

# PLANTING HYBRID COCOA

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## INTRODUCTION

Hybrid cocoa is capable of far higher yields than ordinary cocoa. Trees grown from recommended crosses will be better producers, more vigorous and quicker maturing than their parents. However, this top quality planting material will only perform to its best if it is well cared for. This means adopting good cocoa husbandry practices. The following recommendations are made for hybrid seedlings. It is suggested that growers follow them as much as possible for successful cocoa growing.

## PLANTING SEEDLINGS FROM A NURSERY

Cocoa is best established from a nursery. We recommend that you plant hybrid seeds in a nursery before field planting. This will allow the selection of only the best seedlings to be planted in cocoa blocks. Usually about 90% of the seeds planted produce good seedlings.

## DO NOT PRE-GERMINATE COCOA SEED

If you germinate your seeds before planting them, the seedlings may develop crooked roots.

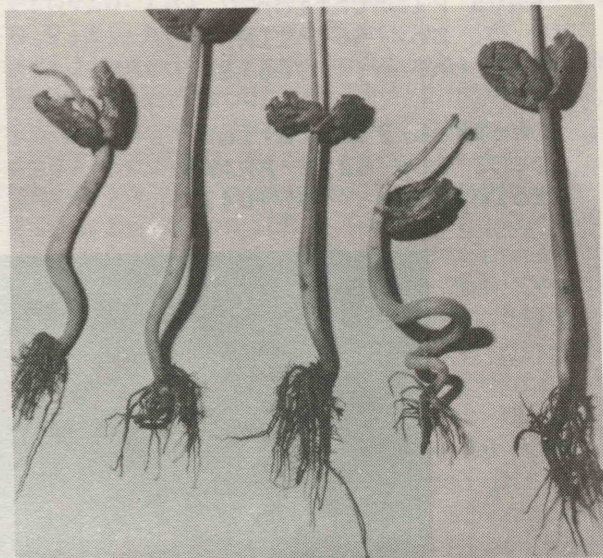
For information about where to obtain nursery bags, see page 118 of this issue of HARVEST.

## PLANTING OUT

You should plant out hybrid cocoa much earlier than ordinary cocoa, to avoid roots becoming twisted. This is because hybrids grow more quickly. It is best done at 3-4 months of age. The planting operation is similar to planting ordinary seedlings.

## WEATHER CONDITIONS AT PLANTING

Planting should be done into damp soil at a time of the year when rain can be expected within a few days of field planting. Rainy weather is best. Plan to avoid planting in the dry season.



*Distorted cocoa seedlings, caused by pre-germination.*



## SHADE

Hybrid cocoa needs less shade than ordinary cocoa because the trees are more vigorous once they are bearing.

The best shade we can recommend for hybrid cocoa is hybrid coconuts. *Leucaena* and *Gliricidia* can also be used, but interplanting with hybrid coconuts will give a higher return per unit area than either monocropping or interplanting with ordinary coconuts.

*Gliricidia* grown from cuttings becomes established quicker and supports crazy ants better. This is important for areas where *Pantorhytes* weevils are a problem. (See the Entomology Bulletins on pp. 159 and 165 of this issue).

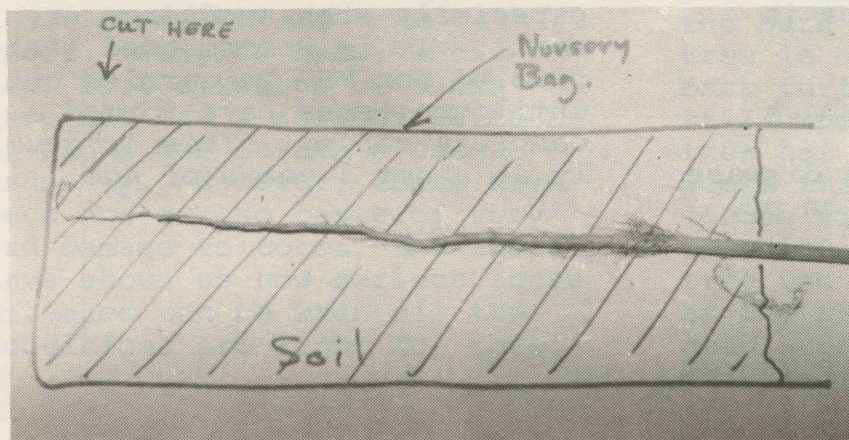
For more information about shade see p. 120 of this issue of HARVEST.

## HOW TO PLANT A SEEDLING

1. When shade trees have grown to give enough shade for young seedlings, and the cocoa lines have been marked, dig holes 25-30 cm wide by up to 40 cm deep in soft ground. The deep hole is recommended for areas where there is a hard pan (a hard layer underneath the

soil), or there is thought to be a hard pan.

2. Keep the dark top soil, and the lighter subsoil in separate heaps.
3. Lay the cocoa seedling in its plastic bag on its side.
4. Using a sharp bush knife, cut a 2 cm slice from the bottom of the plastic bag.
5. Stand the seedling in the hole. Make sure that the top of the nursery bag is sitting at the same level as the surface of the soil. You may need to put some soil back into the hole.
6. Slit the bag from bottom to top with the bush knife. Pack some top soil around the base of the seedling to hold it.
7. Remove the plastic bag.
8. Put top soil around the seedling and press the soil down firmly all around it. This is very important.
9. Fill the hole with soil even if extra top soil has to be pulled in from the surrounding area.
10. The hole should be completely filled and the soil should be pressed down well.



A normal cocoa seedling showing the tap root bending at the bottom of the seedling bag. This distorted part of the root is removed if 2 cm is sliced from the bottom of the bag before transplanting.



## SPACING

The spacing for sole hybrid plantings is a 4 metre triangle, giving a density of 720 trees per hectare. If cocoa is interplanted with coconuts spaced at an 8 m triangle, plant hybrid cocoa seedlings at 4 m apart along the coconut lines and 3 m apart in between coconut rows. When coconuts are spaced on a 9 m triangle, plant hybrid cocoa seedlings at 3 m apart along the coconut lines and between coconut rows. For spacing plans see HARVEST, Volume 8, No. 1, p. 11.

## CARE OF SEEDLINGS

### 1. Weed control

This is very important for newly planted seedlings. Weed control should be started before planting out.

### 2. Pest control

Pests can be a problem during the establishment phase. Longicorns and grey weevils attack young seedlings while *Pantorhytes* are a continuous problem in some areas. In areas where *Pantorhytes* is a problem, or is expected to be a problem, you should follow the D.P.I. recommendations for introducing crazy ants into blocks before planting.

Pests of cocoa are discussed in the Entomology Bulletins in this issue of HARVEST.

### 3. Vascular Streak Dieback

Vascular streak dieback disease is discussed in detail on pp. 197-200 of this issue.



*A young hybrid seedling growing under mixed Leucaena and Gliricidia shade*

Pruning for VSD control is very important for successful establishment of hybrid cocoa seedlings. Hybrids are more resistant to VSD than local Trinitario seedlings, but they are not immune. Early pruning is needed to save an infected tree. The time when there is most danger of getting VSD is from field planting to 'ramfication', when the jorquette is formed. Pruning rounds should be carried out regularly. They should never be less than once a month. Every two weeks is much better, especially when seedlings are small. It is recommended that pruning for VSD be carried out until the trees have formed a complete canopy. This is usually at about 3 years of age.