

The Intensive Agriculture

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The

Intensive Agriculture

THE FARM AND FARM HOME MAGAZINE

VOL. 1 MARCH 1963 No. 1

With this issue, EXTENSION is appearing under the new name INTENSIVE AGRICULTURE, in keeping with our resolve to extend the scope of the Magazine to include information on the country's efforts to increase agricultural production through intensive farming. Thus, in addition to the usual articles dealing with seasonal hints on crops, INTENSIVE AGRICULTURE will now contain news of interest to farmers, stories of progress in the field of agriculture and animal husbandry, and features from the Intensive Agriculture District Programme areas. The section for rural home-makers will continue as usual.

We of INTENSIVE AGRICULTURE want you to regard this magazine as your own. Your suggestions for increasing the usefulness of the Magazine will be most welcome, so will be your contributions.

We are resolved to see that INTENSIVE AGRICULTURE serves you all in the noble task of helping increase the country's agricultural production.

—The Editors

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OUR COVER—A bumper wheat harvest such as this is the dream of every farmer, and as many now know, one way this dream can be realized is by applying to the crop adequate fertilizers of the right kind.

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INTENSIVE AGRICULTURE



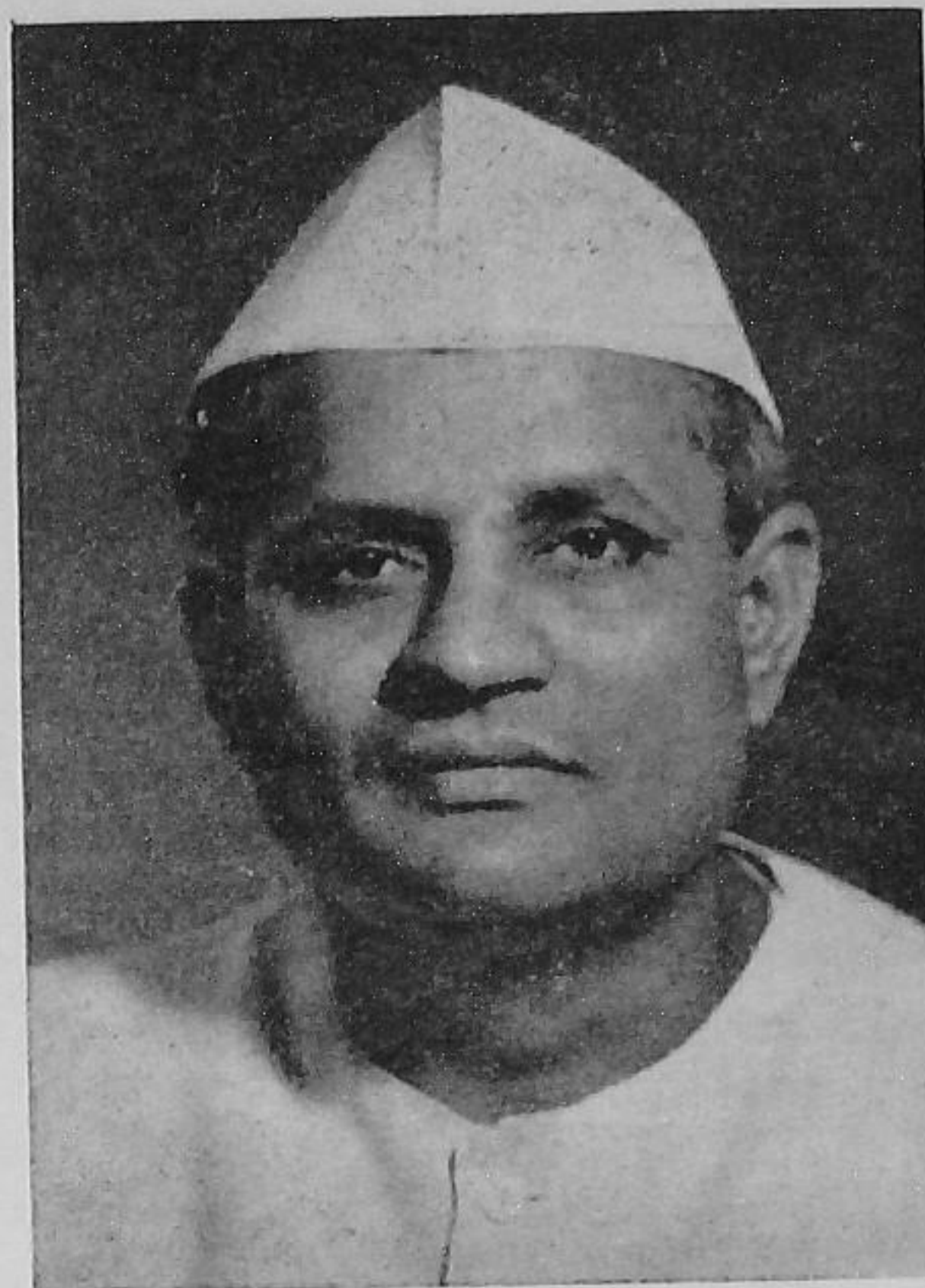
I am very happy that the scope and content of EXTENSION which has so far been providing information on improved practices of a seasonal nature to the Village Level Workers and Agricultural Extension Workers all over the country, are to be widened with a view to providing more adequate information to farmers on their role in the present Emergency. The pace of agricultural development in the country has to be accelerated with a view to maximizing our food production. It is imperative that not only our field workers in agriculture realize the necessity of girding up their loins to intensify their efforts, but also the entire farming community of the country should be involved in this task of increasing the agricultural output. To do this, both the Extension Worker and the farmer should be fully informed of the know-how of improved practices as well as of the various steps the Government is taking to assist them in this vital task. The new Magazine, I am sure, will provide them with this knowledge and information.

The work we have already undertaken in intensifying agricultural production in the Intensive Agricultural Districts and now in other areas also should reach a wider public than hitherto. Similarly, our experience, our problems and our successes in this field should also reach as many people as possible. The farmers also need a forum for expressing their own views on the various problems and the measures undertaken to solve them. I trust that the Magazine in its new form will be more informative and useful to all categories of people entrusted with the task of improving our agriculture.

I wish INTENSIVE AGRICULTURE all success.

S. K. PATIL
Minister for Food and Agriculture

MEETING AN IMPORTANT NEED



The Indian farmer has responded magnificently to the call of the country in this period of Emergency. This Emergency is likely to continue for a long time. It is, therefore, necessary to channelize the enthusiasm of the farmers generated by this crisis, towards more agricultural production so that the country may become stronger to meet the challenge.

To help the farmer in his patriotic task, we must supply him the useful information on tested methods for higher production and on the agricultural programmes undertaken by the Central and State Governments for his benefit. EXTENSION has for long been providing such information to the Extension Workers particularly the Village Level Workers. Its scope and coverage were, however, restricted, and the time has now come when the Journal should be made to serve a bigger purpose arising out of the National Emergency.

I am, therefore, glad that the Journal is being brought out in its new form with its scope enlarged to carry the message of Intensive Agricultural Development. Its aim will be 'More Progressive Farms and More Prosperous Farm Homes.'

I hope that the Journal in its new form will answer the needs of farmers and Extension Workers alike for more agricultural news and information, and will serve them in the great and exciting task of building a stronger and more prosperous India.

RAM SUBHAG SINGH
Minister for Agriculture



Farmer makes PACKAGE OF PRACTICES work for him

"The result is bright like this mustard in flower," muses Bhup Singh, "and it's just two years since I took to the new practices"

By LAL KARAMCHANDANI

What happens when a farmer goes in wholeheartedly for the 'package of practices' can be seen on Bhup Singh's farm in Char Muhan Village in Artrauli Block of the Aligarh Package Programme District.

A six-foot high mustard crop in full bloom, the envy of the whole District, a lush wheat crop coming up fast and vigorously, and a rich potato crop tell vividly what the 'package of practices' holds for a farmer.

Thirty-five-year-old Bhup Singh aims high and what's more does get high yields. Last year while his neighbours got a mere two to three maunds of cotton per acre, Bhup Singh raised a 30-maund crop.

This year the wheat crop is expected to give between 25 and 30 maunds an acre, potato 500 maunds, and mustard a minimum of six maunds to a *bigha* or about 30 maunds to an acre.

What is this 'package of practices' which has helped farmers like Bhup Singh attain such high standards within a space of just two years?

It is: 'to prepare the land well, plant improved varieties, use improved implements, apply fertilizers to crops, give timely irrigation, and lastly to see to it that the crop is free from any pest or disease.'

This is the meaning of 'the package of practices' as put by Bhup Singh himself.

This is also the success story of Bhup Singh—a farmer who does not believe in doing things in parts. To him it is either all or nothing. So he chose to go 'all-out' for the 'package of practices' when convinced about it two years ago.

When the Package Programme came into being two years back in Aligarh District, there were many farmers like Bhup Singh, who though convinced about the Programme, were yet not sure whether all the expenditure on improvements would pay back in enough produce. Bhup Singh though young in age is mature in thought. He reflected and finally decided to put all his land under what is called 'Whole-Farm-Demonstration.'

Bhup Singh did not have to wait long to find out the results. The bumper crops he got convinced him, as indeed it did his many neighbours, that improved farming is also a paying farming.

The Package officials helped Bhup Singh prepare a farm plan and obtain credit for the purchase of improved implements and fertilizers. They suggested the improved varieties and made available the seed, and helped with technical guidance.

Bhup Singh gave an account of his success with improved farming. This is how he raised his wheat crop :

Prepared the land well. Applied 10 maunds of compost and animal waste per *bigha* (or about 50 maunds per acre). With the last ploughing before sowing, applied 10 seers of superphosphate per *bigha*.

Also applied 10 seers of ammonium sulphate per *bigha* in two equal doses—the first dose with the first irrigation after a month of sowing, and the second with the second irrigation a month after the first application.

Applied 42 seers of superphosphate and 10 seers of ammonium sulphate per *bigha* with the last ploughing.

Applied 20 seers more of ammonium sulphate per *bigha* in two equal doses—with the first and the second ridgings.

Has given eight irrigations at six days' intervals.

In the case of mustard he applied ten maunds of compost and animal waste per *bigha*.

Also applied 10 seers of superphosphate per *bigha* with the last ploughing.

Sowed the crop on 15th of October. With the



Wheat is coming up very well due to the new practices. Bhup Singh believes 'one must follow all the practices. Doing just a thing or two will not achieve much'

Used improved wheat variety *C 591*. The crop was sown in November. Two interculturings have been given so far with Sharma Hoe—the first one after the first irrigation and the second after the second irrigation.

For potatoes he planted the *Kufri Red* variety, as suggested by the Package Programme officials. Used 30 maunds of seed per acre.

Gave 10 maunds of compost and animal waste per *bigha* before sowing.

first irrigation, gave 10 seers of ammonium sulphate per *bigha*.

Intercultured thrice—the first two interculturings before the first irrigation. Has given three irrigations—the last one to prevent frost injury to the crop.

This is the story of Bhup Singh's achievement by taking to the 'package of practices.' It will undoubtedly be the story of many more farmers of tomorrow who will follow Bhup Singh's example.

Raising a better MAIZE CROP in the Punjab

By

G. S. DEEPAK and A. S. SANDHU



What is your yield from the maize crop? Is it less than 40 maunds an acre? If so, raise a better crop this year.

Sowing only the hybrid varieties, adding more fertilizers, irrigating the crop carefully, controlling the maize borer timely, together with better cultural practices, are the key points of successful maize cultivation.

SELECT ONLY WELL-DRAINED SOIL

Maize prefers well-drained loam soils. Sandy loam soils are also suitable, provided they are heavily manured.

Never sow this crop in *kallar* soils. Maize is very much allergic to standing water. So be sure to drain out the excess rain water immediately.

PREPARE THE SEED-BED WELL

Maize likes well-prepared, weed-free seed-bed.

Give one to two deep ploughings during May-June. This will keep down the weeds.

Two to three ploughings followed by plankings are also essential just before planting.

SOW ONLY HYBRID VARIETIES

You must, by now, be familiar with hybrid maize. Hybrid varieties yield 50 to 100 per cent more than the *desi* varieties under similar conditions. So plant only hybrid varieties.

See which one of these is best suited to your area and local conditions :

Ganga 101

It is a very good variety for sowing in the plains under irrigated conditions.

It is resistant to lodging, and to maize borer. It is also highly resistant to downy mildew, leaf blight and rust.

It matures in 95 to 105 days and yields 50 per cent more than the local varieties.

Ganga 1

This variety is also good for sowing under irrigated conditions. It gives 20 per cent higher yield than the local varieties and matures early, taking 80 to 90 days.

The plants are of medium height and the grains are small with yellow flint.

It is resistant to lodging and downy mildew and moderately tolerant to maize borer.

Punjab Hybrid No. 1

Under rain-fed conditions, this variety is the best to sow. It yields about 25 per cent higher than the local varieties.

It ripens along with the local maize and has shining and attractive grains.

This variety is very resistant to lodging.

SOW AT THE RIGHT TIME

Maize for grains is sown at different times in different parts of the State. But sowing at the right time is most essential.

In eastern districts, it should be planted in July. In central districts late planting in August gives better results. Maize borer incidence is also very small in late plantings.

In the hills, it should be planted in May, if irrigation facilities are available. Otherwise, it may be planted with the advent of monsoon.

USE A HIGHER SEED-RATE

The usual seed-rate for grain crop is six seers an acre. But a seed-rate of 12 seers per acre is recommended for the hybrid varieties. This quantity of seed gives optimum plant population resulting in higher yields.

PLANT BY NEW METHOD

Do not sow hybrid maize by *kera* as is usually done. Plant it with hand corn planter. A single-row cotton drill can also be employed for this purpose.

With hand corn planter, three men can mark the lines and plant the same in one day. The corn planter costs Rs. 10 only and is easily available in the market.

Single-row cotton drill can also be conveniently used. With a marker at a distance of two feet, one man can sow three acres a day with the help of a pair of bullocks.

VARY THE PLANTING DISTANCE

For early-maturing hybrids, keep a distance of two feet between rows and one foot between plants.

For late hybrids, the distance between rows may be increased to 2½ feet. The distance between plants should be the same.

MANURE YOUR MAIZE WELL

Maize is a very exhaustive crop. Having a short growing period, this crop requires readily available plant food for its rapid growth.

GROW GREEN MANURE

If maize is to follow wheat, green manuring is essential. Sow *guara* or *dhaincha* in April after harvesting the wheat crop. Plough it down in the middle of June.

Also add 18 to 20 cartloads of well-rotted farm-yard manure about a week before planting the seed. Mix it thoroughly with soil.

ADD ALL THE FERTILIZERS

Hybrid maize requires adequate and balanced application of fertilizers.

Drill 30 pounds of nitrogen (*kisan khad*), 60 pounds of P_2O_5 (as superphosphate) and 30 pounds of K_2O (as muriate of potash) at the sowing time.

Apply another dose of 40 pounds of nitrogen (*kisan khad*) when the plants are one to two feet high.

Third application of 30 pounds of nitrogen (*kisan khad*) should be given when the crop is in tasseling and silking stage. This application is most important.

FOLLOW THIS ROTATION

Maize crop sown after berseem, *senji* or *metha*, gives a very good yield. In rotation with potato, it gives still higher yields.



Using a higher seed-rate and thinning out the plants will give a good stand of the crop

IRRIGATE MAIZE IN TIME

Delay the first irrigation, avoid flooding, drain off excess rain water and keep the soil moist at tasseling and silking stage. If you do not forget this, you are sure to get better yields.

Delaying the first irrigation as far as possible will help the plants establish their roots properly. Otherwise, the crop will need watering more frequently for its rapid growth.

Apply first irrigation when the leaves show signs of curling. Apply water evenly. Never flood it.

At the time of tasseling and silking, keep the soil moist to have proper grain-setting and their development.

Two to three irrigations may be needed in all.

Standing water is most harmful to this crop. So be careful to drain off the excess water whenever there is a heavy rain.

THIN OUT

It is always better to use slightly higher seed-rate and thin out afterwards. This will enable you to have a good stand of the crop.

Plants will be 9 to 12 inches high in 20 days. At this stage, thin out the weak and diseased plants to have proper distance of two feet between rows and one foot between plants.

This is an important operation which needs to be attended to at the right time.

KEEP DOWN WEEDS

Maize must be free from weeds. Only then you can hope for better yields.

Give the first hoeing with a hand hoe. Two more hoeings may be done with wheel-hoes. One man can hoe one acre a day with such an implement.

The fourth hoeing may be done with *triphali* drawn by bullocks.

Discontinue interculture when the plants are two feet high or more.

If weeding is still necessary, do it with a *khurpa*.

CONTROL PESTS

Maize borer is a very serious enemy of this crop. It plays a great havoc and destroys the crop in a short time.

It may attack at any time from the seedling to earing stage and damage all the parts of the plant.

Follow these measures to get rid of this harmful pest :

- (i) Spray DDT 50% at the rate of one *chhatak* in 20 seers of water when the crop is 7 to 10 days old.
- (ii) Repeat the above spray with BHC 50% at the same rate after an interval of 10 days.
- (iii) A third spraying with BHC at the same rate is needed if the attack still persists.

Spray on clear sunny days. Fill up the central leaves of the plants with the above insecticides. This will kill the borer completely.

Also contact the Plant Protection Inspector of your District whenever necessary.

Sometimes white-ants and grasshoppers also damage this crop.

For the control of white-ants, apply 8 to 10 pounds of BHC 10 per cent per acre.

For controlling grasshoppers, dust bunds with 10 per cent BHC.

MARKET IN TIME

The Punjab State produces about 3.26 million tons of maize annually. About 80 to 85 per cent of it is consumed by the cultivators. Only 15 to 20 per cent is sent to the markets within five months from October to February. Very little maize is stored for consumption during the next year as the colour of the grains fades away and the taste becomes bitter with age. So if you market your grain after a year, it will fetch very little money.

Test the soil at the site itself and in only half-an-hour's time with the help of



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UREA and how to use it

By A. K. DUTT

Quite a few fertilizers, made in our country, are being put in the market these days. You must know them fully, before you can use them to your crops with profit. Urea, though fairly familiar to our farmers, is more easily available to you now than ever before. So better know this good fertilizer and use it rightly for better crop growth.

WHAT IS UREA

Urea, like ammonium sulphate, is a nitrogenous fertilizer. It is white in colour and nearly half of it (44 per cent) is nitrogen. So it is much stronger than ammonium sulphate as a nitrogenous fertilizer.

Urea absorbs moisture from the air and cakes, but the urea that you are supplied with is so produced that it does not cake. It is packed in moisture-proof polyethylene-lined hessian gunny bags for your use.

HOW DOES UREA COMPARE WITH AMMONIUM SULPHATE?

Urea, like ammonium sulphate, is a very good fertilizer. You can use it on all soils—acid, neutral and alkaline—and for all crops. You can apply it both as a basal and a top-dressing. It makes the soil less acidic than ammonium sulphate. You can safely use urea on soils known to cause sulphide injury to the paddy crop.

Since urea contains more than twice as much nitrogen as does ammonium sulphate, it needs only half your storage space.

HOW TO APPLY UREA

Urea contains nitrogen in organic form. But when you apply it to the soil, this is easily changed to ammonium and nitrate nitrogen.

The nitrogen of urea is not absorbed on the soil surface. You have to keep in mind this fact when you decide on the method and time of application of urea to wetland paddy and other crops so that you may get the best out of urea.

AS A BASAL-DRESSING

Wetland paddy (irrigated) : On soils with medium to slow internal drainage, apply urea during puddling and just before transplanting your paddy seedlings.

Wetland paddy (rain-fed) : Under rain-fed conditions, apply urea during puddling and just before transplanting.

Dryland paddy, wheat, cotton, sugarcane, potatoes, vegetables, etc. :

Apply urea during the final tillage operations before sowing or transplanting. Mix it thoroughly with the soil by a plough or a harrow.

AS A TOP-DRESSING

When applying urea as a top-dressing over standing crops, see that the leaves are not moist. If the leaves are laden with dew or rain water, mix urea with dry sand or soil before application. For widely spaced crops, however, you can apply urea as such to the soil between the crop rows.

Wetland paddy :

If you have control over your irrigation, drain out the field first, then apply urea, mix it with the soil, and irrigate after two days or so.

Otherwise, follow the recommendations as for rain-fed conditions. Apply urea to the standing water and mix it well with the soil.

Dryland paddy, wheat, cotton, sugarcane, potatoes, vegetables, etc. :

When urea is applied to a moist soil, mix it with the soil.

When urea is applied to a dry soil prior to irrigation, avoid over-irrigation. For then the fertilizer will remain within the root-zone of the crops and give better results.

When you apply urea to a dry soil under rain-fed conditions, do not mix it with the soil.

HOW MUCH UREA TO APPLY

If you have been using ammonium sulphate or calcium ammonium nitrate for fertilizing your crops, use half that quantity as urea to give the same amount of nitrogen per acre. For example, if you are using 150 pounds of ammonium sulphate to give 30 pounds of nitrogen per acre of paddy, you can use only 75 pounds of urea instead.

Consult your local Extension Officer or Gram Sevak for specific fertilizer recommendations for your soils and crops.

CAN UREA BE MIXED WITH OTHER FERTILIZERS?

You cannot mix urea with other fertilizers and store the mixture for future use. Urea will absorb

(Continued on page 11)



PLANNING YOUR KITCHEN GARDEN

To get fresh vegetables from your kitchen garden throughout the year, you have to plan every detail of it carefully.

You have to plan the crops according to the space available and the number of members of your family and their likes and dislikes. You must acquaint yourself well with the cultural requirements of each crop. You have to plan everything in such a way that you can get a constant supply of vegetables at a minimum expense.

Here is a plan for a kitchen garden having an area of about five cents. This is suitable for the North Indian conditions, particularly for Delhi, Uttar Pradesh and the Punjab.

The following are the broad features of the plan.

PLANT SOME PERENNIALS

Locate the perennial plants at the corners of the garden, so that they do not shade other crops or compete for nutrition with your vegetable crops.

Once these perennial vegetables are established, they will need very little care, and will give you a constant supply of vegetables year after year without any extra cost.

USE SPACE ECONOMICALLY

For the most economic utilization of space, you should

- (i) make use of the fence on three sides for training cucurbits during summer and rainy season, and peas in winter; grow beans on the gate side of the fence;
- (ii) follow continuous cropping in the form of succession and companion cropping;
- (iii) utilize the ridges in-between the beds for growing root crops;
- (iv) raise single-stemmed tomato plants on one side and stake them. Grow red amaranthus and other leafy vegetables on the other side of the foot path;
- (v) follow crop rotation.

Make two compost pits on two corners of your garden. Collect all garden wastes and kitchen wastes, including ash and house sweepings, and dump them into these pits. Train bean plants over these pits to shade them and also to hide them from view. Put all plants which are pulled out after harvest, into the compost pits. This will help you get the manure for your kitchen garden.

LOCATE IT SUITABLY

In most cases there will not be much of a choice in the selection of the site for the kitchen garden. It's usually the backyard of the house.

This itself will be convenient for several reasons. It will enable the members of your family to give constant care to the vegetables during their leisure hours. All the waste water from the bath-rooms, kitchen, etc., can be diverted into the vegetable beds.

The vegetable plots should be located away from big trees, so that they are not under their shade and the crops do not have to compete for nutrition with the wide-spreading roots of the trees. See to it that the source of irrigation, be it a well or a water tap, is near about your kitchen garden.

SIZE ACCORDING TO NEEDS

The size of the kitchen garden will depend on the space available, the number of persons for whom vegetables are needed and the time available for care. It is better to have a small, well kept garden than a large one poorly cared for. With good attention to succession cropping and intercropping, an area measuring five cents will supply enough vegetables for an average family of five—husband, wife and three children.

Often there may not be any choice in deciding the shape of the garden. But where possible, a rectangular garden should be preferred. A long, narrow plot can be cultivated better than the one with shorter rows needing a greater number of turns.

PLAN YOUR CROPS

Divide the area into small plots. Make a plan before you start planting the crops. The crops to be grown should be those which the members of the family like most. It will also depend on the probable dates of planting, spacing between the plants and the crop variety. Intercrops and succession plantings should be clearly indicated in the plan.

Keep notes about each crop every season. By consulting these notes, you will later be able to avoid the mistakes done in the previous years.

The crop plan should be such as to ensure a constant supply throughout the year. There should not be too much of a certain kind at one time, and too little of vegetables at other times.

A crop plan suitable for kitchen gardens in Delhi is suggested below.

Plot No.	Name of vegetable	Duration
1.	Cabbage intercropped with lettuce Clusterbean and French bean	November to March March to October
2.	Cauliflower (late) intercropped with knol-khol Cowpea (summer) Cowpea (rainy season)	September to February March to August
3.	Cauliflower (mid-season) Radish Onion	July to November November to December December to June
4.	Potato Cowpea Cauliflower (early)	November to March March to June July to October
5.	Brinjal (long) with spinach as intercrop	July to March
5.	<i>Bhindi</i> with amaranthus as intercrop	March to June
6.	Brinjal (round) with spinach as intercrop <i>Bhindi</i> with amaranthus as intercrop	August to April May to July
7.	Chilli <i>Bhindi</i>	September to March June to August
Ridge 1 to 3	Turnip followed by radish	
Ridge 4	Beet followed by colocasia	
Ridge 5 & 6	Carrot followed by colocasia	
Ridge 7	Radish varieties followed by colocasia	
Perennial Plot	The following plants can be grown:	
	Drumstick	one row
	Banana	five rows
	Papaya	five rows
	Tapioca	two rows
	Curry leaf	one row
	Asparagus	two small rows

You can utilize the space between the plants for growing rows of leafy vegetables, ginger, etc.

SELECT YOUR VEGETABLES

The following Table gives the different kinds and varieties of vegetable crops that can be grown in

kitchen gardens in Delhi. The seed requirement and estimated yield of vegetables for an area of five cents is also stated against each vegetable.

Crop	Variety	Seed required	Estimated yield (Pound)
Chillies	N.P.46	1 packet	15
Onion	E. Grano	1.5 ounces	50
Onion	Pusa Red	1.5 ounces	40
Bhindi	Pusa Makhmali	3 ounces	80
Brinjal	Pusa Purple Long	1 packet	60
Brinjal	Pusa Purple Long	1 packet	60
Cauliflower	Pusa Katki	1 packet	40
Cauliflower		1 packet	50
Cauliflower	Snowball	1 packet	40
Radish	Rapid Red	1 packet	
	Japanese White	1 packet	60
	China Rose		
	White Icicle		
Potato	Up-to-date	8 pounds	100
Cowpea	Pusa Phalguni	1 pound	100
	Pusa Barsati	2 pounds	
Cabbage	Golden Acre	1 packet	100
	Drumhead		
Cluster-bean	Pusa Sadabahar	40 ounces	20
French-bean	Giant Stringless	12 ounces	
Carrot	Nantes	1 packet	15
Beet	Crimson Globe	1 packet	10
Turnip	Purple Top White		
	Globe or Snowball	1 packet	20
Knol-khol	White Vienna	1 packet	15
Lettuce	Great Lakes	1 packet	5
Colocasia	Local	8 pounds	60
Spinach	Virginia Savoy		
	Early Smooth Leaf	1 ounce	20
Amaranthus	Any variety	2 ounces	15
Bottlegourd	Pusa Prolific Local	1 packet	20
Sponge gourd	Pusa Chikni	1 packet	30
Ribbed gourd	Pusa Chikni	1 packet	30
Ribbed gourd	Pusa Nasdhar	1 packet	30
Cucumber	Straight Eight	1 packet	10
Peas	Bonnevilla	1 pound	80
Beans	Any available variety		
Tomato	Sioux	1 packet	50

UREA

(Continued from page 8)

moisture from the air and make the mixture sticky and caky. You can, however, mix it with other fertilizers only before application to the field.

HOW TO STORE AND HANDLE UREA

Urea is available in small bags of 50 kilos each. Once the bag is opened, you have to use all the fertilizer in the bag.

If, however, you need to use only a small portion of it from the bag, share the rest with another farmer. If this is not possible, open the polyethylene bag carefully at one corner, take out the quantity of urea you need, and immediately seal the bag by folding the emptied portion of the polyethylene bag as many times as possible. This will prevent the rest of the fertilizer absorbing moisture.

Remember not to open the bag until you need the fertilizer for use. Do not allow the bag to come in contact with a damp or moist surface. Do not keep extra weights on the bag. Store the bag in a cool and dry place.



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AND

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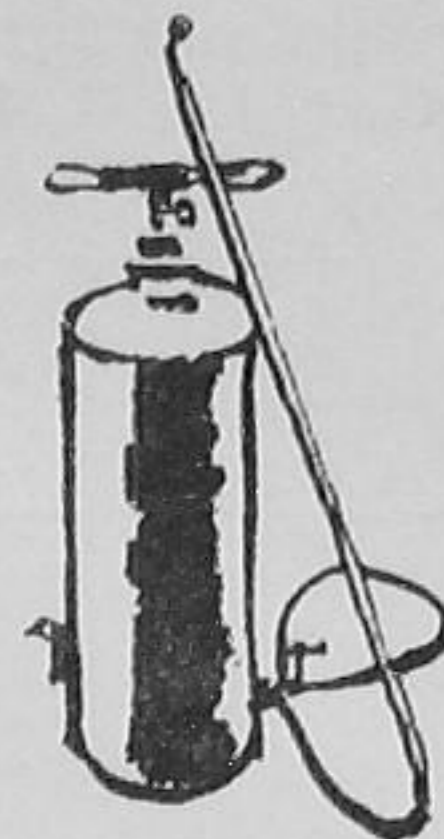
Pioneer Multipliers

B. R. BARWALE, JALNA, MAHARASHTRA.

PLASER 64

NOW'S THE TIME TO CHECK ON PESTS AND DISEASES

By D. B. REDDY



Spring time is a busy time on all farms. And among the jobs to be done is a constant watch against any pest or disease attacking your crop.

If you have planted cucurbits, *tinda*, *lauki*, gourds etc., you may find red pumpkin beetles attacking the crop. The beetles eat away the leaves, tender shoots and buds. To control, use Pyrethrum dust or one per cent Lindane dust. You can also spray Pyrethrum liquid (1,600 water ratio) or 0.1 per cent Lindane.

A word of caution. Do not use BHC or DDT on cucurbits.

There is also a disease—downy mildew—which attacks cucurbits. It affects the foliage of the plants. Yellow and more or less angular leaf spots are formed with a downy growth on the lower surface of the leaves. The leaves of young plants may die.

To arrest the disease, spray 3:3:50 Bordeaux mixture or a proprietary copper fungicide at one pound in 30 gallons of water.

If you are raising gram, you should be on the watch-out for gram caterpillar and green semilooper. They eat away the leaves and destroy the crop. The gram caterpillar also feeds on the pods. While feeding, only a portion of its body is within the pod.

To control these caterpillars, dust the crop with 5 per cent DDT or 10 per cent BHC, or spray 0.2 per cent DDT.

Do not consume the sprayed or dusted crop for three weeks after treatment.

Mango too may be troubled by pests and diseases at this time. The important ones are the mango hoppers and the powdery mildew. Another pest which is serious in the North is the mealy bug.

Mango hoppers are small hopping insects which suck the sap from leaves, tender shoots and flowers. The severely attacked flowers may not produce any fruit at all.

The powdery mildew attacks the leaves and flowers. The attacked flowers show a whitish haze, and the blossoms wither and drop, and no fruit-setting takes place. Humid weather conditions promote the disease.

Mealy bugs can be found crawling around the trees in the garden. This is the time when they come out in search of food and climb the trees and suck the sap from the leaves and tender shoots.

Control the mango hoppers by spraying 0.25 per cent DDT or 0.02 per cent Endrin or Parathion. And to check the powdery mildew, dust the trees with fine sulphur-powder or spray wettable sulphur (one pound in 50 gallons of water). You can combine the treatments against both hoppers and the powdery mildew.

The treatment against hoppers will also control the mealy bugs if they are in very young stages. However, for grown-up insects, spray 0.05 per cent Malathion. See to it that the tree trunks are fully covered with the spray.

Aphids, mustard saw fly and pod blight attack mustard and rape crops.

The aphid-attack sometimes can become serious. Control this pest by spraying nicotine sulphate or Pyrethrum, in 800 parts of water, or by spraying 0.025 per cent Endrin or Parathion.

Mustard saw fly larvae feed on the leaves and can completely defoliate the plants. Dust 5 per cent BHC or DDT at 20 to 25 pounds per acre to control the insect.

Caution: Do not consume DDT, BHC, Endrin or Parathion treated crop for about three weeks after treatment.

In pod blight of mustard, small, brown or blackish spots appear on the leaves and later spread to the stems and pods. The affected parts remain thin and the seed is either not formed or if formed remains small.

(Continued on page 17)

IRRIGATE your COCONUTS

this way

By MOHAMMED EDACHAL



You have to give the coconut palm a plentiful supply of water throughout its life.

But how much water to apply and at what time will depend on the stage of growth of the trees and the weather conditions. Also, how much water you are able to apply will depend on the availability of water.

Here are some hints which will be useful to you for irrigating coconut palms under the conditions obtaining in your area.

NURSERY STAGE

If the seed-nuts, sown in the nursery, start sprouting before the rains, water them regularly until the rains begin. Otherwise, the percentage of germination will be reduced and the seedlings will grow lean and lanky.

When the rains stop, once again start watering profusely and regularly.

Continue watering during the summer months till the seedlings are ready for transplanting. The frequency of irrigation will depend upon the local conditions. If the drought is severe and the soil is too dry, give heavy and frequent watering.

TRANSPLANTED SEEDLINGS

If it is not raining, water the transplanted seedlings regularly till they strike roots and get established. Water also during the summer months and when the weather is dry. In the first year of planting, water the seedlings at least on alternate days, and afterwards once or twice a week for the next five to six years.

If water is scarce, bury an earthenware pot of one to two gallon capacity in the pit close to the seedling. Fill the pot with water and cover it up with a lid. The soil around the seedling will absorb moisture according to its requirements. After two months refill the pot with water.

GROWN-UP TREES

Coconut trees need an abundant supply of water to grow up properly and yield profusely. Irrigate the garden regularly, especially where the rainfall is meagre and ill-distributed and there are long periods of dry weather.

Picota, hand-pump, *mhote*, power pump, etc., can be used for irrigating coconut palms. In the coastal sandy areas on the West Coast, sea water can be used for irrigation. But in heavy soils it is better not to use sea water.

If there is enough of water, use flood irrigation. In this method, water is let into the garden as a whole twice a month. If this is not possible, prepare shallow basins around the palms and lead the water into these basins. This is more economical.

If there is too much shortage of water, spread silt at the rate of eight to ten baskets per tree in the basins around the palms. Next, cover it up with a six-inch layer of straw stubbles; then water every week.

Irrigating coconut palms this way will ensure an efficient use of the available water for the optimum growth of the trees.

FOR THE PUNJAB VEGETABLE GROWERS

—April hints

Here are some jobs which the Punjab vegetable growers should take up during April for best returns from their gardens.

*Continue sowing *bhindi* till the middle of April. Spray the crop sown in February with 0.1 per cent DDT suspension. The early crop of *bhindi* must be ready for harvest now. Pick the pods when they are still tender.

*You can also sow cucurbits like *luffa*. Other cucurbits which you have sown in February-March will start flowering now. These vegetables are liable to be attacked by the red pumpkin beetle at this stage. Hence, spray the crop with 0.25 per cent lead arsenate (mix one pound of lead arsenate in 40 gallons of water) or dust 25 per cent BHC when the leaf surface is dry.

*Sow the *Sirhindi* egg-plant in the nursery. Seed crops of garlic, turnip and peas may be ready for harvest by the end of April. Pick them.

*Spray the floral shoots of *Brassica* vegetables with

0.025 per cent Endrin or Parathion to keep away the mustard aphids and painted bug.

*Spray the potato crop with 0.1 per cent DDT suspension at 50 to 100 gallons per acre to prevent the *hadda* beetles from damaging its foliage.

*To save the growing shoots, flowers, buds and fruits of brinjal from the shoot and fruit borer attack, better spray the crop with 0.2 per cent DDT suspension or 0.04 per cent Endrin emulsion at 45 to 100 gallons per acre.

*If the red spider mites appear on brinjals, spray the crop with 0.25 per cent aramite or 0.25 per cent wettable sulphur at 45 to 100 gallons per acre to control this pest. These chemicals can be used mixed with DDT as well. Spray also the tomato plants with DDT suspension at 50 to 75 gallons per acre to reduce the incidence of fruit borer.

*Cutworms may appear and damage the young summer vegetables. So better dust the soil surface of such fields with 5 per cent DDT or BHC at 15 to 20 pounds per acre.

Family Flock : 10 hens

Ten hens are enough to supply your family with eggs. They ought to supply your family with three dozen eggs a week. But get birds of the improved breed, either the Rhode Island Red or White Leghorn. There is less investment on their purchase and maintenance. A small flock takes very little space to keep it and is easy to handle properly.

You need not even go in for a cock bird; for the hens will lay eggs of their own.

House your birds in a battery system. You can also construct a good poultry house for your flock with cheap local materials. Try to keep it clean.

Feed your birds with a balanced mash mixture. Such mixtures are available these days in cities. You can also formulate one such mixture for your flock in consultation with a poultry expert.

Supply fresh drinking water to the birds. Collect the eggs regularly.



With the monsoon

ANIMAL DISEASES

will appear too



By **HARBANS SINGH**

Our farm animals suffer from a number of contagious diseases during the monsoon. These diseases either kill the animals or disable them for a long time. As a result, farmers and dairymen suffer heavy losses.

Most of these diseases in our animals can be prevented or controlled by observing a few simple things. Prevention is always better than cure, and hence follow these tips and keep your cattle safe.

*In case you come to know of any outbreak of a contagious cattle disease in your village or in the near-about, keep a special watch on your animals. Isolate those which show any unusual symptom, such as loss of appetite, dullness, rise in temperature, discharge from the mouth, eyes or nostrils or any abnormal swelling.

*House the infected animals separately. If possible, infected animals should be looked after by separate attendants. Otherwise, attend to the healthy animals first and then to the infected ones. Clean your hands, feet, etc., thoroughly after attending to the infected animals.

*Keep a check on the movement of infected animals. Stop sending out the infected animals to common grazing fields or to the cattle market for disposal.

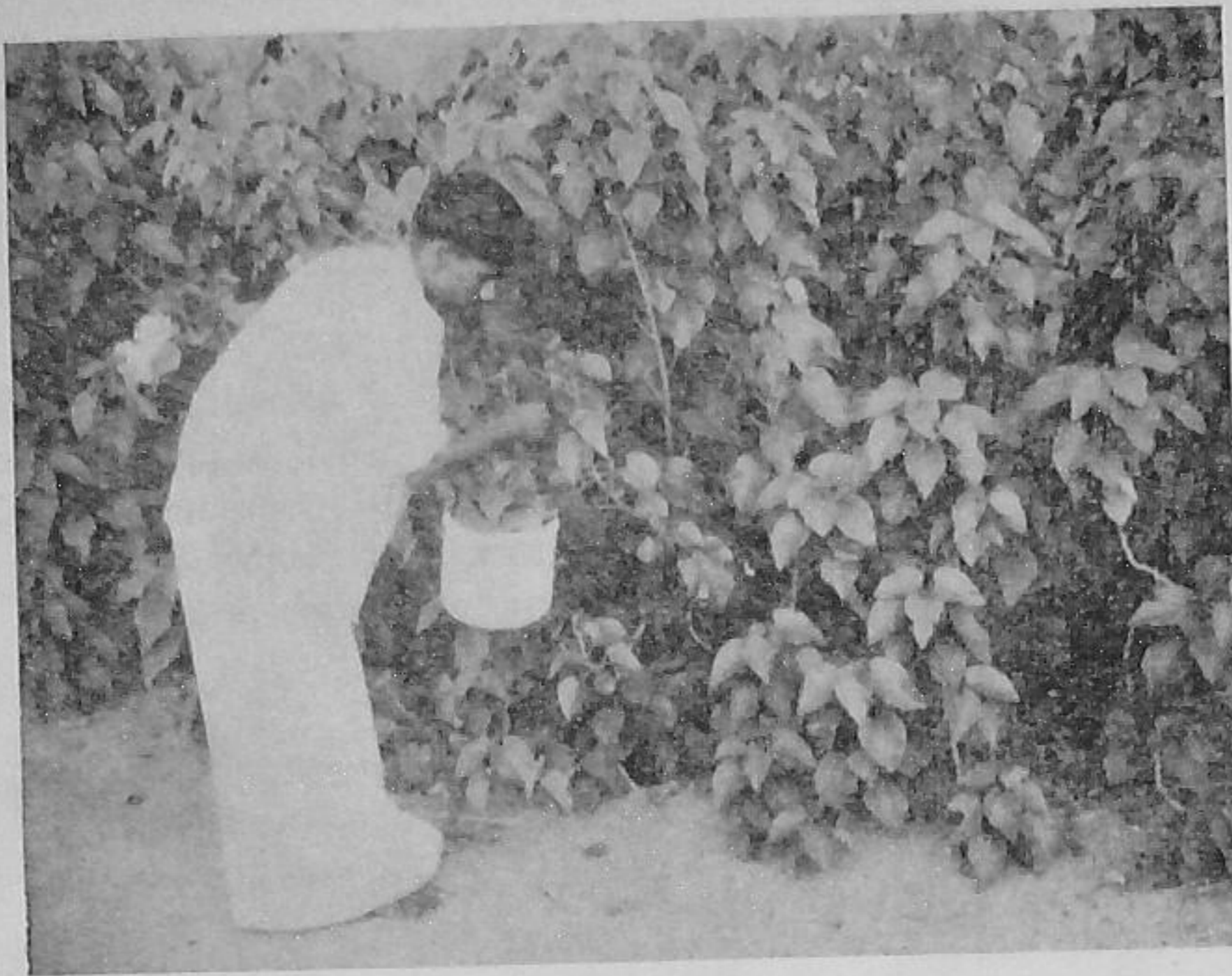
If you happen to know of any outbreak of a contagious disease of cattle in your village, do not send the healthy animals to the same pasture where they used to go before the outbreak. If possible, change their pasture. Apply a layer of slaked lime to the infected pasture or plough it up and keep the land open for some time.

*Bury the carcass of an animal in a pit, 6 feet deep. Cover the carcass with a layer of one foot of lime. Do not throw such carcasses near your village or near a stream or in the open.

*Make the premises free of disease germs every time a suspected case is detected. Scrape the inside of the byres using a 3 per cent hot watery solution of lye (crude soda alkali). Then spray with a 5 per cent solution of cresol or phenyle. Whitewash the walls with lime containing 1/4 pound of carbolic acid per gallon. While whitewashing, especially the *kacha* buildings, see that all the crevices on the wall are properly filled up.

*Call in a Veterinary Surgeon immediately for protection of healthy animals which have been in contact with the infected ones and those in the neighbourhood of the infected place, with the proper vaccine or serum. Effective vaccines against most of the contagious diseases are available free of cost from local veterinary officers. The use of these sera and vaccines does not usually interfere with the normal working or milk yield of the animals.

*Contact your Gram Sevak or the Block Development Officer for any help you may need.



Ipomea leaves being picked for feeding poultry birds

FEED Vitamin A to your poultry at no cost

Vitamins are a must in poultry feed. Your birds will not grow well and lay well without them. Of all the vitamins needed by your birds, Vitamin A is a very important one.

Absence of Vitamin A checks growth in growing chicks. Droopiness, staggering gait, ruffled feathers, reddishness in eyes and swelling eye-lids, and discharge from nostrils are also noticed in the chicks. Such birds also grow into poor layers.

In grown-up birds, want of Vitamin A causes nutritional disorders, as a result of which a thin whitish film appears over the eye-membrane and there is discharge from nostrils.

If you are in search of a cheap source of vitamin A for your birds, here is a tip for you.

Green mulberry leaves are rich in Vitamin A.

Grow a few mulberry trees in the poultry runs. The birds will peck at the leaves.

Glyricidia can also be grown in many places. Take care that it does not grow too high. The birds like its tender leaves only.

You can also grow legumes like lucerne, berseem and sannhemp. These, when fed, will provide the birds with the needed vitamin, and protein in addition.

Birds like *Ipomea* leaves. You can raise *Ipomea* by planting its cuttings. Cut the leaves into small pieces, mix them with the mash, and feed to your birds.

If there are bunds in the runs, grow *hariyali* grass on them, which the birds like very much. This grass contains 28.94 per cent protein besides Vitamin A.

Grow these greens, and you will be feeding your birds with Vitamin A at almost no cost.

WARNING TO DELHI POULTRY-KEEPERS

Coccidiosis has already appeared in poultry birds in and around Delhi. It is a deadly disease of poultry birds.

Adopt good sanitary practices in the poultry yards and brooder houses. Give the ailing birds Sulphamezathine with drinking water (1 : 80). You may also give Embazin, Bifuran or Zomix, instead. This will check the disease.

Fight out that LATE BLIGHT

Growing a late-blight-free potato crop is very much possible now since the finding out of resistant varieties. Till now potato growers had to forgo a broad margin by the loss of their crop due to late blight disease; because most of the commercial varieties under cultivation in this country are very much susceptible to late blight.

But the results of research conducted at the Central Potato Research Institute, Simla, show that there are varieties which are not attacked by late blight. They are *Croissement*, *Krirrinne*, *S. demisum*, *C.P. Nos. 1251* and *1252*. More than 42 varieties are found to be resistant to this disease.

At present breeding work with these as parents is going on and quite a number of seedlings are on their way to become available to farmers as resistant varieties.

Experiments conducted at the Potato Breeding and Seed Certification Station, Kufri, on the fungicidal control have also given encouraging results. Potato crops treated with some fungicide or the other have given increased yields over the untreated crops, and Bordeaux mixture has proved to be the most effective of all the fungicides. Next best is Burgandy mixture. Among the proprietary products, Bilttox, Fytolan, Vitagran, Cupravit, Shell Copper and Kirti Copper have also been found effective.

Trials conducted at Jullundur and Babugarh have shown that Dithane Z-78 controls the disease well in the plains. However, under the rainy conditions of Simla hills this has proved of little protection.

Use these

Improved Jute Varieties

Use of improved jute seeds alone gives two maunds of dry fibre more per acre irrespective of the other factors.

The Jute Agricultural Research Institute at Barrackpore, Calcutta, has recently released three improved strains of jute to the jute growers. Of these, two are of white (*capsularis*) jute and one of *tosa* (*olitorius*).

Of the two improved white varieties, one is claimed to be ideally suited for double-cropped low-lands in early-rainfall areas. This variety is early-maturing and high-yielding and can be harvested well in advance of transplanting of *aman* paddy. The second white variety, which excels in fibre quality, is recommended for the medium and high land areas.

The improved *tosa* variety which is to be sown after mid-April in lands of all types above flood level, has been found to give the heaviest yield.

CHECK ON PESTS AND DISEASES

(Continued from page 12)

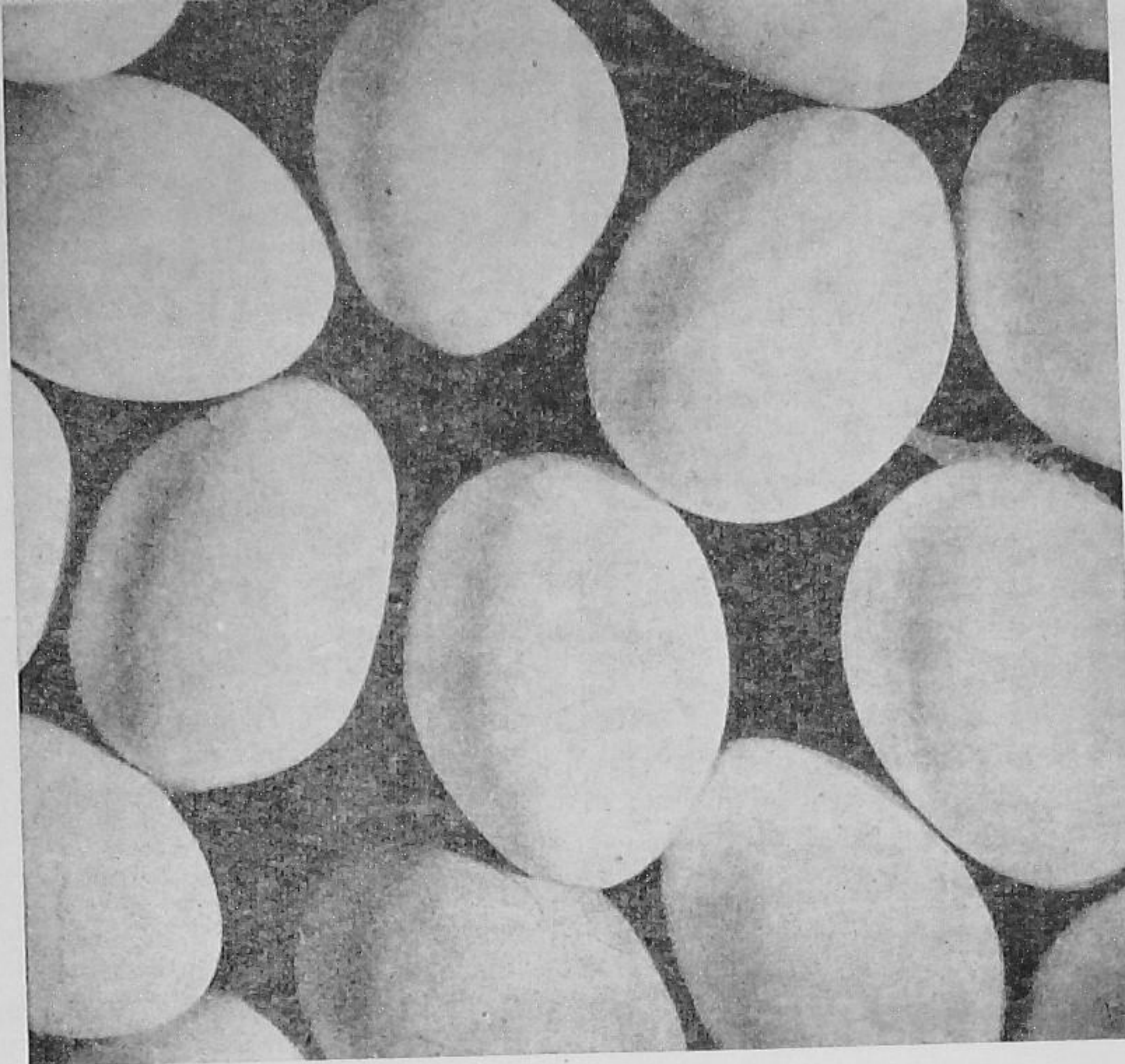
Spray 5:5:50 Bordeaux mixture or a copper fungicide at one pound in 25 gallons of water to control the disease.

Rice may be attacked by some insects and diseases. Hispa and stem borer are two of these enemies. Control hispa by dusting with 5 per cent BHC and the stem borer by spraying 0.02 per cent Parathion or Endrin. Where blast is suspected, treat the crop with 5:5:50 Bordeaux mixture.

You are likely to find the wheat earheads affected by loose smut, bunt and yellowing-rot and ear-cockle diseases. Rogue out the earheads and burn them.

Rats can cause a lot of damage in the wheat, gram and other fields. Prepare poison bait with zinc phosphide. But zinc phosphide is a dangerous chemical and should be handled and used with great care. Anti-rat campaigns should be organized over large areas.

Some of these pesticides are dangerous. Therefore, take all precautions in their handling and use.



EGGS need special care in spring

By H. P. TANDON

During the spring months, hens lay the maximum number of eggs. To get a good price, you have to take special care to see that the eggs reach the consumer in a good condition.

For this, take the following precautions :

Keep the hens in confinement all the time on deep litter. Keep the litter dry. Provide dropping pits. This will help you get clean eggs.

Provide sufficient nesting space (one square foot for every four hens). Keep the nesting place dark. Have special type of nests, so that the eggs can roll away as soon as they are laid; or put three to four inches deep dry, clean, soft nesting material in the nest. Soft hay, wood shavings, wheat *bhusa*, rice husk and saw dust will serve the purpose well. This practice will help you get sound eggs without any crack on the shell.

Also gather eggs twice or thrice daily in wire baskets.

Clean the dirty eggs. Better dry-clean such eggs by rubbing them gently with a soft brush, sand paper buffer, cotton or cloth pad. Avoid hard rubbing and brushing. For immediate sale, wash eggs in warm water (160°F).

After collection, keep the eggs in a cool, damp place (relative humidity 70 to 80 per cent).

In the storage room and in packing cases, keep the eggs with their large ends up.

Pack the eggs in soft, dry material like rice husk, wheat *bhusa*, soft hay or saw dust before sending them for sale.

During collection, storage and transport of the eggs, avoid rough handling, jerks, etc.

A great scientist passes away



Padma Vibhushan Tiruvadi Sambasiva Venkataraman, the wizard who won back for India its ancient and great position in the sugarcane world passed away on 18th January at 1.29 a.m. at the age of 78 years. In his death India has lost a great son and the world a daring pioneer in plant breeding.

At a time when India, the home of sugarcane, was threatened with extinction of her once famous sugar industry and when sugarcane was rapidly going out of cultivation in U.P. and Bihar, T. S. Venkataraman with his magic wand as it were, produced a cane that halted this decline. His first cane was *Co. 205* which is a cross between a grass and a cultivated cane. Such hybrids between two different species of plants are more common now, but in 1911-12, when he evolved it, it was a pioneering innovation. It was the first attempt so far as sugarcane was concerned. Then followed in quick succession, more and better cane varieties for the different soil and climatic regions of this large sub-continent. His work laid the foundation of the modern sugar industry in India, for it was he who made it possible to double the output of cane without any substantial increase in cane acreage.

Venkataraman was born in 1884 and had his education in Turuchi and Madras. He graduated in Botany in first class in 1907. He joined the Madras Agricultural Service as an assistant to the Government Botanist on Rs. 50 per month. Botany excited him and he plunged into hard work with great zeal. He produced the first sugarcane seedlings (raised from seed) in India in 1911. He succeeded Dr. Barber as Sugarcane Expert in 1919.

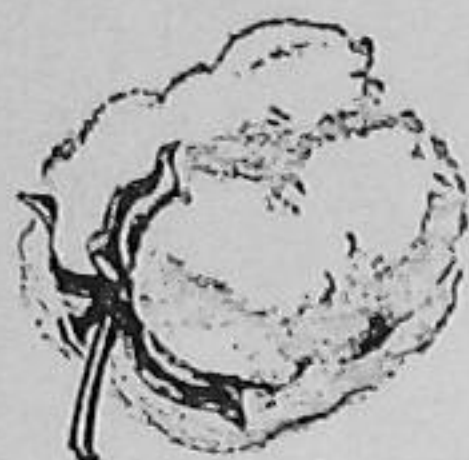
Venkataraman's greatest contribution to science was not, however, the evolution of new and productive sugarcane varieties which enabled India to become self-sufficient in regard to her sugar needs. It was his success with the crossing of sugarcane with plants of another kind altogether like maize or bamboo. This was a revolutionary development in plant breeding. He was the modern Vishwamithra creating new types and forms of plants.

Venkataraman's sugarcane varieties are not only cultivated in India but also in many parts of the world. In the words of Noel Deer, the famous Sugar Expert, "Venkataraman has not only benefited India but the whole world of sugar."

Honours came thick and fast to him—Rao Sahib, Rai Bahadur, Knighthood, and in 1957 Padmavibhushan. But to the end he remained plain and simple Venkataraman in his *mundu* (*dhoti*) and loose coat, with a big bamboo for his walking stick, travelling in third class; kind, friendly, eager to talk without waiting for introduction, proud of his staff, with not a trace of snobbery, and hardly conscious of his great contribution to sugar and science. When asked what contributed to the success of his work, he ascribed nothing to himself but everything to his colleagues—their devotion, their enthusiasm and hard work. In spite of his genius, great achievement and honours, he remained to the last, modest and humble, and ever eager to learn. Venkataraman was a modern *Rishi*—daring, devoted and dedicated.

—M. L. N. Iyengar

MORE COTTON IN THE THIRD PLAN



By the end of the Third Plan period, seventy lakh bales of raw cotton have to be produced in India. Along with this, the production of long-staple quality cotton has also to be maximized, so that the import of such cotton can be reduced to the minimum.

Government of India has taken the following steps to achieve this.

1. Improved seeds :

With a view to saturating 95 per cent of area under cotton with improved seeds by the end of the Third Plan, a model Seed Multiplication and Distribution Scheme has been drawn up.

The Central Government will share in equal proportion the subsidy on the improved varieties of cotton seeds which the State Governments propose to distribute.

2. More fertilizer :

Additional quantities of fertilizers have been allocated specially for the cotton crop.

Adequate provision has also been made for providing short-term loans for distribution of fertilizers and improved seeds. Such loans would be advanced in kind only, so as to ensure their full utilization.

3. Plant protection measures :

The State Governments will give subsidy, as they deem proper, for plant protection measures. The Central Government will meet 25 per cent of the total liability on plant protection measures needed for cotton.

The demands of the State Governments for pesticides and equipments, etc., needed both for ground and aerial spraying will be met by the Central Government.

Special foreign exchange allocations have been made to the Plant Protection Adviser, for the purchase of sprayers, etc., which are not available locally. Facilities for aerial spraying as per demand of the State Governments, will also be made available. The services of the aerial unit under the Plant Protection Adviser will be available to the State Governments for large scale spraying operation. In case the services of the aerial unit is not available, the State Governments will make arrangements for aerial spraying through private airways. In such cases the Central Government will bear up to 75 per cent of the cost of such spraying.

4. Package Programme :

If the State Governments bring specified tracts in different cotton-growing regions under the Package Programme, the Central Government will provide matching grants for additional staff as well as technical guidance in addition to the above subsidies.

5. Growing cotton in new areas coming under irrigation :

The areas under Tunga Bhadra Canals, Lower Bhawani, Nagarjunasagar, etc., as also the new area coming under Rajasthan Canals, are proposed to be brought under cotton cultivation.

No permit will be issued by the State Governments to sugar mills, etc., in the newly-irrigated areas, so that there may not be any competition from sugarcane. Cotton belts will be earmarked in such areas and all possible facilities and incentives will be given to cotton growers.

6. Rebates on irrigation rates :

The State Governments will be able to provide rebate up to the extent of 50 per cent not only in the new areas being brought under cotton, but also in the old cotton areas now coming under irrigation.

7. Sea-Island cotton :

Schemes have been taken up for growing long-staple varieties of cotton, particularly Sea-Island cotton, Andrews type, in Mysore and Kerala on an extensive basis.

At the same time, exploratory trails have been undertaken in other States like Andhra Pradesh, Madras,

Rajasthan, Madhya Pradesh, Gujarat and Uttar Pradesh to try this type under both rainfed and irrigated conditions.

8. Legislative measures :

In order to take effective steps for the maintenance of purity of cotton varieties, the State Governments shall have to enforce legislative measures already in existence or introduce such measures, and will appoint special staff to ensure such enforcement.

9. Technical guidance :

Three experts on cotton development—a Chief Cotton Development Officer and two Deputy Chief Cotton Development Officers—have been appointed under the Indian Central Cotton Committee, with a view to assisting the State Governments in their development programmes.

10. Remission of land revenue :

Proposals for remission of land revenue for all additional land brought under cultivation of cotton, especially in Rajasthan State where additional supplies of canal water are likely to be available as a result of release of irrigation water from Pakistan, are also under consideration.

11. Assistance in the marketing of new cotton :

With regard to new varieties of cotton, apart from subsidies and technical guidance, assistance is also being made available in pooling, ginning, processing and marketing of cotton by the Indian Central Cotton Committee, particularly in the two States of Kerala and Mysore where Sea-Island cotton variety is being grown.

Similar assistance is being extended to the growers of hybrid cotton in Gujarat State where seeds have been distributed free of cost to the growers at the initial stage.

12. Plan provision :

A total provision of Rs. 90 lakhs for research schemes and for growing of Sea-Island, hybrid and harsh short-staple cotton has been included in the Third Five Year Plan.

In addition, about Rs. 2,20,00,000 have been provided in the State Plans for development schemes. Over and above this, the question of providing additional plan allocation, as in the case of Maharashtra, where the targetted acreage under cotton is proposed to be raised by the State Governments on their own, is also being considered on merit in consultation with the Planning Commission.

Bull presented by Andhra kisans

“Andhra farmers have made substantial progress in agriculture. They are getting more and more yields, year after year. Agriculture cannot progress unless farmers take keen interest in the livestock development also. For, the bull is still the backbone of Indian agriculture. To-day, I am happy to say that Andhra kisans are behind none in developing their livestock. The presentation of a good breeding Ongole bull costing Rs. 5,000 by the kisans of the Gannavaram Panchayat Samiti to the Semen Bank shows how interested are the kisans of these parts, in livestock development. I am happy to note this and congratulate the farmers,” said Dr. Ram Subhag Singh, Minister for Agriculture, Government of India, in a largely attended meeting of the farmers held at Gannavaram (Krishna District) at a function held to donate a breeding bull to the Semen Bank of Gannavaram.



The bull presented to the semen bank

The Minister expressed that he had much reliance on the ability of the Andhra kisans in increasing not only agricultural production but also milk and milk products.

Replying to the representations made by the Gannavaram Panchayat Samiti, Budhavaram Panchayat



Dr. Ram Subhag Singh at Dr. Rayodu's farm. Note the height of the sugarcane crop in the background

and Krishna District Animal Breeders Association, the Union Minister said that he would do his bit to establish and run a bacon factory at Atkuru—during this year itself. The Minister also congratulated the farmers who had donated land for the construction of the bacon factory and other public institutions like fully-equipped veterinary hospitals, semen bank, poultry extension centre, etc.

Visiting the Co. 997 and Co. 419 sugarcane plots of Dr. C. L. Rayodu, Dr. Singh said, "I am really surprised to see such a well-grown sugarcane crop," and added that it was one of the very few high-yielding sugarcane plots in the country, and sugarcane growers of Andhra Pradesh or elsewhere should follow the example of progressive farmers like Dr. Rayodu.

Dr. Ram Subhag Singh also visited some of the vegetable gardens around Vijayawada city, and appreciated the work done by the Andhra farmers in growing very good-sized cabbage, cauliflowers and tomatoes. He exhorted the kisans present there to grow more vegetables in these days of National Emergency.

Dr. Ram Subhag Singh also visited the Package Programme District, West Godavari. He expressed his satisfaction, in the State Advisory Board meeting, at the work done in the Package Programme District. He further said that since the Package Programme had yielded good results, the same programme would be extended to some more areas of the State. He also promised that he would do the needful in establishing a soil testing laboratory in Tadeppalligudem to serve the farmers of the northern districts of Andhra Pradesh.

The Minister was agreeably surprised when he visited the 'Anab-e-Shahi' grape garden owned by Dr. G. Rama Koteswara Rao at Hyderabad, to find that an acre of grape garden could fetch an annual income of Rs. 40,000 or more. The Minister received the representatives of the Andhra Grape Growers' Association, and discussed the problems with the viticulturists.

Gram Sevika Training Centre Contributes to National Defence Fund

The Gramsevika Training Centre, Nabha, has donated Rs. 1,700 to the National Defence Fund. This amount was collected in an exhibition which was organized by the Gramsevika Training Centre and the Gramsevak Training Centre in collaboration with industrial institutions of Patiala. The Exhibition was open for three days, tickets and preserved food were sold to visitors and "on-the-spot demonstrations" of improved practices on Home Management were carried out to collect funds.

The Gramsevika Training Centre felt that they imparted the necessary education to the rural people and the trainees, and also collected money for the National Defence Fund. We are proud of their efforts and congratulate them on their success.

PACKAGE PROGRAMME

HAS DONE IT

I am having 5 acres of land on which I was cultivating paddy, tobacco, chilli, horse-gram, etc., before the introduction of the Package Scheme. I was not accustomed to the use of superphosphate, ammonium sulphate, etc. For these fertilizers were not within our reach, nor available in time. I was also of the opinion that they damage the fields very badly. Due to the above reasons I was not getting satisfactory yields.

During the *kharif* season of 1961, I was enlisted as a farmer in the Package Scheme. The Agricultural Extension Officer and the Village Level Worker gave me very valuable suggestions. Accordingly I applied superphosphate at the rate of 150 pounds per acre and also ammonium sulphate at the rate of 150 pounds per acre in two separate doses. The Officers themselves came and demonstrated the application of the above fertilizers.

They also supplied improved seeds, and pesticides to ward off pests and diseases. Before sowing paddy seed in the nursery, I mixed the seed with Agrosan G.N. at the rate of 1 ounce to 30 pounds of seed. As a result I could control foot rot.

I adopted Japanese method of paddy cultivation. I did intercultivation with push-hoes. As a result of which, I could get better yields.

In the dry land, I have grown chillies, tobacco and horse-gram.

I was also given short-term loans. With this money, I could carry out all the agricultural operations in time and with ease. I was also supplied with sprayers and dusters in time by the Extension staff.

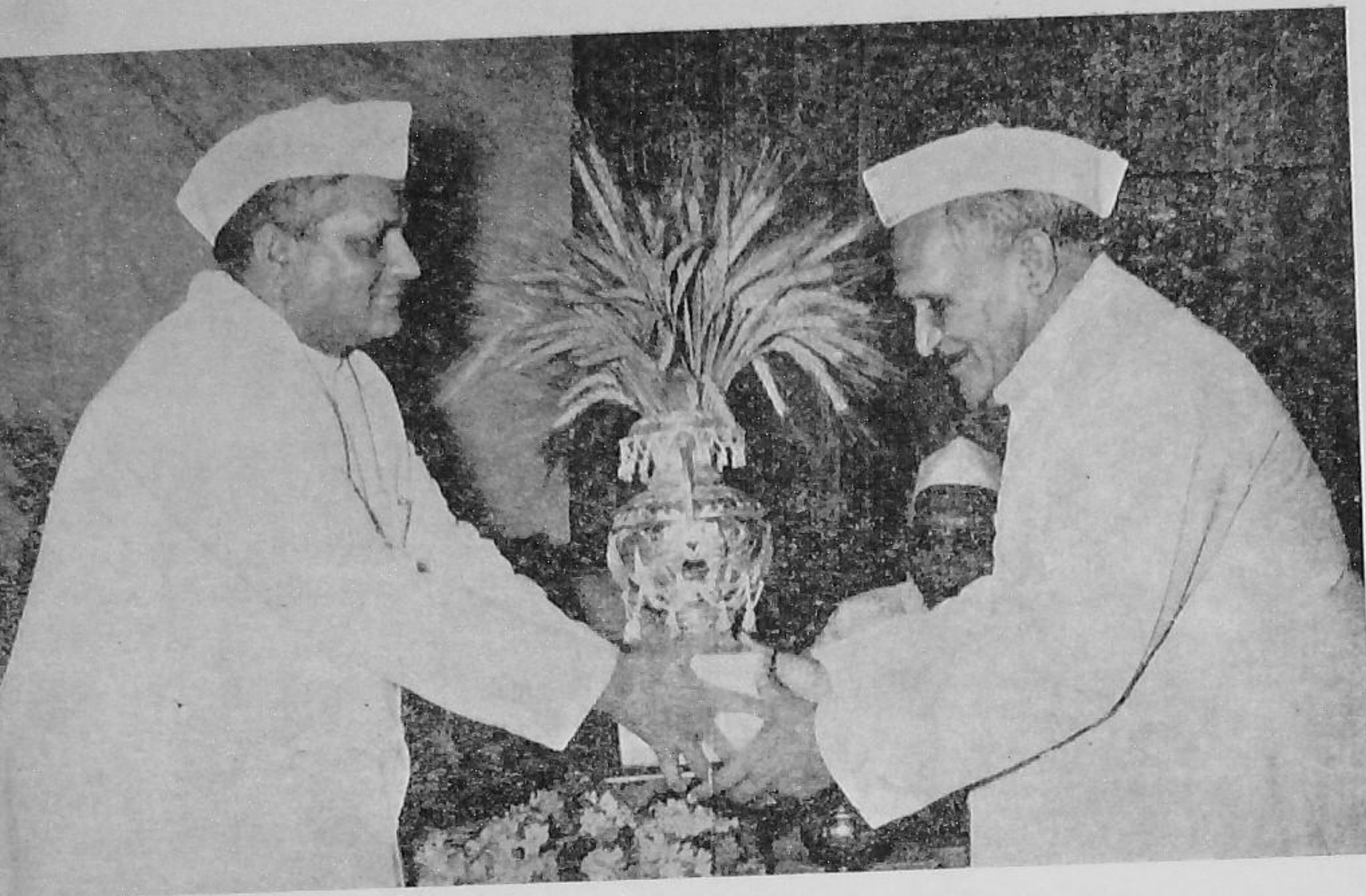
As a result of all the help rendered by the Package staff, I could reap better yields which meant extra income.

I wish that this Scheme should be continued and we may be supplied with seeds, manures, pesticides, implements, etc., in time to get higher yields.

Alpati Venkanna
Kommugudem, Buttayagudem P.O.
West Godavari,
Andhra Pradesh.

Package Scheme in Palghat

In the opinion of a Ford Foundation consultant, the Package Scheme in Palghat District 'is getting off to a good start.' Dr. Fin Frock and Dr. Harris, Ford Foundation consultants, who are attending a training camp for Package Scheme personnel here, opined that the Package Scheme being in the preliminary stage in the District, it was too early to make an evaluation of the results. Dr. Harris remarked: "However I can say that the Scheme is getting off to a good start." He said they visited some demonstration plots under the Package Scheme in Juzhalmannam. It was evident to them that there was a possibility of increasing the yield of crops per acre, if agriculturists whole-heartedly adopted the improved methods of cultivation recommended by the Package Scheme.



MADHYA PRADESH WINS 'RASHTRA KALASH'

At a colourful ceremony on the lawns of M.L.As' Hostel in Bhopal on 24th February 1963, the Union Minister for Agriculture Dr. Ram Subhag Singh presented the silver trophy 'Rashtra Kalash' to Shri B. A. Mandloi, the Madhya Pradesh Chief Minister.

Presenting the trophy, Dr. Ram Subhag Singh congratulated the Madhya Pradesh Government and farmers of the State for not only achieving a 24 per cent increase in food production during *rabi* 1959-60 over the previous three years' average, but also for the fact that out of the 99 districts in the country which qualified for the award, as many as 26 belonged to Madhya Pradesh.

Instituted in *rabi* 1958-59, 'Rashtra Kalash' is

awarded to the State which achieves the highest increase in food production over the average of previous three years. It carries a community award of Rs. 50,000 to be utilized for improved agricultural practices.

The Union Minister had also a word of advice for the local farmers. He pointed out that in spite of the yield level achieved by the State in recent years, the average yield of major crops in the State was considerably lower than the All-India average. This indicated the enormous possibilities of increasing production through the adoption of improved practices.

Dr. Ram Subhag Singh also suggested the reclamation of the Chambal Valley ravines which have earned notoriety as the breeding place of dacoits. He said

Dr. Ram Subhag Singh, the Union Minister for Agriculture (left) presenting the RASHTRA KALASH to the Madhya Pradesh Chief Minister, Shri B. A. Mandloi

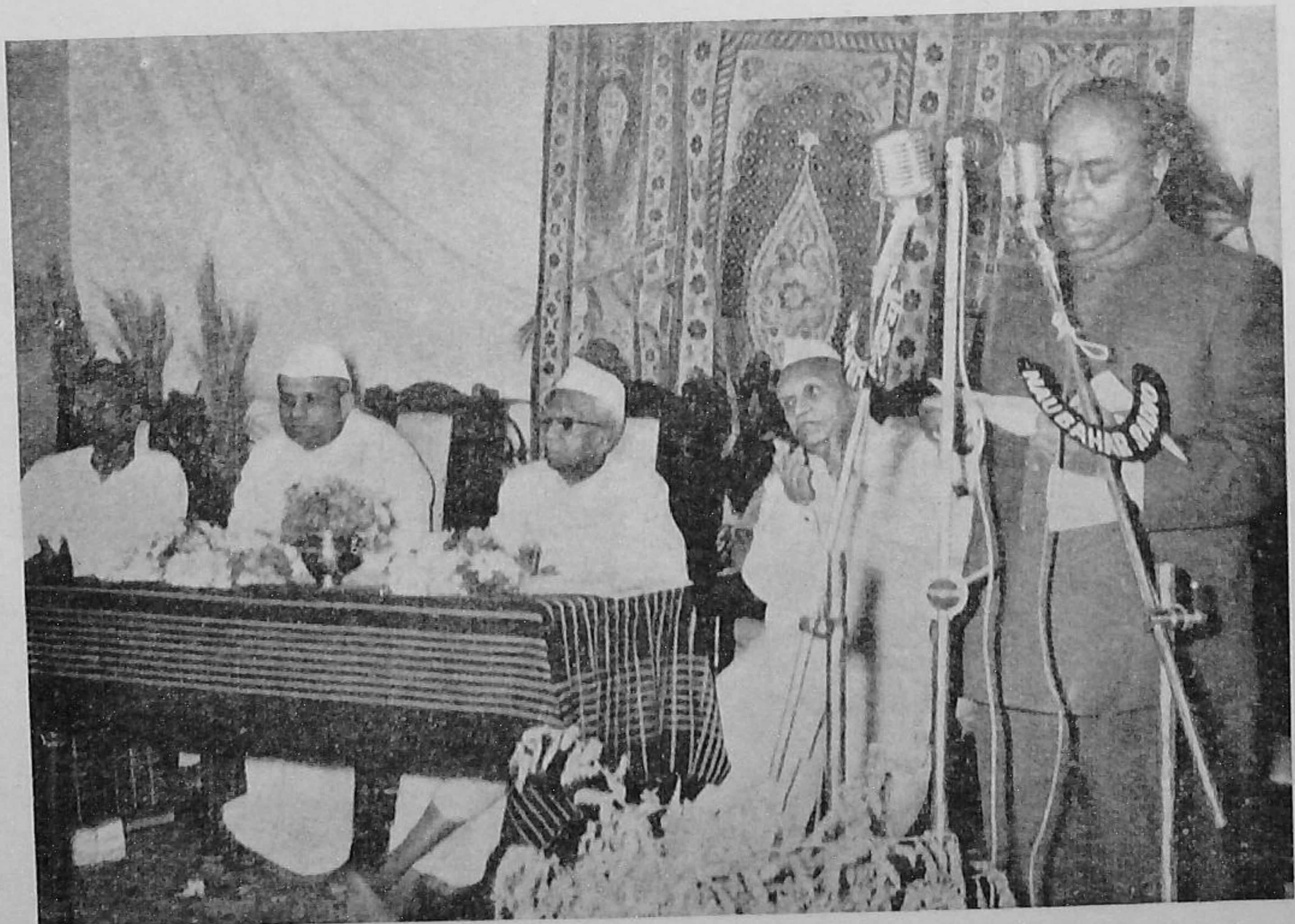
reclaiming the large tract or triangular land lying between the Districts of Dholpur in Rajasthan, Etawa in Uttar Pradesh and Morena in Madhya Pradesh would not only bring virgin soil under the plough but also go a long way in freeing the area from anti-social elements.

Earlier, welcoming the distinguished guests, Shri Y. N. Verma, Extension Commissioner, Ministry of Food and Agriculture said that it was in the fitness of things that the presentation ceremony was being held on the soil of Madhya Pradesh itself and in the presence of its leaders, officials and farmers who were responsible for the achievement.



It is farmers like these who helped Madhya Pradesh bag the trophy

Shri Y. N. Verma, Extension Commissioner, Ministry of Food and Agriculture, welcoming the distinguished guests at the presentation ceremony



A Baby's Coat from your old Blouse

By KANTHIMATI KUMAR



Fig. 1. The embroidered coat

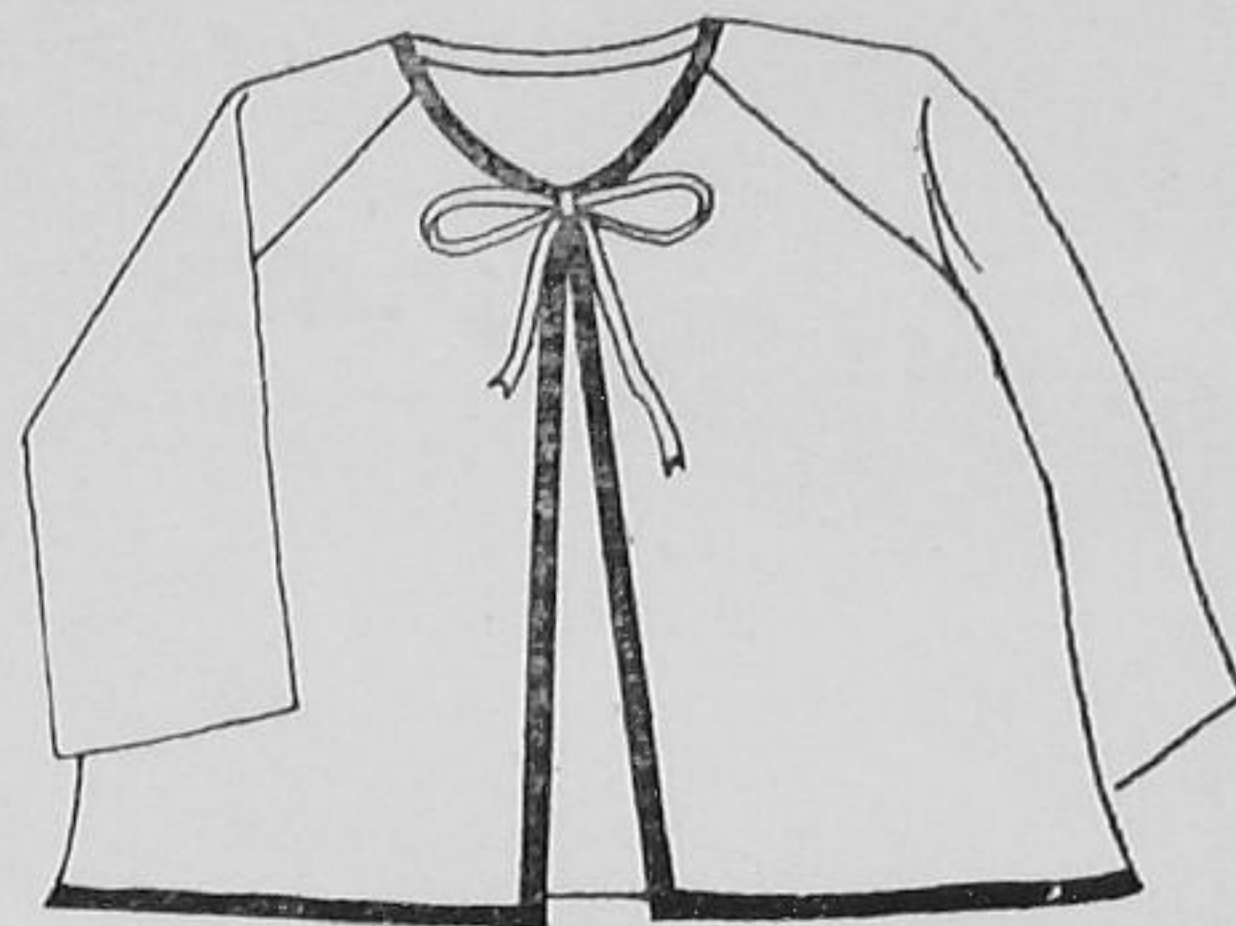


Fig. 2. The coat with piping

You can easily find a use for your discarded blouse by remodelling it into a nice, cosy coat for your baby. Fig. 1 and Fig. 2 show two different styles, but they are

Size of the old blouse : 34" bust size; length 17".

How to Make the Pattern Pieces of the Baby's Coat :

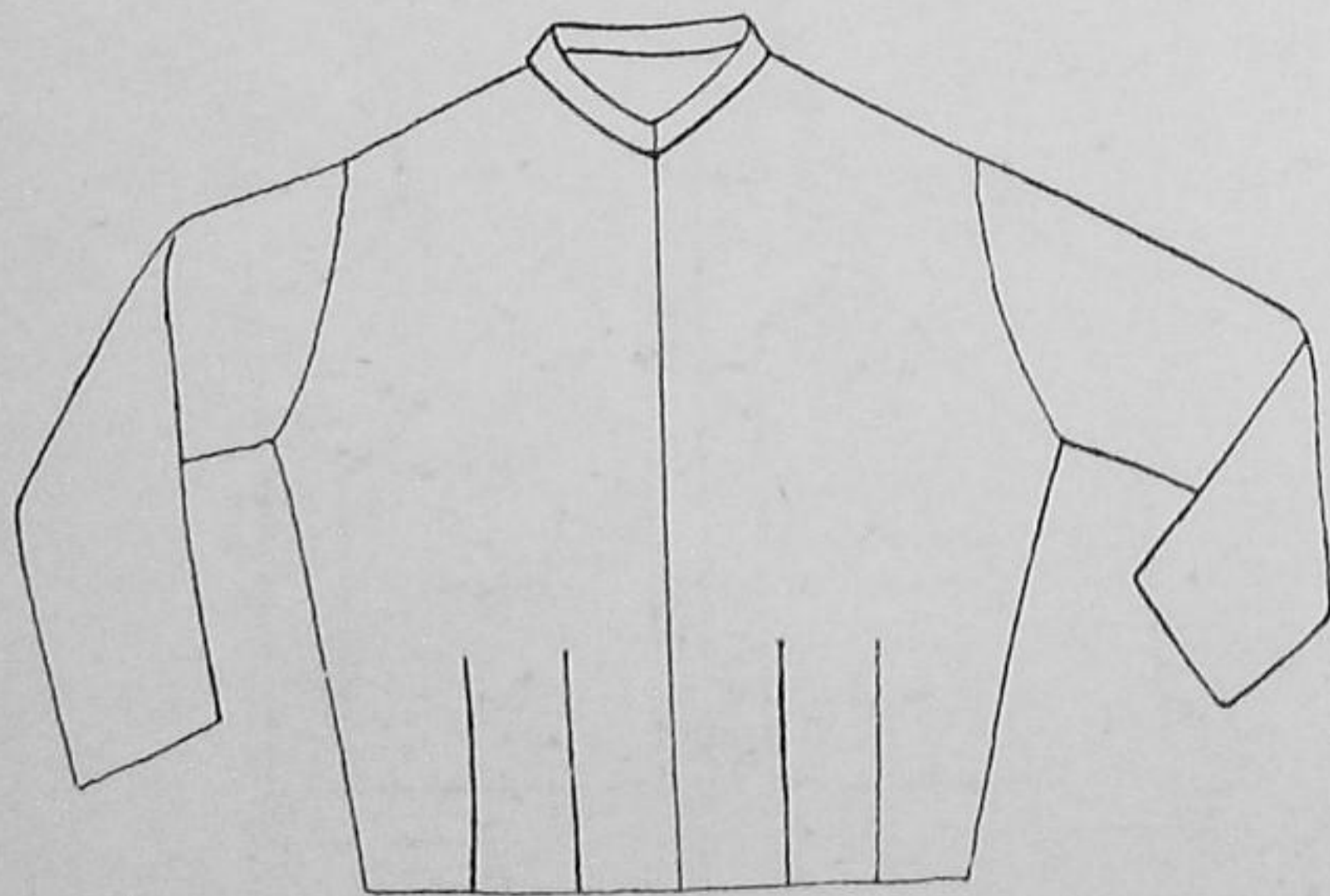


Fig. 3. The old blouse

essentially the same. The pattern in Fig. 1 is embroidered, whereas the one in Fig. 2 has piping to decorate the edges.

Measurements of the baby's coat : length 10½" chest 20"; length of sleeves including shoulders 11½"; sleeve circumference 8".

Key to diagrams

(1) Measurements are given within arrows or with the arrows, pointing to the measured length. Whenever space does not permit, the measurements are given without the arrows. A few measurements are explained with reference to the alphabets in the diagram and are given below the diagrams.

(2) The thin line denotes the edge of the paper, taken for pattern-making.

(3) The dash dot line (— . — . —) is used as a guide to draft curves, etc.

(4) The thick line denotes where to cut.

(5) The dotted line (. . .) denotes where to cut after the first cutting is done.

(6) Wherever the word 'fold' occurs, take double the width, shown in the diagram, and then fold the paper.

DRAFTING AND CUTTING

Take a piece of paper, 26" square, make a double fold so that it is 13" square as shown in Fig. 4.

Draft the pattern according to Fig. 4 and cut the pattern along the thick lines, first. Then cut along the dotted curve for the front only. Cut along the central fold of the front to form the opening.

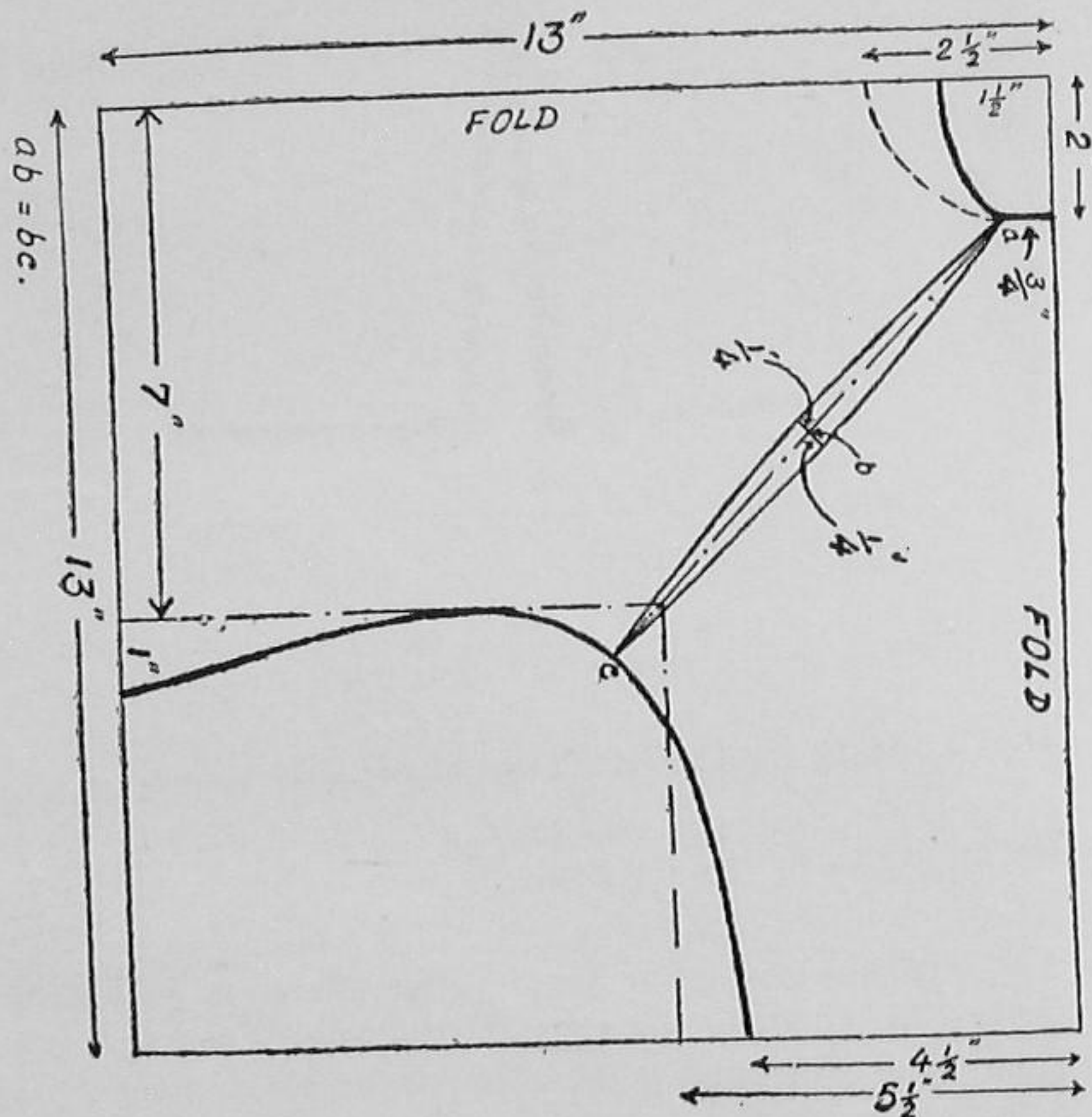


Fig. 4. How to draft the coat

How to Prepare the Lady's Blouse for the Layout of the Pattern Pieces :

Rip the neck band, the facing at the lower end of the band, the facing at the lower end of the blouse along the waist-line and the button-bands. Cut or rip the seams of the armholes, the sides and the shoulders, and separate the sleeves and the front and back of the blouse. Rip the darts at the back and the front of the blouse. Rip the sleeve seams and the hem. Iron the different sections of the blouse properly.

How to Lay the Pattern Pieces on the Different Sections of the Blouse and cut the Pattern Pieces :



Fig. 5a. Back of the coat

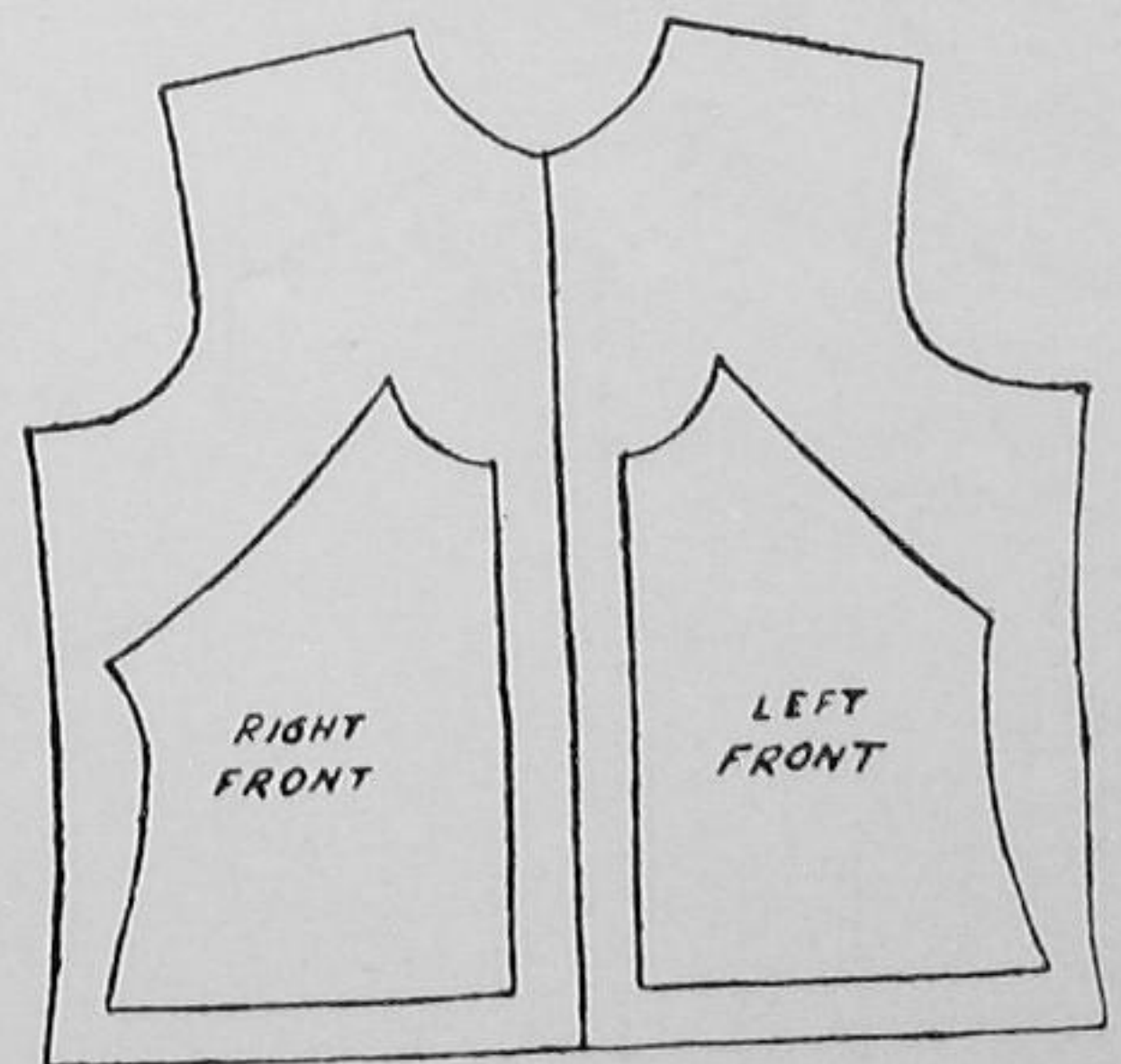


Fig. 5b. Front of the coat

Pin the pattern pieces to the different sections of the blouse, as shown in Figs. 5a, 5b and 5c, and cut the different pattern pieces. The facings for the neck and the button bands for the pattern in Fig. 1 can be cut from the bits left over.

How to Make the Baby's Coat :

Hem the lower end of the sleeves; 2" is allowed for the hem. Pin the sleeve head of the raglan sleeves to the front of the coat, as shown in Fig. 6. To ensure

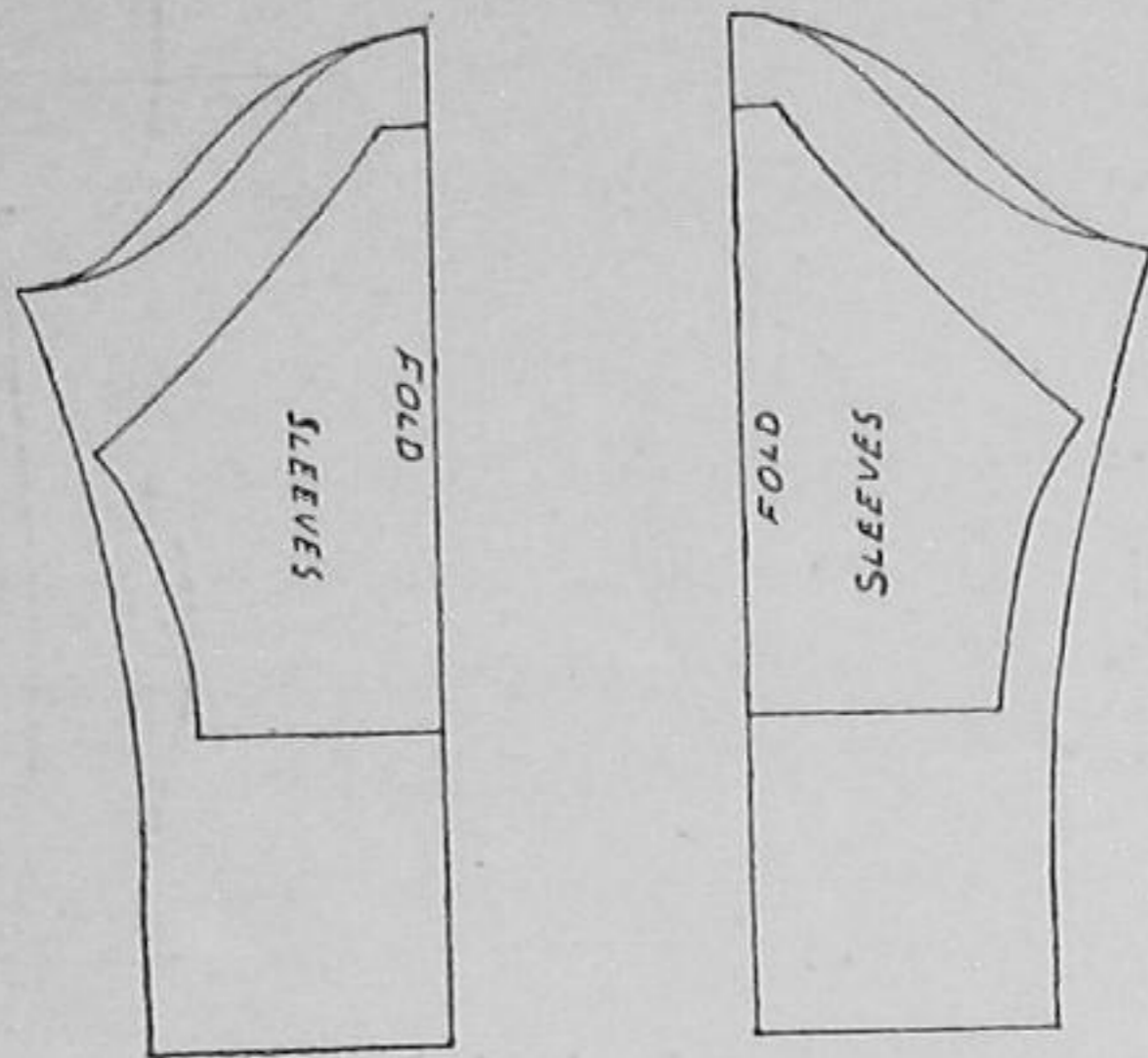


Fig. 5c. Sleeves

the correct shape of the neck and the sides of the coat, match the edges at the seam-line. Note that the top of the front neck of the body projects a little beyond 'X', the top edge of the raglan sleeve-head, and 'Y', the lower end of the sleeve-head projects beyond the body of the coat (see Fig. 6). Fig. 7 shows both the sleeves set properly.

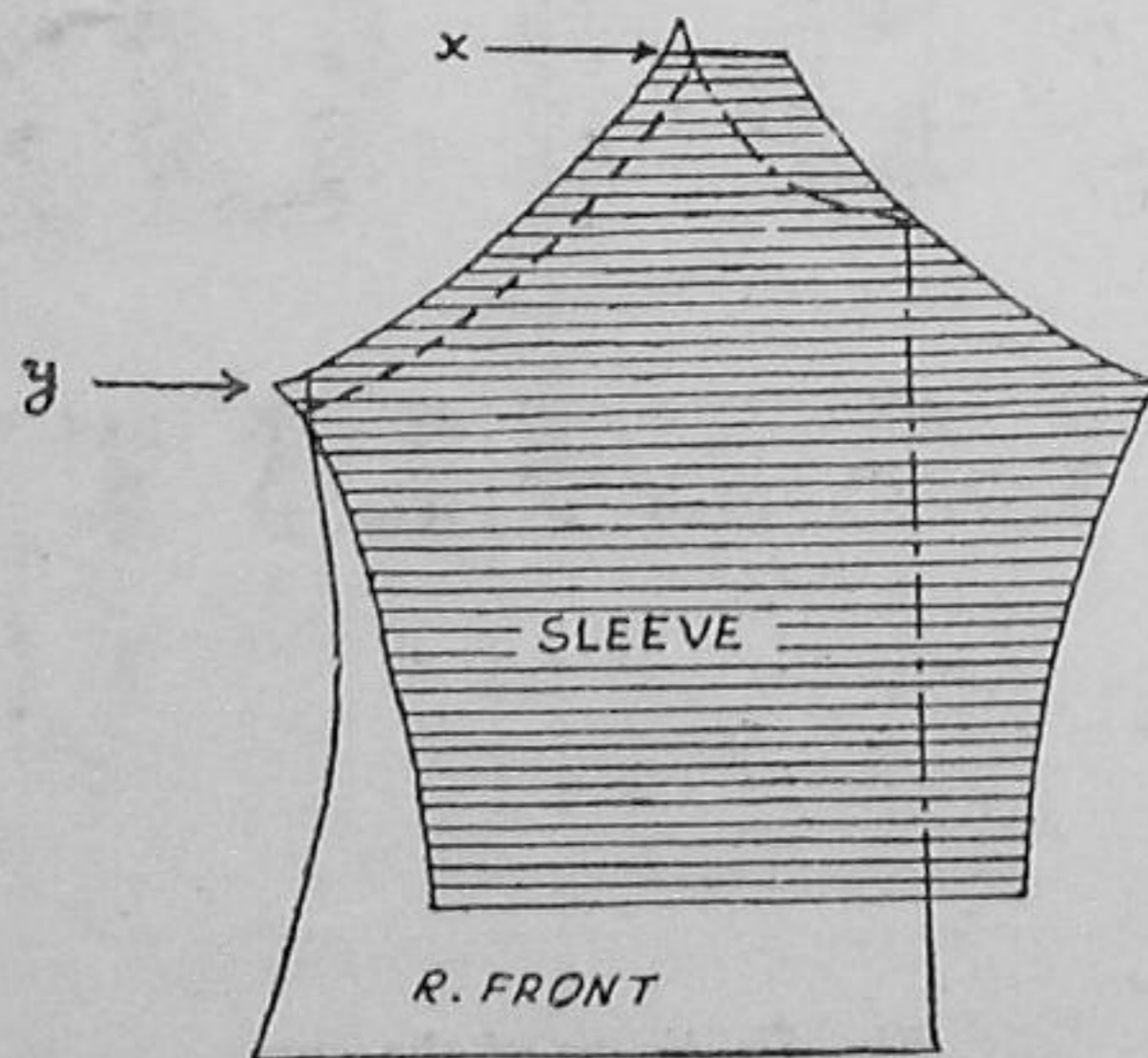


Fig. 6. How to attach the sleeves to the front of the coat

Pattern I. Face the raw edges of the front opening with a strip 1½" wide (see Fig. 8). Make the side seams of the coat. Hem the lower edge to the neck with a narrow bias strip. Cut two pieces of piping of the required length for the bow. Fold them double

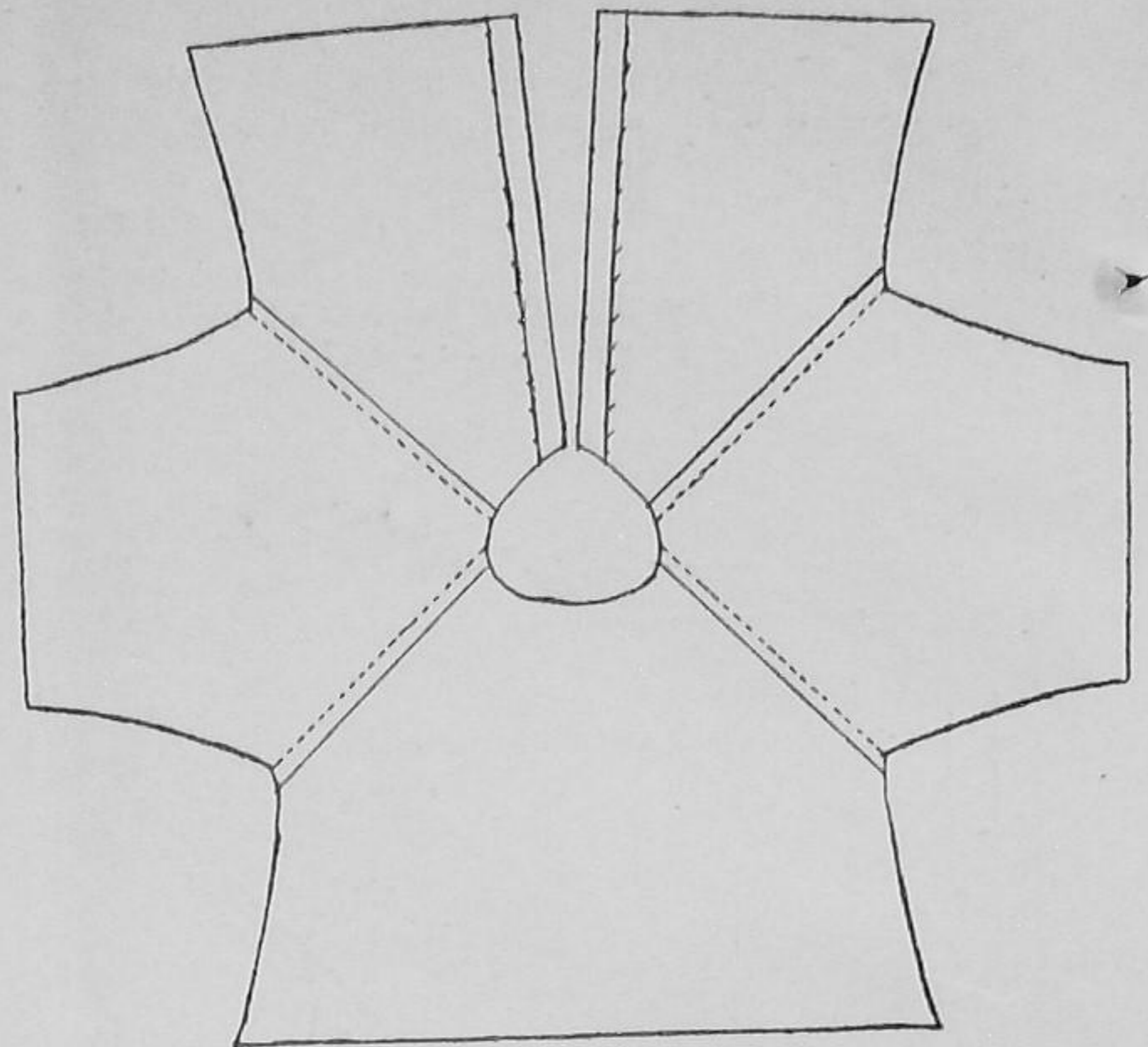


Fig. 7. The correct position of the sleeves

lengthwise and hem the folded edges together. Attach them to the neck. Work a row of French knots in the embroidery thread of a contrasting shade along the slanting seam-lines of the sleeves heads both in the front and the back and work a colourful design of embroidery in the right front.

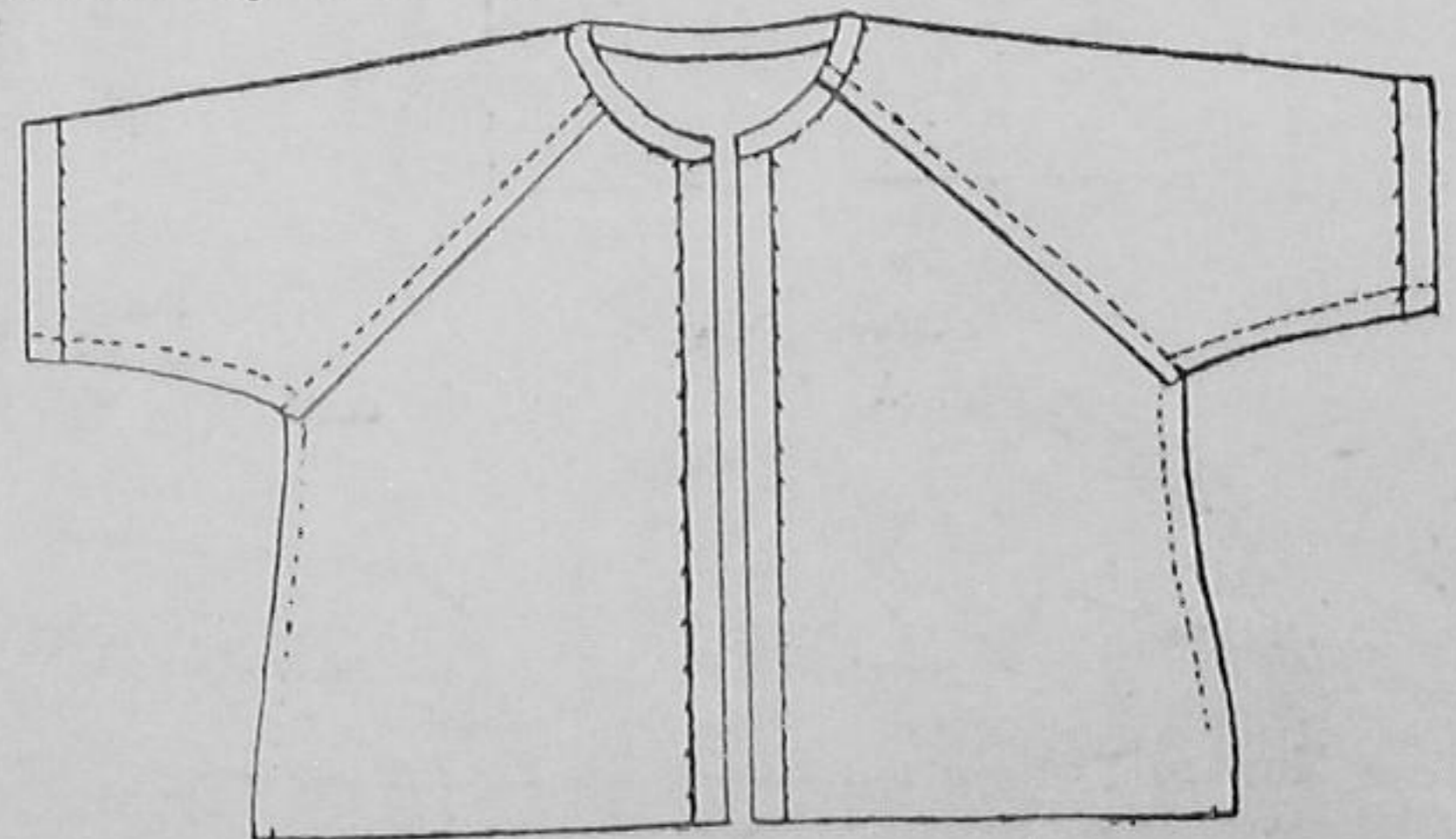


Fig. 8. The side seams and the facing at the front opening

Pattern II. This is plain and is easier to make. Starting from one neck-end of the opening, attach piping of a contrasting or matching shade along the edges of the opening and the lower end of the coat. Stitch the piping to the neck, leaving enough length at both ends to form a bow.

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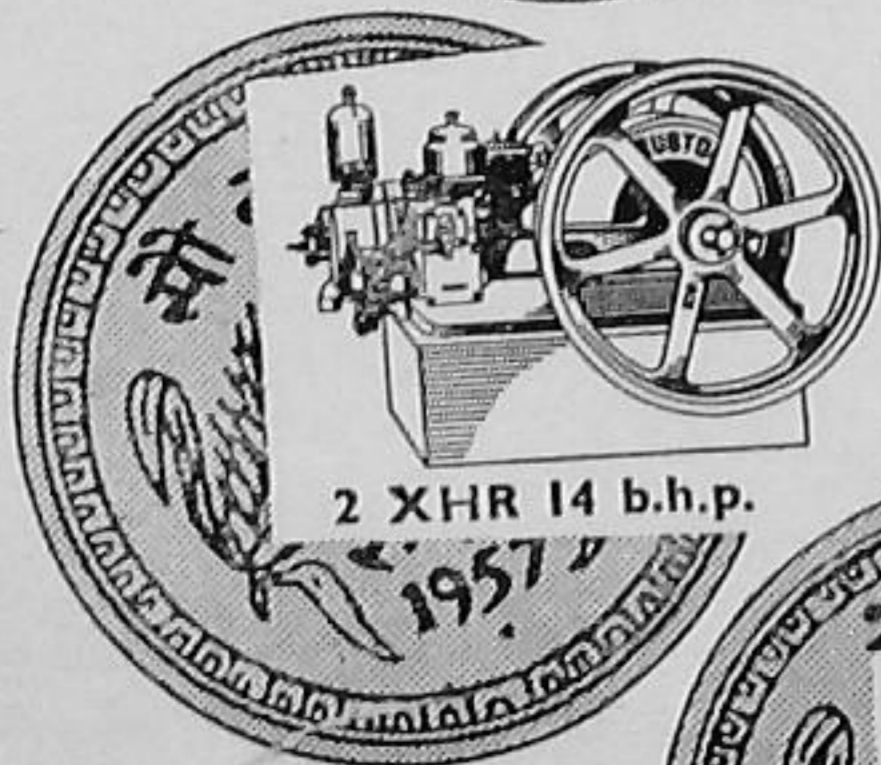
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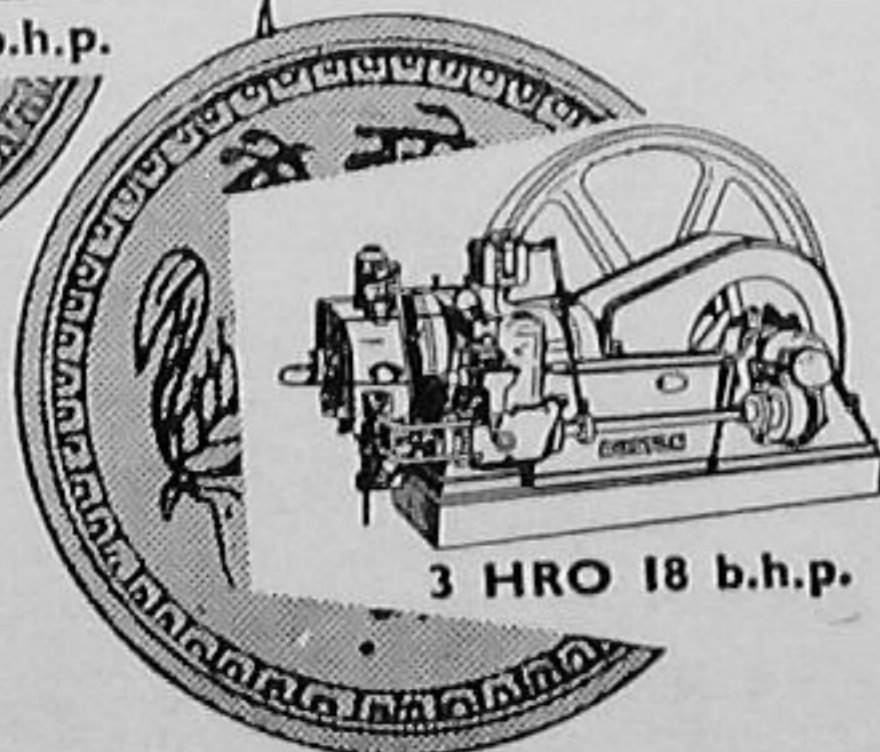
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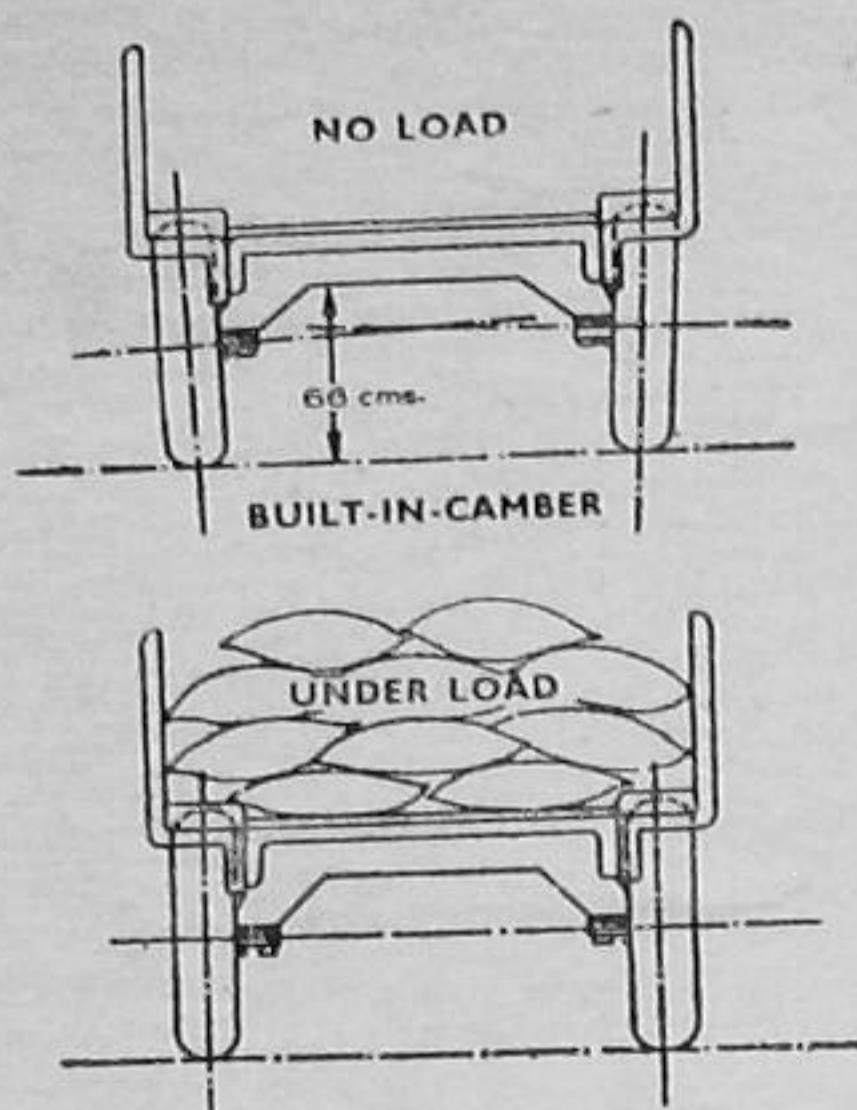
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