

1977 edition

coffee



better farming series

coffee

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BETTER FARMING SERIES

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.

FIRST YEAR

1. The plant: the living plant; the root
2. The plant: the stem; the buds; the leaves
3. The plant: the flower
4. The soil: how the soil is made up
5. The soil: how to conserve the soil
6. The soil: how to improve the soil
7. Crop farming
8. Animal husbandry: feeding and care of animals
9. Animal husbandry: animal diseases; how animals reproduce

SECOND YEAR

10. The farm business survey
11. Cattle breeding
12. Sheep and goat breeding
13. Keeping chickens
14. Farming with animal power
15. Cereals
16. Roots and tubers
17. Groundnuts
18. Bananas
19. Market gardening
20. Upland rice
21. Wet paddy or swamp rice
22. Cocoa
23. Coffee
24. The oil palm
25. The rubber tree
26. The modern farm business

PREFACE

This manual is a translation and adaptation of "Le caféier," 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 originally 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 cover illustrations were prepared by Asun Balzola.

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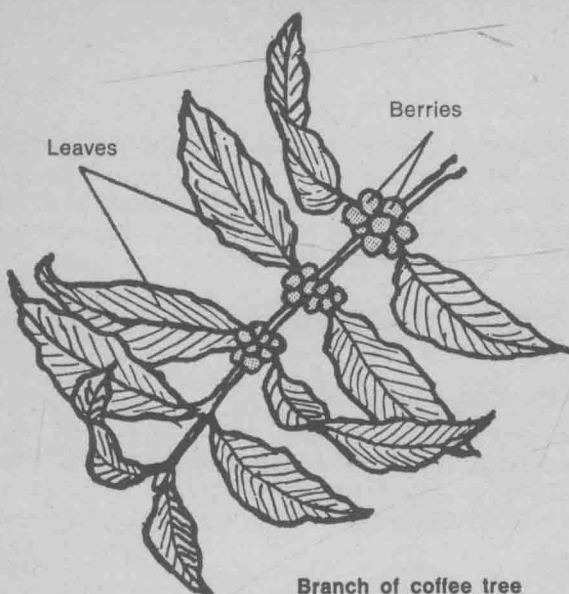
Coffee tree



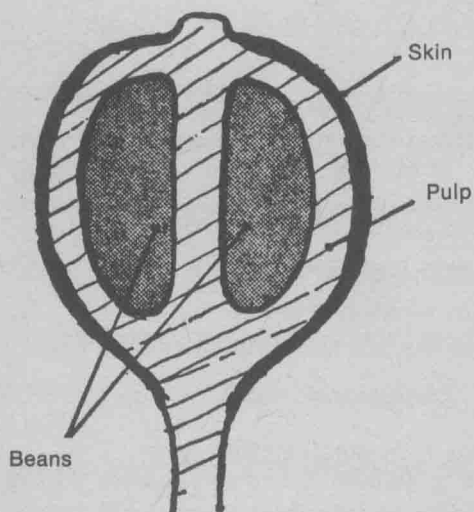
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The coffee tree bears fruit which are called berries.



The berries contain two seeds called coffee beans.



A coffee berry cut in two

WHERE COFFEE IS GROWN

1. Coffee needs plenty of water, permanently moist air, a high temperature.
Therefore, coffee is found in the moist, hot regions of Africa, South America and Asia. In Africa coffee is grown mainly in forest regions.

WHAT VARIETIES OF COFFEE ARE GROWN IN AFRICA?

2. Liberica and Gros Indénié

These are very large trees, 10 to 15 metres high. They are grown in the coastal regions of the Ivory Coast.
They yield coffee of fairly good quality.

Excelsa

These are big coffee trees. They are grown in the Central African Empire and in the Ivory Coast.
They yield coffee of fairly good quality.

Arabica

These are small coffee trees. In Africa they are grown only in mountain areas, for example, at Man, in Ivory Coast, at Dshang, Foubot, in Cameroon.
They yield coffee of fairly good quality.

Kouilou and Petit Indénié

These are small coffee trees. They are grown in the inland regions of the Ivory Coast.

Robusta

These are also small coffee trees. They are grown in many regions of Africa, for they grow well.
They yield coffee of fairly good quality.

WHY COFFEE IS GROWN

3. People grow coffee trees in order to sell coffee to foreign countries.

In certain countries of Europe people drink a lot of coffee, but the coffee tree does not grow in their own countries.

They buy coffee from Africa.

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

With this money, they can build schools and dispensaries, they can make roads and modernize the country.

For several African countries (Ivory Coast, Uganda, Cameroon), coffee is **an important export crop**.

But there are many countries in the world which produce coffee.

Often there is too much coffee on the market and poor-quality coffee is difficult to sell.

Foreign countries buy

- good-quality coffee at a good price;
- they do not pay much for coffee of poor quality.

The grower must produce good coffee beans.

To produce coffee beans of good quality the grower must:

- **choose his seeds and grow his seedlings carefully**
- **choose a good site for his plantation and prepare it well**
- **tend his plantation well and prune his coffee trees**
- **harvest the berries and prepare the beans properly.**

CHOOSING THE SEEDS OR SEEDLINGS

Because the International Coffee Agreement does not allow producing countries to add to their coffee plantations, the grower cannot make new plantations.

But he can replant his old plantations which do not produce much.

4. The grower can ask the local advisory service for help in buying:

- **either selected seeds of good quality** which he first sows in a seed bed, then transplants into a nursery bed, and finally plants in the plantation;
- **or seedlings of good quality**, which have been grown in a seed bed and a nursery bed, and which the grower plants directly in his plantation.

5. **Some growers have no advisory service nearby. They can nevertheless make good coffee plantations by**

- choosing their own seeds,
- sowing their seeds in seed beds,
- transplanting the young seedlings into nursery beds, and later planting out the seedlings in the plantation.

6. **Seed bed** is the name for the place where the seeds are sown to make them germinate.

Seedling is the name for the young plants that have grown in the seed bed.

Nursery bed is the name for the place to which seedlings are transplanted.

CHOOSING GOOD SEEDS

If the grower wants to have fine coffee trees which produce a lot of big berries, he must choose carefully the seeds he is going to sow.

When choosing seeds you should:

- 7. Take the berries from the finest trees** which bear the biggest fruit.

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

- 8. Choose berries that are quite ripe.**

If the berry is not quite ripe, the seed is not ready. It cannot germinate well, and it may rot.

Take the pulp out of the berry and dry the beans in the shade.

If the beans are put in the sun, they dry too quickly and the germ may die.

Never keep the seeds more than two weeks.

If they are kept longer, the germ dies and the plant will not grow.

SOWING THE SEEDS IN SEED BEDS

9. Preparing the seed plot

Choose a small plot, quite flat, with light and rich soil. It is best to prepare a plot which is near a small stream, because watering will be easier.

Till the soil fairly deeply, to more than 30 centimetres. Break all the lumps of earth so that you get a fine tilth.

Put in some old, well-decomposed manure, to make the soil contain more humus.

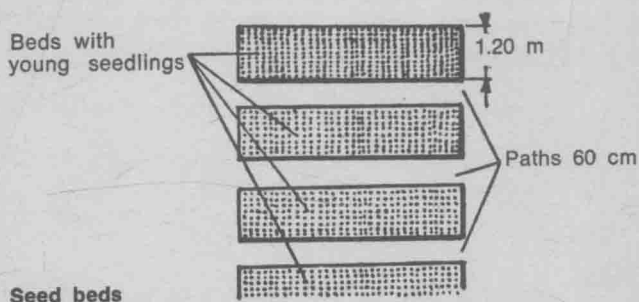
10. Sowing

Make beds of soil 1.2 metres 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 8 centimetres between one furrow and the next. Sow your seeds in each furrow, leaving 4 centimetres between one seed and the next.



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

Put the beans in flat, with the groove downward.

GROWING THE SEEDLINGS

11. Tending the seed plot

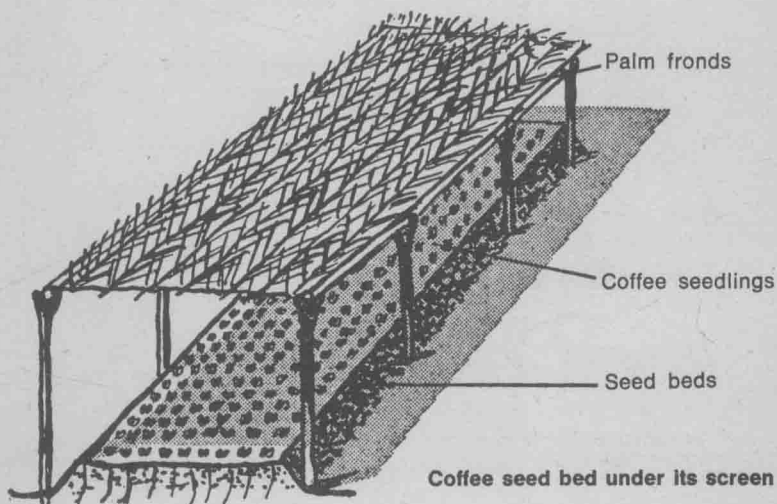
The little coffee seedlings are very delicate.
You must protect them from the sun.
You must put them in the shade.

In order to protect the seed plot from the sun, put up a screen above each bed, 1.5 to 1.8 metres high.
You can make the screen of palm fronds.
The seeds need a lot of water.

Water them often.

Hoe between the rows, so that weeds cannot grow and take nourishment away from the young seedlings.
Look for insects and kill them, so that they cannot ruin your young seedlings.

Pull out diseased seedlings and burn them.



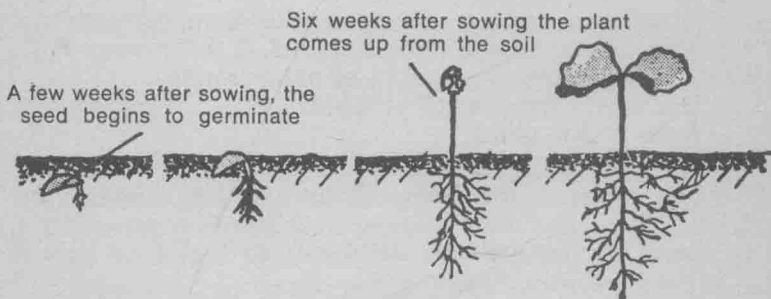
LIFTING THE YOUNG SEEDLINGS FROM THE SEED BEDS

12. Six weeks after sowing, the little plant comes up from the soil.

When the seedlings are three months old, the first two leaves are well developed.

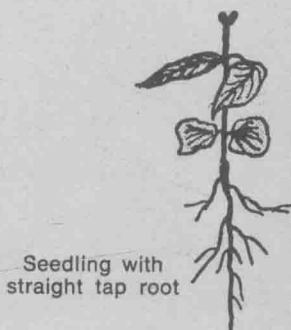
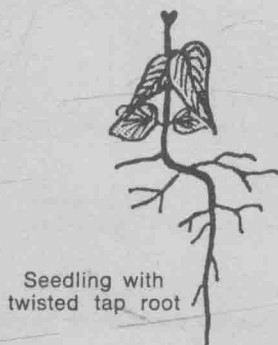
This is the moment to take the seedlings out of the seed beds and to transplant them into a nursery.

In removing the seedlings from the seed beds, be very careful not to break the roots.



Sort out the young seedlings

- Throw away diseased seedlings and seedlings with a twisted tap root;
- Use only the finest seedlings, those with a tap root that is quite straight.



TRANSPLANTING THE SEEDLINGS INTO A NURSERY

13. Preparing the nursery plot

Choose a bigger, flat and fertile plot next to the seed plot.

Till the soil deeply, to 40 centimetres.

Break all the lumps of earth.

Put in a lot of manure.

14. Transplanting the seedlings

Make beds of soil 1.2 metres wide, with 60-centimetre paths in between.

Mark out furrows, leaving 30 centimetres between one furrow and the next.

Dig holes, leaving 30 centimetres between one hole and the next.

The holes should be 15 centimetres deep.

Plant the seedlings in the holes, pack the soil down well around the root.

Be very careful not to twist the tap root, and do not bury the crown.

