

COCONUT RESEARCH INSTITUTE



LEAFLET No. 25.

THE CEYLON COPRA KILN ANALYSIS OF CAUSES OF DETERIORATION OR SPOILAGE OF COPRA

<i>Cause</i>	<i>Effect</i>	<i>Importance</i>
A. Careless Harvesting		
1. Under-ripe nuts (Kalati)	Thin, torn, distorted, corrugated rubbery pieces.	Major
2. Over-ripe nuts	Thin, broken, sometimes discoloured pieces of high oil content	Generally Minor
3. Slipshod collection	Black, rotten coconut meat, owing to "eye-rot"	Generally Minor
B. Careless pre-treatment		
4. Husking and splitting on sand or in a muddy yard, or bagging of cut meat	Adherence of dirt and pieces of husk or fibre	Generally Minor
5. Uncovered heaps of husked nuts exposed to hot sun	Severe cracking causing serious sliming if left overnight	Major

<i>Cause</i>	<i>Effect</i>	<i>Importance</i>
6. Careless splitting	Broken pieces and "smalls"	Minor
7. Delay after splitting before heat applying	Development of gummy slime and dirt adhesion	Major
8. Rain on split nuts	Development of gummy 'slime' discoloration and 'pitting'	Occasional
9. Coconut milk left to dry up in split halves.	Development of gummy slime colour and dirt adhesion	Major

C Careless Manufacture

10. *Over-loading	Production of scorched; "stewed" and slimy copra. Drying irregular.	Major
11. Excessively long delays between fires	Moisture condensation with "pitting" and sliming	Major
12. Use of broken and dirty shells as fuel	Smoky pieces	Minor
13. Use of shells of irregular diameter for chains	Smoky Pieces	Major
14. Use of damp shells, wood, husks or combustible rubbish.	Very smoky pieces	Major
15. Shell lines too close to kiln walls	Case-hardening scorching and distortion of pieces	Major

* Correct Load = $\frac{N}{40}$ per sq. foot of deck

where N-number of nuts per candy.

<i>Cause</i>	<i>Effect</i>	<i>Importance</i>
16. Over-firing (early)	"Case-hardening", and distortion of pieces and irregular drying	Major
17. Over-firing (later)	(a) Superficial scorching (b) Internal discoloration (c) Carbonization with loss of oil	Minor Major Major
18. Shell lines too far apart	Slimy copra mid-way between fires (see 6)	Major
19. Under-drying with subsequent continued neglect to dry	(8 to 18%) Heavy development of superficial moulds (10 to 15%) Decomposition of surface tissue, with penetrating moulds and insects. (over 15%) General decomposition with heavy mould and slime growth	Major Major Serious

D. Faulty Kilns

20. Too open (with heavy wind)	Both scorching and sliming and smoke due to disturbance of fires.	Major
21. Too closed, (inadequate exit for air)	Copra stewed, slimy and over-smoked	Major
22. Inadequate firepit ventilation (with over-loading)	Both scorching and sliming, excessive smoke and irregular drying	Major
23. Damp firepit	Slow drying and smoky copra due to smoky and uncertain fires	Occasional

E. Careless Storage and Transport.

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| 24. Rain or seawater on copra in bags | Heavy mould and insect attack | Major |
| 25. Storage in damp godown | Mould and heavy insect attack | Common |
| 26. Wet and dry copra in contact | Mould and insect attack | Common |

F.

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| 27. Prolonged storage of superior copra | Superficial moulds and surface discoloration through oxidation | Minor |
| 28. Imperfect "meat" development in nuts (defective nuts). | Rubbery and often or discoloured thin ragged copra | Minor |

Appropriate Technology Services
121, POINT-PELLO ROAD
NALLUR, CHENNAI
No.



ADVISORY LEAFLETS ISSUED BY THE C.R.I.

- 1 Seed Selection.
- 2 Nursery Management and Selection of Seedlings.
- 3 Now Issued as Leaflet No. 17.
- 4 Transplantation.
- 5 Utilization of Husks on Coconut Estates.
- 6 Coconut Shell Charcoal.
- 7 Withdrawn.
- 8 Manuring of Young Palms.
- 9 Locally available materials of manurial value.
- 10 Soap Making in the Cold Process.
- 11 Withdrawn.
- 12 Notes on the Manuring of Coconut Palms (now replaced by No. 36)
- 13 The Use of Lime and Salt for Manuring Coconut Palms.
- 14 Withdrawn.
- 15 The Ceylon Copra Kiln.
- 16 Instructions for Soil Conservation Practice in Small Holdings and Highland allotments.
- 17 Cover Crops for Coconuts.
- 18 Planting Coconuts.
- 19 Being Revised.
- 20 How to Make a Barbecue.
- 21 Planting Coconuts on old Rubber lands.
- 22 Manufacture of Coconut Toddy Vinegar by the Generator Process.
- 23 Withdrawn.
- 24 Cattle under Coconuts—Farmyard Manure.
- 25 Analysis of Causes of Deterioration of Spoilage of Copra.
- 26 Withdrawn.
- 27 Copra Storage.
- 28 Control of Illuk.
- 29 Bats, Rats and Porcupines and their control.
- 30 Paradichlorobenzine in the Control of Termites in the planting holes
- 31 Control of Insect Pests of the Coconut Palm.
- 32 Diseases of the Coconut Palm.
- 33 Stem Bleeding in Coconut.
- 34 Coconut Caterpillar.
- 35 Control of Termites.
- 36 Manuring of Adult Coconut Palms.
- 37 Red Weevil and its Control.

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