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COCONUT RESEARCH INSTITUTE

Leaflet No. 4

TRANSPLANTING COCONUT SEEDLINGS

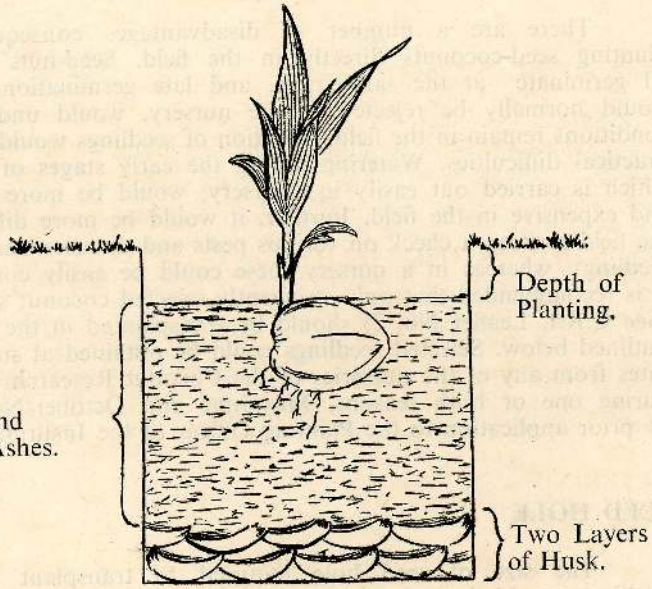
There are a number of disadvantages consequent on planting seed-coconuts directly in the field. Seed-nuts do not all germinate at the same time, and late germinations which would normally be rejected in the nursery, would under such conditions remain in the field. Selection of seedlings would present practical difficulties. Watering during the early stages of growth which is carried out easily in a nursery, would be more difficult and expensive in the field. Further, it would be more difficult in the field to keep a check on various pests and diseases that attack seedlings, whereas in a nursery these could be easily controlled. It is recommended that only stringently selected coconut seedlings (*See* C.R.I. Leaflet No. 2) should be transplanted in the manner outlined below. Selected seedlings could be obtained at subsidised rates from any of the nurseries of the Coconut Research Institute during one or both seasons, May/June and October/November by prior application to the Planting Officer of the Institute.

SEED HOLE

The size of seed hole required to transplant coconut seedlings would depend on the nature of the soil; 3 x 3 x 3 feet in gravelly and harder soils, and 1½ x 1½ x 1 (depth) feet in loamy soils. When the larger type of hole is cut in new clearings it is filled with a mixture of good top soil, 2 lbs. ground dolomite and 1 lb. saphos phosphate. When replanting or supplying vacancies,

20 lbs. dried cow-dung and 10 lbs. wood ashes or kitchen ash should be used besides the above ingredients. (1 lb. Sulphate of Ammonia, **or** 20 lbs. deep litter poultry manure, **or** 10 lbs. goat manure **or** 35 lbs. compost may be used as an alternative to 20 lbs. dried cow-dung. ½ lb. muriate of potash may be used as an alternative to 10 lbs. wood ashes or kitchen ash.)

The seed-hole is filled to about 9 inches below ground level. Two layers of husks may be placed at the bottom of the hole, concave side up, where water logging is not found, (*see* Figure.) Where planting is done in small seed holes, the manure may be spread after planting, round the palm to a distance of 2 feet, and forked in.



DEPTH OF PLANTING

The seedling is planted in the centre of the seed-hole so that the entire nut is buried in soil. The depth of planting, *i.e.* the distance between ground level and the base of shoot of seedling, depends on climatic conditions, soil type and drainage. Under water-logged conditions the depth is normally 6 inches, and in well drained soils it should be at least one foot. In the dry zone, a depth of 1½ feet is not excessive, provided there is no water-logging.

PLANTING DISTANCE

A density of 64 palms per acre is recommended provisionally This density could be obtained on any one of the following systems of lining:

26 x 26 feet square system
28 x 24 feet rectangular system
28 feet equilateral triangular system

TIME OF PLANTING

Planting should be done at the beginning of the monsoon rains.

ATTENTION IN THE FIELD

This consists of watering, weeding, protecting the seedlings from damage by black beetle, termite and from other pests and diseases.

WATERING

Transplanted seedlings should be watered at least three times a week during the first period of dry weather after they have been planted in the field. If possible, watering during drought, should be carried out for the first three years, or until the seedlings have obtained a good root-hold.

WEEDING

A circle of radius four feet round each seedling should be clean weeded and the weeds put back on the weeded circle to form a mulch, three to four times a year. Coconut husks are suitable for mulching. Weeding is best done before weeds flower, and where husks are used as a mulch, they should be arranged close together with the convex side upwards.

PESTS

Cattle and termites constitute the worst pests on young seedlings. Every precaution should be taken to keep off cattle by maintaining good live fences or barbed wire fences at least until such time that the leaves are out of reach of the animals. Termites could be efficiently controlled by the use of insecticides; **immediately before planting seedlings the seed-hole should be treated with a suitable insecticide, if termites are found on the land.** (*See* C.R.I. Leaflet No. 35)*

The young palms should be regularly inspected for pests and diseases and immediate control measures should be taken if any are detected.

MANURING

It is necessary to manure seedlings every six months, or more frequently especially with underplanting (*see* C.R.I. Leaflet No. 8)** Fertilizers at subsidised rates could be purchased direct from the Fertilizer Corporation or through a Co-operative Society by applying to the Commissioner of Coconut and Cocoa Rehabilitation in advance.

***Extract from C.R.I. Leaflet No. 35 on Control of Termites**

A list of insecticide formulations suitable for the protection of transplanted seedlings is given below. Any one of them may be used in the dilution and dosages recommended.

Name of Insecticide	*Dilution*	*Dosage per Seedling*	*Place Available*
Aldrex 2	2 tablespoonful in 5 gals. of water	1 gal. of dilution per seedling	Shell Co. Ltd. P.O. Box 280, Colombo.
Aldrin Miscible oil	1 tablespoonful in 6 gals. of water	1 gal of dilution per seedling	Mackwoods Ltd., P.O. Box 91, Colombo.
Chlordox	1 tablespoonful in 6 gals. of water	1 gal. of dilution per seedling	Harrisons & Crossfield Ltd., 14, Prince Street, Fort, Colombo.
Intox 8	1 tablespoonful in 6 gals. of water	1 gal. of dilution per seedling	A Baur & Co., P.O. Box. 11, Colombo.

The above list is only a guide. Any Aldrin or Chlordane insecticide can be used. The diluted solution is poured into the soil, round the seedling with a watering-can.

****Extract from C.R.I. Leaflet No. 8 on Manuring Young Palms**

A fertilizer mixture with a comparatively higher proportion of nitrogen and phosphoric acid is recommended for application during the first four years after transplantation of seedlings. Rates of fertilizer application are graduated according to the age of palms. A higher dosage is recommended for second plantations since in these the nutrient status of the soil is likely to be poorer than in new clearings.

C.R.I. General Mixture for young palms.

Sulphate of Ammonia (20.6% N) — 4 parts by weight
Saphos Phosphate (27.5% P_2O_5) — 3 parts by weight
Muriate of Potash (60% K_2O) — 2 parts by weight

Rates of application of mixture per palm

Time After Transplanting	*New Clearings*	*Second Plantations*
6 months after planting	½ lb.	1½ lbs.
1 year after planting	½ lbs.	1½ lbs.
1½ years after planting	1 lb.	1½ lbs.
2 years after planting	1 lb.	1½ lbs.
2½ years after planting	1½ lbs.	2 lbs.
3 years after planting	1½ lbs.	2 lbs.
3½ years after planting	2 lbs.	2½ lbs.
4 years after planting	2 lbs.	2½ lbs.
4½ years after planting and beyond, until bearing at 6 monthly intervals	2½ lbs.	3 lbs.

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