Ministry of Food Production
Extension Training and Information Services Division
FACT SHEET
Coc/TT: Ag Ext 13: 07

HARVESTING, FERMENTATION AND DRYING OF COCOA

WHAT IS HARVESTING?

Harvesting involves the removal of fully mature and ripe cocoa pods from the trees, and opening them to extract the beans (*figure 2*). Harvest pods with sharp cocoa knives or cutlasses. Do not damage the flower cushions (*figure 1*).



Figure1: Flower cushions

WHEN SHOULD COCOA PODS BE HARVESTED?

The harvesting period usually lasts from November to April. Pods take 5-6 months from pod set to become fully mature. The ripening pods change colour. Green pods turn yellow and red pods turn orange.

Harvest only fully mature and ripe pods at least once per month. Harvest ripe pods as early as possible to reduce losses caused by pests and diseases.

EXTRACTION OF COCOA BEANS

Harvest pods and heap them at convenient locations (*figure 2*). Carefully crack them open, so the beans are not damaged (*figure 3*). Extract the beans and discard the "gut" or placenta and broken pieces of pods.



Figure 2: Harvested Pods



Figure 3: Open Pod showing beans

FERMENTATION OF COCOA BEANS

This is the process where the beans are allowed to "sweat". During this process, the flavour of the cocoa beans starts to develop.

"Sweat" Cocoa beans by Box Fermentation

Box Fermentation:-

Allow cocoa beans to ferment ("sweat") in a wooden box. A typical sweat box of about 1.2 m x 1.2 m x 0.9 m (4 ft x 4 ft x 3 ft) will hold just over one tonne (1,000 kg) of wet beans. Design the floor of the box with slats, leaving a space of 5 mm (0.2 inches) between each slat. This space allows air to enter the box and the "sweatings" to drain out (*figure 4*).



Figure 4: Wooden Sweat Box

Fill a sweat box in not more than two days. Do not put diseased beans in the box; they spoil the flavour. Cover the beans in the box with banana leaves, or jute sacks, to keep in the heat. Turn the mass of beans every other day for 6-8 days.

Small quantities of beans can be fermented in styrofoam picnic boxes which can hold about 18 kg (40 lbs) wet beans (*figure 5*). These boxes measuring 35 cm x 35 cm x 29 cm (13.8 in x 13.8 in x 11.4 in) should be adapted for fermentation by making holes in the bottom. Keep the lid on the box, but turn the beans every other day for 6 - 8 days.



Figure 5: Styrofoam Picnic Box For Fermentation

DRYING OF COCOA

After fermentation, dry the cocoa beans to a moisture level of not more than eight percent which is safe for storage. The final development of the flavour of the cocoa beans takes place during the drying phase.



Figure 6: Drying Floor With Sliding Roof

Drying is traditionally done by "sun drying" on a wooden floor (*figure 6*).

In Trinidad, the average drying floor is 18 m x 6 m (59 ft x 19.7 ft) and can hold about 2.25 kg (4960 lb) of dried beans. The normal requirement is a space of 2.8 square metres for 50 kg (approximately 3 sq yd for 110 lb) of beans. Spread out the beans evenly to a depth of about 5 cm (2 in), and then rake with a wooden palette to form the beans into long lines of ridges, with the drying floor exposed between the ridges.

Evenly expose the beans to the sun for proper drying to occur by frequent movements of the beans and ridges.

List of Cocoa Factsheets in this Series:

1. Production of Cocoa - **Coc/TT: Ag Ext 13: 01**
2. Pruning of Cocoa
3. Shade Management in Cocoa Production - **Coc/TT: Ag Ext 13: 03**
4. Rehabilitation of Old Cocoa Fields - **Coc/TT: Ag Ext 13: 04**
5. Black Pod Disease of Cocoa - **Coc/TT: Ag Ext : 13 :05**
6. Witches' Broom Disease of Cocoa - **Coc/TT: Ag Ext 97: 06**
7. Harvesting, Fermentation and Drying of Cocoa - **Coc/TT: Ag Ext 13: 07**
8. Cocoa Seedling Production - **Coc/TT: Ag Ext 98: 08**

"All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted in any form, or by any means reproduced without permission in writing, of the Ministry of Food Production."

Revised by Merle Seedial
Published and Printed by
the Extension Training and Information Services Division
Ministry of Food Production
Trinidad and Tobago
First published September 1987
Revised and Reprinted December 2009, March 2013