6		8.9	2,370
Average	3		4.6	21.6	28.9	37.7		7.2	
Cereal coffee in fusion (1 part boiled in 20 parts water) <i>c</i>									
	5		98.2	0.2		1.4		0.2	30
Yeast, compressed, as purchased	1		65.1	11.7	.4	21.0		1.8	625

*a* 4.1 per cent salt.

*b* Fresh walnuts contain from 20 to 27 per cent water. The ash of 7 samples of kernel contained an average of CaO 5.6, MgO 16.6, Na<sub>2</sub>O 1, K<sub>2</sub>O 12.7, MnO<sub>2</sub> 0.3, Fe<sub>2</sub>O<sub>3</sub>+Al<sub>2</sub>O<sub>3</sub> 3.2, P<sub>2</sub>O<sub>5</sub> 57.8, SO<sub>3</sub> 1.3, SiO<sub>2</sub> 0.7, and Cl 0.7 percent.

*c* The average of five analyses of cereal coffee grain is: Water 6.2, protein 13.3, fat 3.4, carbohydrates 72.6, and ash 4.5 per cent. Only a portion of the nutrients, however, enter into the infusion. The average in the table represents the available nutrients in the cereal coffee; the figures for refuse represent the "grounds." Infusions of genuine coffee and of tea contain practically no nutrients.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.			Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.	Fat.			
UNCLASSIFIED FOOD MATERIALS.									
ANIMAL AND VEGETABLE.									
<i>Soups, homemade.</i>									
Beef soup, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2		92.3	2.7	0.3		1.1	110	
Maximum	2		93.5	6.2	.5	2.2	1.2	130	
Average	1		92.9	4.4	.4	1.1	1.2	120	
Bean soup, as purchased:			84.3	3.2	1.4	9.4	1.7	285	
Chicken soup, as purchased:	1		84.3	10.5	.8	2.4	2.0	275	
Clam chowder, as purchased:									
Minimum	2		81.6	.7	.5	2.5	.6	80	
Maximum	2		95.7	2.9	1.1	11.0	3.4	305	
Average	2		88.7	1.8	.8	6.7	2.0	195	
Meat stew, as purchased:									
Minimum	5		82.6	3.7	2.0	4.3	1.3	255	
Maximum	5		87.6	5.6	6.4	7.9	1.3	445	
Average	5		84.5	4.6	4.3	6.5	1.1	370	
<i>Soups, canned.</i>									
Asparagus, cream of, as purchased:	1		87.4	2.5	3.2	5.5	1.4	285	
Bouillon, as purchased:									
Minimum	3		96.5	1.7		.1	.4	40	
Maximum	3		96.7	2.6		.2	.4	50	
Average	3		96.6	2.2		.1	.5	49	
Celery, cream of, as purchased:	1		88.6	2.1	2.8	5.0	1.5	250	
Chicken gumbo, as purchased:									
Minimum	2		86.8	3.0	2	3.8	1.3	135	
Maximum	2		91.7	4.6	1.7	5.5	1.4	260	
Average	2		89.2	3.8	.9	4.7	1.4	195	
Chicken soup, as purchased:									
Minimum	2		93.2	3.2		1.2	.9	90	
Maximum	2		94.5	3.9	2	1.7	1.2	105	
Average	2		93.8	3.6	.1	1.5	1.0	100	
Consommé, as purchased:	1		96.0	2.5		.4	1.1	55	
Cream, corn of, as purchased:	1		86.8	2.5	1.9	7.8	1.0	270	
Julienne, as purchased:	1		95.9	2.7		.5	.9	60	
Mock turtle, as purchased:									
Minimum	2		88.9	4.5	.5	1.6	1.2	160	
Maximum	2		90.8	5.9	1.3	3.9	1.4	210	
Average	2		89.8	5.2	.9	2.8	1.3	186	
Mulligatawny, as purchased:									
Minimum	2		87.2	3.3		3.8	1.1	145	
Maximum	2		91.3	4.1	3	7.6	1.3	215	
Average	2		89.3	3.7	.1	5.7	1.2	180	
Oxtail:									
Edible portion—									
Minimum	2		88.3	3.9	.5	4.2	1.3	175	
Maximum	2		89.4	4.1	2.1	4.3	1.9	245	
Average	2		88.8	4.0	1.3	4.3	1.6	210	
As purchased	1	1.8	87.8	3.8	.5	4.2	1.9	170	
Pea soup, as purchased:									
Minimum	4		81.6	1.5		5.1	.7	220	
Maximum	4		91.7	5.3	1.6	11.1	1.5	315	
Average	4		86.0	3.6	.7	7.6	1.2	235	
Pea, cream of green, as purchased:	1		87.7	2.6	2.7	5.7	1.3	270	
Tomato soup, as purchased:									
Minimum	2		89.7	1.7	.9	5.3	1.2	180	
Maximum	2		90.4	1.9	1.2	6.0	1.7	185	
Average	2		90.0	1.8	1.1	5.6	1.5	185	
Turtle, green, as purchased:	1		86.6	6.1	1.9	3.9	1.5	265	
Vegetable, as purchased:	1		95.7	2.9		.5	.9	65	
<i>Miscellaneous.</i>									
Hash, as purchased:	1		80.3	6.0	1.9	9.4	2.4	365	
Infants' and invalids' foods, as purchased:									
Minimum	22		2.4	2.0	.3	66.9	3	1,615	
Maximum	22		12.3	22.5	10.9	80.4	4.5	1,985	
Average	22		6.0	12.7	3.8	70.2	1.8	1,795	

*a* This includes malted milk, infants' foods, and similar preparations which are sold under various trade names but are similar in composition.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.		Water.		Protein.			Total carbo- hydrates.	Ash.	Fuel value per pound.
		N	6.25.	By differ- ence.	Fat.						
UNCLASSIFIED FOOD MATERIALS—Cont'd.											
ANIMAL AND VEGETABLE—cont'd.											
<i>Miscellaneous—cont'd.</i>											
Meat, commercial, as purchased:											
Minimum .....	3	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Calts.	
Maximum .....	3	20.8	1.4	14.6	2.2	56.7	1.1	1,125			
Average .....	3	39.7	6.7	14.6	2.2	67.4	7.1	1,420			
Meat, homemade, as purchased:											
Minimum .....	3	49.6	3.4	4.9	28.6	1.0	900				
Maximum .....	3	56.9	6.3	8.1	34.1	2.5	1,080				
Average .....	3	54.4	4.8	6.7	32.1	2.0	970				
Salad, ham, as purchased .....	1	69.4	15.4	7.6	5.6	2.0	710				
Sandwich, egg, as purchased .....	1	41.4	9.6	12.7	34.5	1.8	1,355				
Sandwich, chicken, as purchased .....	1	48.5	12.3	5.4	32.1	1.7	1,055				



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