PLANTING COCONUT SEEDLINGS

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THIS article is written chiefly for the benefit of the large number of coconut plantation owners and "conductors" in charge of estates including also those persons commonly known as "Watchers," employed by the proprietor to look after the property, to superintend the manuring (if any is done !), the picking of the crops, weeding and other field works and the supplying of vacancies, who are not conversant with the correct methods of planting coconut seedlings. We shall, therefore, confine ourselves mainly to Supplying Vacancies and Underplanting.

The first requisite essential for these operations is *high-quality planting material, i.e.* good-quality seedlings raised in the estate's own nurseries of carefully selected seed-nuts from proved high-yielding "mother palms" or high-grade seedlings obtained from the nurseries of the Planting Division of the Coconut Research Scheme.

The next is *Holing*. For "Supplying Vacancies" the hole is generally cut in the same place as the palm to be replaced originally occupied. For "Under-planting," the holes are usually opened in the middle of the squares formed by four palms, *i.e.* quincunx planting. Where the original lining has been properly done, the lining for these is a comparatively easy matter and there will be plenty of room for the young palm to grow. Where the old palms are not evenly spaced or if there are second generation palms or supplies mingled with them, perfectly straight lining is impossible and it then becomes necessary to cut the holes as near to the required planting distance as possible, irrespective of whether they are in alignment or not.

For purposes of simplicity each operation will be taken in order of priority.

Holing

1. Planting Distance.—There is no generally accepted rule with regard to the spacing of coconut plants, a great deal depends on lay of land, nature of soil and climatic conditions.

Under ordinary conditions a good average distance will be 26′ × 26′. In cross-drained low-lying areas where each palm has to grow on an island as it were, and the roots need room to expand, the spacing may be as wide as 30′ × 30′. While in hot, dry districts with sandy soil like Batticaloa and Puttalam which are subject to long periods of drought the seedlings should be more closely planted in order to obtain from the foliage as much shade as possible for the soil and the spacing may be a little as 24 or even 22 feet apart.

The ordinary method of planting is by *square* spacing but more plants may be obtained per acre and more shade from the foliage if *equilateral triangular* planting is employed, so the latter method is really the better though lining is slightly more difficult.

The following table shows the difference in the number of plants per acre with square and equilateral triangular spacing :—

	Square	*Equilateral Triangular*
22′ × 22′	90	103
23′ × 23′	82	94
24′ × 24′	75	86
25′ × 25′	70	79
26′ × 26′	64	72
28′ × 28′	55	63
30′ × 30′	48	55

Size of Hole.—On light sandy soils and good average gravelly land the dimensions of the hole may be not less than 3′ × 3′ × 3′ ; this can be recommended as a good standard size. On stiff soils they may be 4 feet wide (square) and 3 feet deep. On hard, cabooky or laterite soil they should be not less than 4′ × 4′ × 4′. Care should be taken to remove the excavated earth as far away from the edge of the hole as possible, otherwise it is liable to be washed in again by heavy rain, especially on sloping land.

Where the water-table is high, like some parts of the Puttalam and Batticaloa districts, it may be undesirable to have the hole as much as 3 ft. deep and in such it would certainly not be advisable to place layers of husk at the bottom of the hole, as these would become a sodden mass and create water-logging conditions.

Filling the Hole.—If coconut husks are available it is good practice to spread two layers of husks with their concave or fibre sides up, at the bottom of the hole ; this helps to retain moisture and also provides some potash. Then fill the hole to about 6 or 8 inches of the surface with good *top soil* well mixed with one or two kerosene oil tins full of wood ash—or husk ash, if available.

Surface-planting in such holes is not advisable as if this is done the growing plant is liable to be easily blown over by the wind. The soil in the hole gradually sinks, rather more rapidly if husks have been laid on the bottom as these in the process of decay cause quicker subsidence and so eventually the plant may sink to about 10 inches or more below the top of the hole and, as it grows, more soil must be gradually added until level with the surface of the ground, thus helping the plant to gain a firm anchorage.

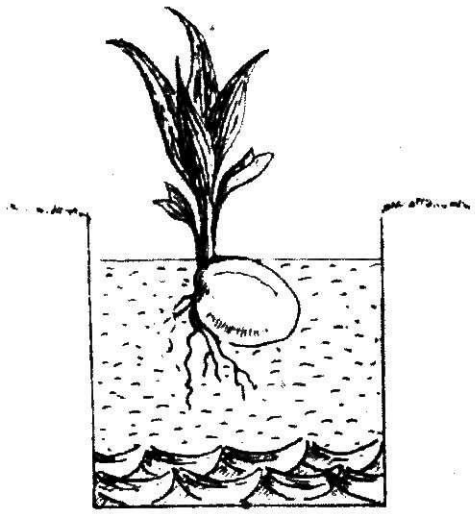
Plant Selection

Selecting the Seedling.—Selection of seedlings to be planted out is perhaps the most important item of all in connection with planting coconuts. In order to be sure of getting a really good plant the seedlings to be planted out should be not less than six months old from first laying down in the nursery as by that time they will be big enough for anyone to be able to tell whether they are likely to turn out good or bad plants. Seedlings can be planted out up to 12 months old or even more but this is not advisable as by that time the plants will have formed a considerable root system and the plant would receive a set-back as most of these roots would have to be pruned off when planting and it would take a long time for new roots to grow.

Only healthy, vigorous seedlings with plentiful dark foliage and straight, thick stems should be selected. All weak, leggy, thin-stemmed, or twisted plants with sparse, yellowish foliage should be rejected.

Planting out.—The planting hole having been correctly filled as described in section 3, the seedling may be planted and care must be exercised in doing so. If it can be avoided the roots should not be broken or cut away, except in the case of already broken ones and those of very big plants.

The plant must be placed in the centre of the hole with the nut buried so that the top of the husk is just covered with earth or only a small portion visible, as illustrated below :—



After-care

Careful attention to the young growing plant from the moment it has been planted is of the utmost importance if it is to become a healthy, good-bearing palm.

The fact that this is often sinfully neglected is only too apparent. One has only to travel along the roads in coconut-growing districts to see, in plantations where under-planting or supplying has recently been carried out, the young plants grazed off by cattle and goats, choked up with weed growth, killed by termites, drowned in mud and water or weakened by pestalozzia and no steps taken to remedy this state of affairs.

If all absentee landlords and small-holders took a real interest in their properties such criminal neglect would never be allowed and so many coconut plantations in this island would not be in the miserable condition they are in at present.

Protection from Cattle, etc.—From the beginning it is essential that the young plants should be protected from cattle, goats, buffaloes and other animals, it is therefore necessary that the area to be under-planted or supplied must be adequately fenced in with barbed wire. In the case of supplies each one of these may have some sort of a fence protection to itself ; husk protections are very effective (provided plenty of space is left between the inner wall and the plant for weeding and manure application) and, if properly constructed,

will last until the leaves of the young palms are out of the reach of cattle. The fencing of underplanted areas and new clearings must be done *before* the seedlings are planted.

Protection from Drought.—During periods of drought and in very dry weather the young plants should be well watered, at least once or twice a week.

A surface mulch of husks spread round the plant will help to retain moisture and prevent the soil from becoming baked by the heat of the sun.

In the absence of husks, a thick mulch of green material (weeds, cover crops, etc.) may be applied with advantage, but *not grass* as this, when dry, attracts white ants.

Protection from Termites.—Termites—more commonly known as " white ants "—can do a tremendous amount of damage to seedlings and a large proportion of deaths is attributable to the ravages of these pests. When any signs of these are noticed a suitable insecticide, such as Para-dichlorobenzine (" PDB ") or Gammexane, should be dibbled in round the plant. " Kainit " is also a good thing to fork in round the young plants to keep away termites.

Protection from Pests and Diseases.—As the young coconut plant is susceptible to attack from various pests and diseases, frequent inspection of every plant is very necessary, and immediate steps must be taken to eradicate the pest or check the disease directly it is discovered.

Plant hygiene can do a great deal to keep the plants healthy; therefore keep the growing seedling free from weeds by having a clean circle of about 3 feet radius round each plant.

Tend your coconut seedling as you would your own child and when it reaches maturity it will repay you and those who come after you by the provision of bountiful crops, thus contributing to the prosperity of your native land.

" Your children's children will thank you ! "