RAISING A COCONUT NURSERY

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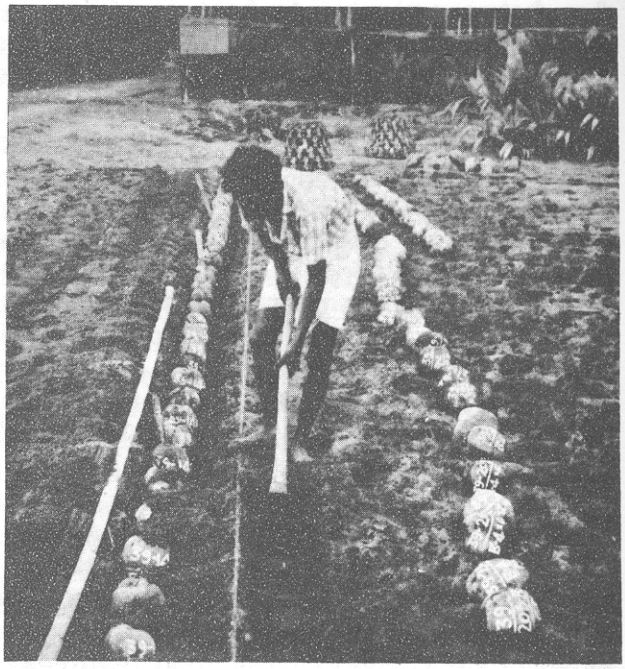
Even though we have different varieties and hybrids in coconut a large majority of seedlings produced in the country are of tall variety. It may take some more time to get the improved planting materials in large numbers. If proper attention is paid in collection of seednuts and their proper management and selection in the nursery we will be able to produce superior tall planting material.

SELECTION OF MOTHER PALMS

Recent studies have shown that 10 per cent of the best palms in a garden can be selected as mother palms. The selected palms should be regular bearers. Under rainfed conditions on the west coast it should give an average annual yield of not less than 80 nuts, the copra content being not less than 150 gm in weight. The annual yield can roughly be estimated on the basis of nuts on the crown from the oldest to the youngest.

When mother palms are to be selected from large plantations of unknown parentage, it is better to select palms after about five years of their reaching the full bearing stage. It should have 30 to 40 fully opened leaves with stout strong petioles and wide leaf base firmly attached to the stem. The base of the leaf should be able to provide adequate support to the bunches in the leaf axil of the upper whorl to avoid buckling of the bunch stalk and shedding of immature nuts. Every leaf axil should have one inflorescence with short, stout and strong bunch stalk with a large number of spikes and one or two female flowers per spike to ensure high set and stability in yield. Long and pendulous bunch stalks have a tendency to buckle or droop down.



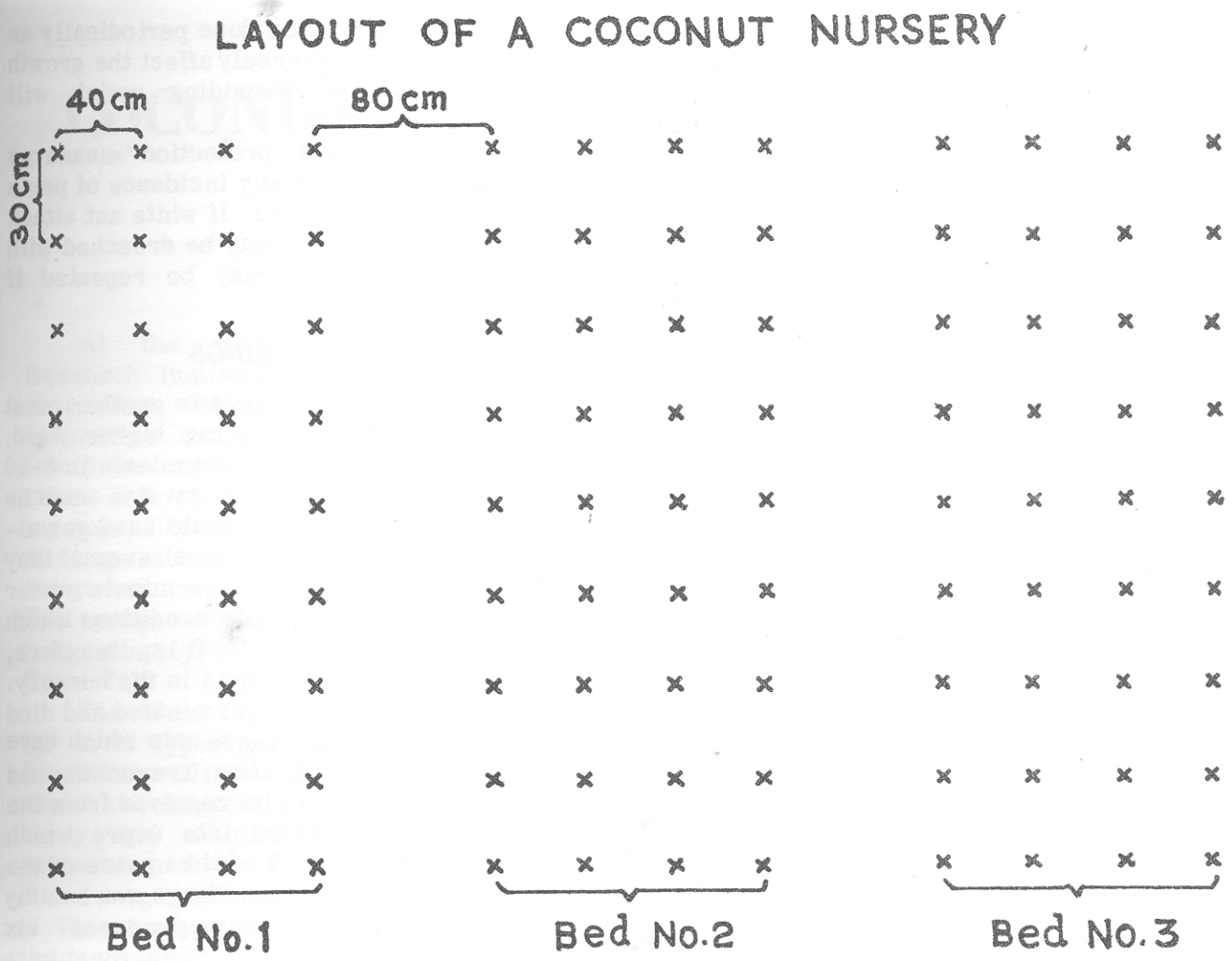
Seed coconuts being sown in the nursery

Palms producing medium sized round and oval shaped nuts with a volume of 2500 ml with the husk are to be selected as seednuts. The nuts when husked should be big with not less than 500 ml in volume.

Palms grown in a favoured location such as close to houses, cattle shed and tank bund are to be avoided even though they satisfy all the above criteria because it is difficult to assess their inherent quality. Palms producing barren nuts and also those prone to immature nutfall are also to be avoided.

COLLECTION OF SEEDNUTS

For each locality the season of harvest may have to be adjusted to suit local conditions. Under the west coast conditions in India the period from February to May is considered to be the best since they can be sown in the nursery during May-June which are considered to be the most favourable months for sowing seednuts. The seednuts must be harvested when they are 12 months-old. The maturity of the nuts can be identified by these characteristics. On tapping the mature nuts a resonant and ringing sound will be heard. Fully mature



nuts are comparatively lighter in weight and free movement of water is felt on shaking. On chipping a portion of the husk, a distinct browning of the inner fibrous tissue will be seen in mature nuts.

The nuts can be harvested in the usual manner by cutting the stalk if the trees are not very tall or the soil is very hard. After harvesting the nuts, those which are not properly developed may be discarded.

The seednuts have to be stored under shade in sand for a minimum period of two months before they are sown in the nursery. Storing of nuts in sand will prevent the drying of nut water. The nuts are arranged with the stalk end up on the floor of a shed or Pandal over a layer of sand and the interspaces also filled with sand. If there are large number of nuts to be stored a maximum of five layers of nuts can be arranged one over the other.

RAISING NURSERY

Well drained light textured soil is to be preferred for raising nursery. To facilitate satisfactory irrigation, the nursery site may be located near a water source with proper drainage facilities and protection against animal tresspass. If permanent protection is not available for the area temporary fencing may be put up using indigenous material available in the locality. Provision of raised beds are necessary in places where the drainage is blocked during heavy rains. Except in littoral sand, treating the soil with chlordane or BHC 5% dust at the rate of 120 kg/ha is necessary against cockchafer beetle and white ant attack.

The exact time of sowing seednuts may vary from tract to tract depending upon the monsoon. Sowing at the commencement of

the monsoon will provide optimum conditions for germination and subsequent growth.

Before sowing the nuts it is necessary to examine them individually and discard those nuts in which the nut water has dried up or kernel has rotted. If the nuts are to be planted in soils prone to the attack of white ants, it is advisable to dip the nuts in a suspension of 50% BHC wettable powder (0.40 kg to 100 litres of water) at the time of sowing.

The nursery beds should be made long and narrow with provision for walking space in between. A spacing of 30 cm (measured from the centre of the nut) from nut to nut in row, 40 cm between rows and 80 cm between beds is optimum. By adopting this spacing 6,000 nuts can be sown in 0.1 ha.

The seednuts are sown in trenches 20-25 cm deep in the nursery bed either vertically or horizontally. Though horizontal method does give a higher germination and more vigorous seedlings in the nursery, there is no difference in the later performance of the seedlings. When seedlings are to be carried over long distance, vertically planted seedlings are easier to handle and can be compactly packed. As the seednuts, which have not germinated even after five months, are removed from the nursery, the higher germination value has no much significance.

The nursery can be raised both in the open and in the coconut plantation. Mulching and shading immediately after the monsoon is found necessary when the nursery is located in the open in sandy soil. Dry coconut leaves can be used for this. If it is raised in a coconut plantation mulching and shading can be provided depending on the intensity of shade available.

Irrigation has to be provided to the nursery depending upon the soil type, rainfall distribution, temperature and humidity. In general, watering every alternate day during summer may be necessary if the nursery is raised in sandy soil with little shade or twice a week if the shade provided is adequate. Irrigation with sprinklers or perfosprays is ideal for coconut nurseries. Small nurseries can be irrigated by hoses or pots.

Weeding has to be done periodically as otherwise it will adversely affect the growth of the seedlings. Providing mulch will reduce weed growth.

Adequate plant protection measures have to be adopted if any incidence of pests and disease is noticed. If white ant attack is noticed, the soil may be drenched with BHC solution. This may be repeated if necessary.

SELECTION OF SEEDLINGS

Selection of seedlings is another most important step in ensuring higher yield. The seednuts begin to germinate in 8-10 weeks after sowing and in five months 85-90% of the seednuts would have germinated. The rest of the nuts even if they germinate will have to germinate under increasingly unfavourable conditions which will result in poor growth. It is, therefore, a waste to keep such nuts in the nursery. A few nuts might have germinated and died during that period. Those nuts which have not germinated even after five months and the dead sprouts may be removed from the nursery and converted into copra which will fetch about 70-75 of the price of the ripe nuts. The good seedlings are healthy in appearance, must have produced six leaves after one year of sowing, must have minimum girth of 10 cm at collar and show early splitting of leaf.

If all these standards of selection are adopted it is possible to get about 60-65 seedlings for every 100 nuts sown.

Generally seedlings are supplied from the nursery in the month of June. A month prior to the supply of seedlings all those seedlings which are not conforming to the selection criteria and dead sprouts must be removed to avoid bias in the selection of seedlings.

The seedlings should be removed when actually required for planting in the field. The seedlings should be pulled out by force, but the roots should be neatly cut and the seedlings with the nuts raised gently with spade. The seedlings pulled out from the nursery should be transplanted as early as possible. Under favourable conditions they are found to establish even after four weeks of their removal from the nursery.