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1. **Seedling Growth Pattern**—*What is the role of the seed and photosynthesis?*

Foale, M. A.—The role of the seed and photosynthesis in seedling growth up to 17 months of age. *Aust. J. agric. Res.*, 1968, vol. 19(5) 781-789. Graphs. bibl. 9. (Joint Coconut Research Scheme, Yandina, British Solomon Islands).

The growth of coconut seedlings and the changes occurring within the seed were studied over a period of 17 months from the germination of the coconuts.

Removal of the husk prior to germination made possible an estimate of the endosperm content of each seed and also permitted the exact date of germination to be observed. Seedlings were grown with a non limiting supply of water and nutrients; 63 seedlings were harvested on each of 10 occasions to enable a growth analysis to be made.

A high initial relative growth rate, arising through contributions by the endosperm, fell at 4 months to a level which remained roughly constant to 17 months. By 4 months the haustorium has reached its full size, but thereafter the relative contribution from the endosperm over the haustorium was much diminished.

Between 4 and 15 months a gradual change over to full dependence on photosynthesis took place. By 17 months less than 10% of the endosperm remained in the nut.

The rate of leaf production was constant with time, but the leaf area increased almost exponentially. There was some indication of the positive relationship between net assimilation rate and solar radiation. Some conclusions are drawn concerning cultural methods with young coconuts. (Author's summary).

2. **Red Weevil** (*Rhynchophorus ferrugineus*)—*How effective is chemical control?*

Mathen, K.—Insecticidal trials against *Rhynchophorus ferrugineus* (Curculinoidea: Coleoptera), the red weevil of coconut by K. Mathen and C. Kurian. *Indian J. agr. Sci.*, 1967, vol. 37(6) 521-523. Tabs. bibl. 2.

For the control of the grub of the red weevil of coconut palms (*Rhynchophorus ferrugineus*) 3 insecticides were tested in laboratory and field trials in Southern India. Both carbaryl and dimethoate at 1% and isobenzan at 0.5% effected 84 and 96% mortality, respectively after 3 days; the rest of the larvae died subsequently. Of the infested palms, 93% were cured with all 3 insecticides. Carbaryl should be preferred because of its low cost and low mammalian toxicity. (Trop. Abst. 24(7)r. 1446).

3. **Spacing**—*What significant differences in nut yield and copra?*

Whitehead, R. A.—Results of a coconut spacing trial in Jamaica by R. A. Whitehead and R. W. Smith. *Trop. Agriculture*, 1968, vol. 45(2) 127-132. Tabls. graphs. bibl. 9. (Research Department, Coconut Industry Board, Kingston, Jamaica).

Spacing experiment conducted in Jamaica with the Jamaica tall variety on the square system at spacings 22, 25, 30 and 35 ft. has revealed that interval between flowering and nut maturity is unaffected by plant density. Significant difference of the number of set nuts per palm between the closest to the widest. A significant increase per palm at widest compared with the closest; but recorded yield per acre at closest being highest more than compensated the reduction in nut output per palm at closest spacings. Copra yield at widest spacing 35 has revealed a serious reduction but closer spacings at 30, 25 and 22 ft. has not revealed any increase in copra yield per acre.

4. **Oil Storage**—*How to store?*

Imanura, M. and others—Storage of hardened coconut oil. *Yakagaku*, 1967, vol. 16 p. 506.

The deterioration of crude, purified, semi hydrogenated and fully hardened coconut oils during storage at 20, 5, 15 and 30°C during 6 months was studied by determination of acid values, peroxide numbers and carbonyl values and by electron microscopical observation of the crystal growth. For comparison, mixtures of non hardened and hardened coconut oil with hardened beef tallow were also examined. The acid values increased in samples stored at 5 and 15°C, while no change occurred at the other storage temperatures. Peroxide values kept at zero but the carbonyl values increased with the temperature and with less hardening. Admixture of beef tallow caused rise of acid value. The roughness of crystal surface increased at 5 and 15°C in the same order as the rise in acid values. (Food Manufacture vol. 43(7)62).

5. **Shell**—*Digestion for extraction of Furfural.*

Aliwalas, Publio P. and others—Single stage digestion of coconut shells for the extraction of furfural by Publio P. Aliwalas and others *Philippine J. Sci.* 1966, vol. 95 (3) 295-301. Illus. tabs. bibl. 4 (National Institute of Science and Technology, Manila).

Factors affecting the yield of furfural from coconut shells by a single stage digestion process, such as acid catalyst concentration, steam pressure, steam consumption and duration of digestion, were determined.

The pest yield of *furfura* by the said process was obtained when the digestion was carried out for one hour at a saturated 100 pound steam pressure; with a steam consumption rate from 1 to 1.5 kg. per hour per Kg. of coconut shell; and in sulfuric acid concentration levels of from 4 to 7 per cent of the weight of the coconut shells used. With this operating condition the yield ranged from 5.9 to 6.95 per cent which is comparable to that obtained in commercial processes.

6. **Desiccated Coconut**—*How does Salmonella infect?*

Schaffner, C. P. and others—Coconut and salmonella infection by C. P. Schaffner and others. *Appl. Microbiol.*, 1967, vol. 15 pp. 471-475. Bibl. 19.

Raw unprocessed coconut will support the growth of this organism which is particularly resistant to desiccation. Original contamination is not due to carriers or polluted water but to contact with bacteria containing soils, followed by dispersion via infected coconut milk and shells. Pasteurisation of raw coconut meat in a water bath at 80° for 8-10 min. was effective in killing such organisms without injuring the product. This step is now widely used in the coconut industry. (*Jr. Sci. fd. Agr.* 19 (7) ii 35).

Following bibliographical information, though not relevant to coconut will give valuable information to planters who practice inter cropping with coffee and animal husbandry in their estates.

7. **Coffee**—*Two step pruning for renovation.*

New way to renovate coffee trees, *World Farming*, 1968, Vol. 10(9) 28.

Article deals with a method of two step pruning devised at Puerto Rico, whereby reducing the usual yield depressing effect and loss of trees associated with the one step pruning method. In two step pruning method all vertical branches except one are cut off and the remaining vertical removed the following year after bearing

8. **Animal Husbandry**—*Ideas from Animal Scientists from 50 countries.*

Better ideas on livestock production. *World Farming* 1968, Vol. 10(10) 21-23.

Animal Scientists from 50 countries have shared their research findings on better methods on livestock production, and this is a section of their report on cattle, their feeds, supplementary feeds to keep them healthy during various seasons etc. Also deals with Swine and Sheep.

9. Animal Production and health, appearing in *Span*, 1966, Vol. 11(1) special issue is a very useful guide to combat diseases of cattle, poultry and sheep.