

1977 edition

cocoa



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Published by arrangement with the
Institut africain pour le développement économique et social
B.P. 8008, Abidjan, Côte d'Ivoire

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome 1977

First printing 1970
Second printing 1972
Third printing 1977

P-69
ISBN 92-5-100623-7

© French edition, Institut africain pour
le développement économique et social (INADES) 1967

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Twenty-six titles have been published in this series, designed as handbooks for a two-year intermediate level agricultural education and training course. They may be purchased as a set or as individual documents.

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2. The plant: the stem; the buds; the leaves
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5. The soil: how to conserve the soil
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19. Market gardening
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22. Cocoa
23. Coffee
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25. The rubber tree
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PREFACE

This manual is a translation and adaptation of "Le cacaoyer," published by the Agri-Service-Afrique of the Institut africain pour le développement économique et social (INADES), and forms part of a series of 26 booklets. Grateful acknowledgement is made to the publishers for making available this text, which it is hoped will find widespread use at the intermediate level of agricultural education and training in English-speaking countries.

It should be noted that the original texts were prepared for an African environment and this is naturally reflected in the English version. However, it is expected that many of the manuals of the series — a list of which will be found on the inside front cover — will also be of value for training in many other parts of the world. Adaptations can be made to the text where necessary owing to different climatic and ecological conditions.

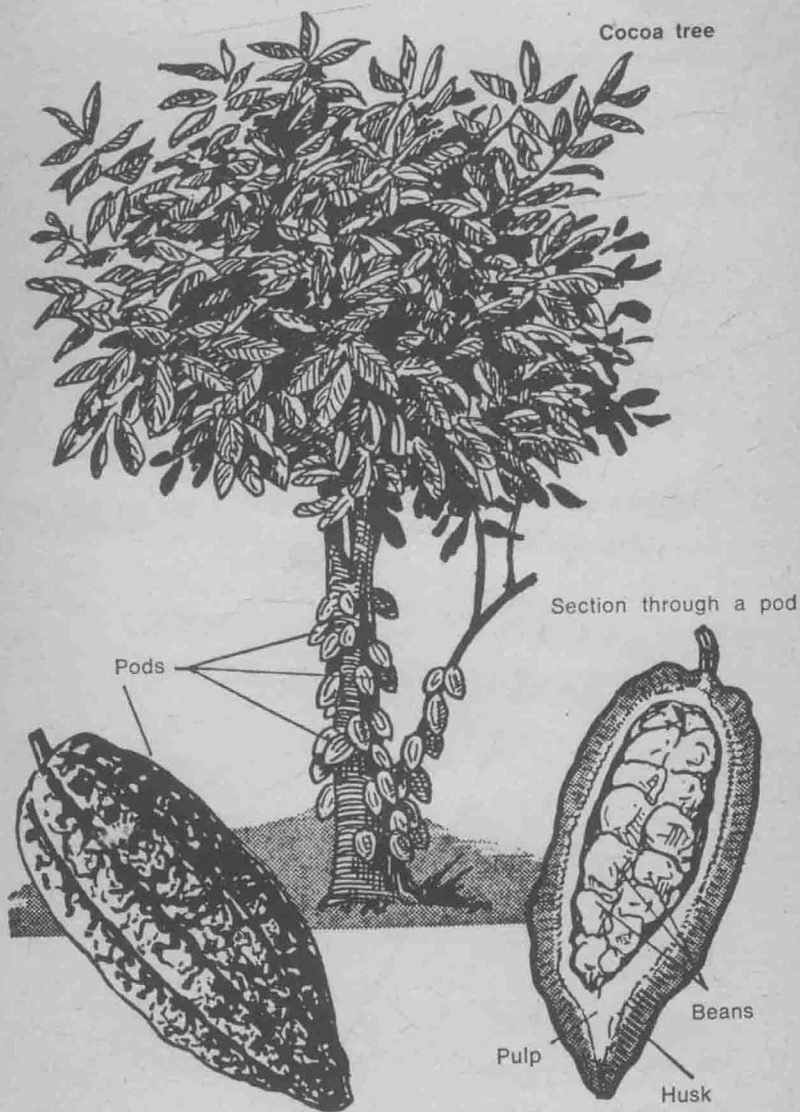
Applications for permission to issue this manual in other languages are welcomed. Such applications should be addressed to: Director, Publications Division, Food and Agriculture Organization of the United Nations, Via delle Terme di Caracalla, 00100 Rome, Italy.

The author of this English version is Mr. A.J. Henderson, former Chief of the FAO Editorial Branch.

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Cocoa tree



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GROWING COCOA

COCOA IS GROWN ON TREES

The cocoa tree bears fruit on its trunk and branches. They are called pods.

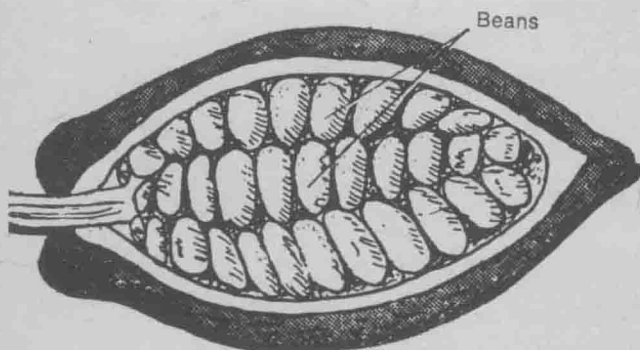
The pods contain seeds which are called cocoa beans. The beans are made up of a seed coat, a kernel and a germ.

1. Cocoa needs a high temperature, plenty of water, and air that is always moist.

Therefore, cocoa is grown in the hot and humid regions of Africa (mainly in forest regions), Central and South America, Asia and Oceania.



Cocoa bean cut in two.



Cocoa pod

WHAT VARIETIES OF COCOA CAN BE GROWN IN AFRICA?

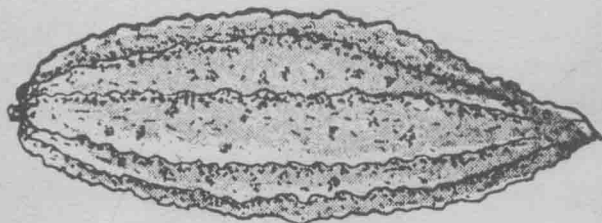
2. Three main varieties of cocoa are grown in Africa:

Criollo

When Criollo pods are ripe, they are long, yellow or red, with deep furrows and big warts.

This variety does not produce as much as the others but the cocoa is of very good quality.

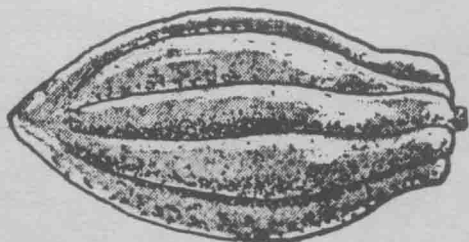
It is grown mainly in America.



Forastero (Amelonado)

The pods are short, yellow, smooth without warts, with shallow furrows.

This variety produces well, but the quality is not as good as Criollo. It is grown a lot in Africa.



Trinitario

This variety is a cross between Criollo and Forastero.

The pods are long or short, red and yellow.

It yields cocoa of fairly good quality.

WHY COCOA IS GROWN

3. People grow cocoa trees in order to sell the cocoa beans that are in the pods.

The kernel of the cocoa beans is used to make cocoa and chocolate.

In the countries of Europe and North America people eat a lot of cocoa and chocolate.

But the cocoa tree does not grow in their countries; they buy cocoa from Africa.

The countries of Africa earn a lot of money by selling their cocoa.

With this money, they can build schools and dispensaries, they can build roads and modernize the country. For Ghana, Nigeria, Ivory Coast and Cameroon, cocoa is an important export crop.

But to earn more money, these countries must sell good quality cocoa.

Sometimes they sell cocoa of poor marketing quality, badly harvested and badly fermented and dried.

Cocoa is better and fetches a higher price when it has been properly harvested, fermented and dried.

In order to sell a lot of cocoa beans of good quality, the grower must:

- Choose the seeds and grow the seedlings carefully.
- Choose a good site for his plantation and prepare it well.
- Look after his plantation continuously.
- Harvest the pods and prepare the beans properly.

CHOOSING SEEDS AND GROWING SEEDLINGS

4. The grower can buy at research centres

- **either selected seeds of good quality**

He sows the seeds in a nursery bed or in baskets. Later, he plants out the seedlings in the plantation.

- **or young seedlings of good quality**

He plants them straight away in the plantation.

5. But some growers have no research centre nearby.

They can nevertheless have good cocoa plantations by:

- choosing their own seeds,
- sowing their seeds in a nursery bed,
- planting out their seedlings in the plantation.

Nursery bed is the name for the place where the seeds are sown to make them germinate.

CHOOSING SEEDS

If you want to have fine cocoa trees which produce a lot of big pods, you must choose carefully the seeds you are going to sow.

6. If you choose your own seeds:

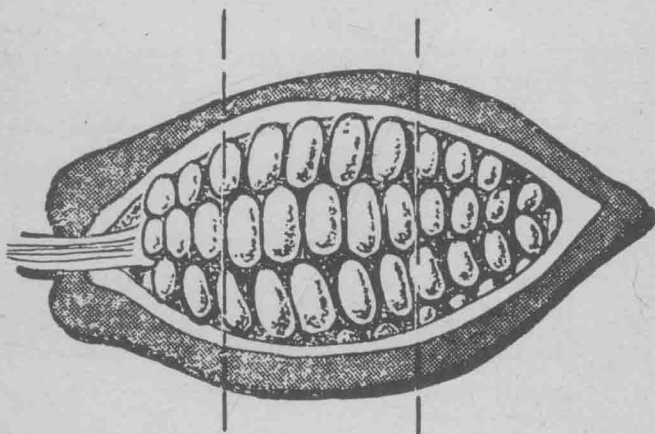
- choose the biggest pods from the trees which bear a lot of fruit.

The good quality of the tree and of the seed enters into the new plant, which will also yield many big pods.

The best seeds for sowing are those from the middle of the pod.

7. Sow the seeds as you remove them from the pod.
Never keep the pods more than one week, otherwise the germ may die.
If the germ is dead, the plant will not grow.

8. In some countries cocoa seeds are often sown directly in the plantation, that is, where the trees are to grow.
But this is a bad way of sowing, for many of the plants will not grow, and you cannot choose the best seedlings.



Take the best beans from the middle of the pod

SOWING SEEDS IN NURSERY BEDS OR IN BASKETS

9. A good grower should sow cocoa seeds in nursery beds:

Choose a small plot, quite flat, with light and rich soil.

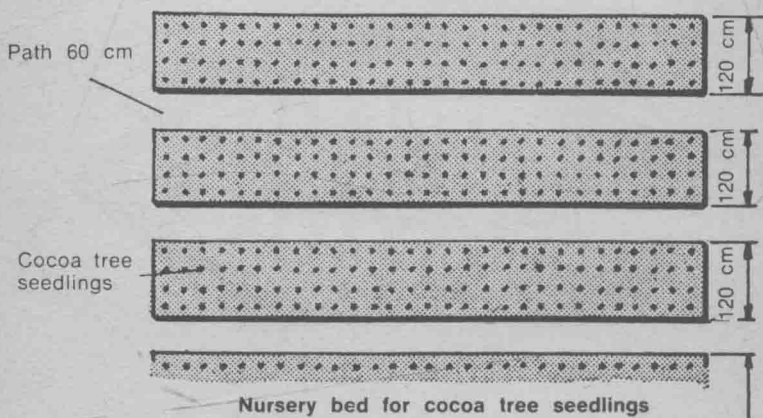
If the site is near a little stream, watering will be easier.

Till the soil fairly deeply, and break up all the lumps of earth so that you get a fine tilth.

Make beds of soil 120 centimetres wide:

- Leave a little path of 60 centimetres between one bed and the next, so that you can walk between the beds.
- Take a piece of string and mark out little furrows in each bed.
- Leave 25 centimetres between one furrow and the next.
- In each furrow, leave 25 centimetres between seeds.

Do not push the seed in too deeply, otherwise it will not have enough air and will not grow well.



Cocoa seeds can also be sown in baskets or bags.

- 10.** When the seedlings are lifted from the nursery bed, the roots may break and little earth remains around the roots.

To avoid this, water the beds before lifting the seedlings.

Sometimes the young seedlings do not grow well and do not gain much height.

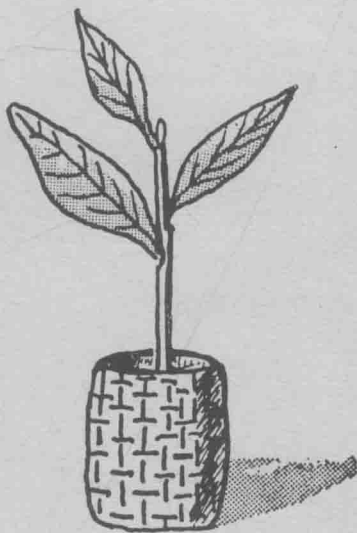
Some of them die.

- 11.** To make the cocoa trees grow better, sow your seeds in small baskets or polyethylene bags.

These baskets or bags can be about 30 centimetres high and 20 centimetres wide.

Fill them with fine soil mixed with manure.

Put the baskets or bags in rows and leave a little path between the rows.



Young cocoa tree in a basket

You should take good care of the seedlings in seed beds or baskets.

- 12. Young cocoa tree seedlings are very delicate; you must protect them from the sun.**
Put them in the shade.

In order to protect the seed beds or the baskets from the sun put up a screen 180 centimetres high above each bed.

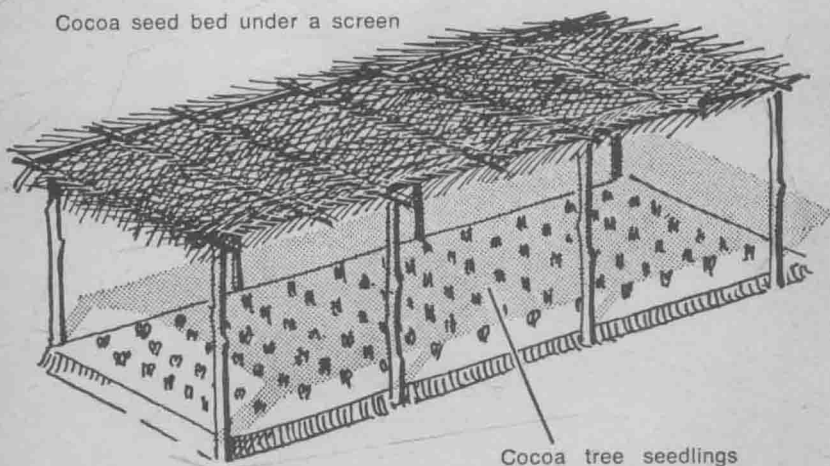
You can cover this screen with palm fronds.

Young seedlings need a lot of water.
Water them every day.

Remove the weeds which take nourishment away from the seedlings.

Look for insects and kill them, pull out diseased plants and burn them.

Cocoa seed bed under a screen



LIFTING SEEDLINGS FROM NURSERY BEDS

- 13. Six months after sowing, when the seedlings have two leaves, take the young cocoa tree seedlings out of the nursery beds.**

If you wait too long, the seedlings will be too old and will not grow so easily.

Remove the seedlings from the nursery beds with a spade.

Be very careful not to break the roots.

Sort out the young cocoa seedlings.

Throw away diseased seedlings and badly grown seedlings.

Use only the healthiest seedlings.

- 14. If you have sown your seeds in baskets, place the baskets in holes dug in the plantation.**
There is no need to remove the basket, as it will rot in the earth.

If you have sown your seeds in polyethylene bags, remove the bag.

Place the ball of earth with the seedling into the hole.