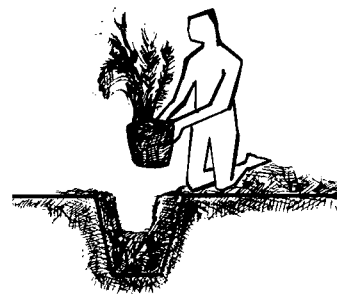


A Tree Grows in Malaya

The Cultivation of the Oil Palm

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History and Introduction

THE OIL PALM, cultivated in certain parts of Malaya, originally came from Africa. The palm did not grow wild in Malaya as it did in Africa. Around 1875, the palm was introduced into Malaya as an ornamental palm. It was not until 1917, when world oil consumption increased at an alarming rate, that the palm became a commercial plant, cultivated for gain and not for ornament. Today, in Malaya, there are over 200,000 acres of oil palms. The palm is of the same family as the coconut palm, but with the peculiarity of an uneven trunk due to the leaf bases remaining on the trunk. Per acre, the oil palm produces more oil than any other oil-bearing plant.

Oil is obtained from bunches of fruits which grow in the leaf axils. An average mature bunch weighs 20-40 lb with occasional very large bunches weighing up to 100 lb. Each bunch has approx 500 fruits. The fruit is usually deep violet in color when young. When it ripens, the color changes to a deep orange-red. The oil is also deep orange-red in color. Consequently, one often hears the palm oil being referred to as "red palm oil." The oil is expressed from the fleshy, fibrous pulp of the fruit; this pulp surrounds a hard-shelled nut enclosing a kernel. The commercial products from these palms produced in Malaya are the fruit oil or "red palm oil," and the kernel. These are extracted in the factory on the plantation and are sold for export.

A mature palm may yield up to 300 lb of bunches annually which represents 51 lb of palm oil and 8 lb of dried kernel. The palms are planted 55 palms to the acre; so that the yield/acre would be 2,805 lb of palm oil and 440 lb of dried kernel.

Varieties

There are four known varieties (Fig. 1) of the palm fruit, which are:

1. Very thick shell type
2. Thick shell type
3. Thin shell type
4. No shell type

There are two varieties of palms, which are:

1. The tall type of palms
2. The dumpy or low type of palms

The type prevalently grown in Malaya is the tall palm with thick shell type fruit although the tendency now is toward the tall palm with the thin shell type fruit.

Soils and Drainage

The following soils are suitable for oil palms, provided that there is adequate drainage:

1. Upland loams with no stony layer or compressed gravel within 4 ft of the surface. Steep slopes should not be planted.
2. Coastal and river alluvial loams and clay loams overlying a friable clay sub-soil.
3. Shallow peat soils (not more than 3 ft deep) overlying a friable clay.
4. Muck soils where shallow peat has shrunk and become mixed with a clay sub-soil.

Free drainage and a not-too-low water table are the main drainage requirements that favor the growth of oil palms. The depth and number of drains required depend largely on the type of soil on which the palms are grown. For example, coastal alluvial soils, shallow peats and muck soils will require many more and deeper drains than the lighter upland soils.

Nursery Practice

Oil palms are grown from seeds which consist of the nuts of the fruits after the outer fleshy pulp has been removed. These seeds are germinated in sand beds and transplanted after germination into nurseries where seedlings are reared until they are strong enough to grow in the open field.

The sand beds (Fig. 2) are composed of washed sand about 1 ft deep and are fully exposed to the sun. These sand beds should be situated near the house so that adequate care, protection, and water can be given to them. Well-washed fine river sand is most suitable. If there is risk of flooding, the sand beds should be raised by surrounding them with planks of wood. Otherwise, the soil can be dug to a depth of 1 ft and filled with sand. The beds may

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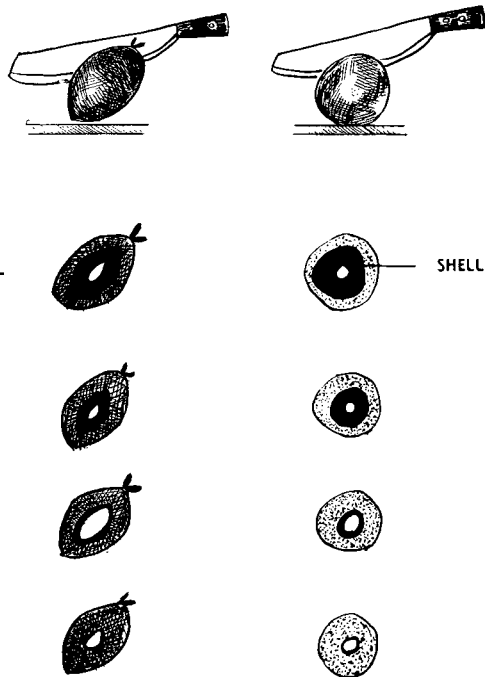


Fig. 1. Fruit varieties.

The Oil Palm . .

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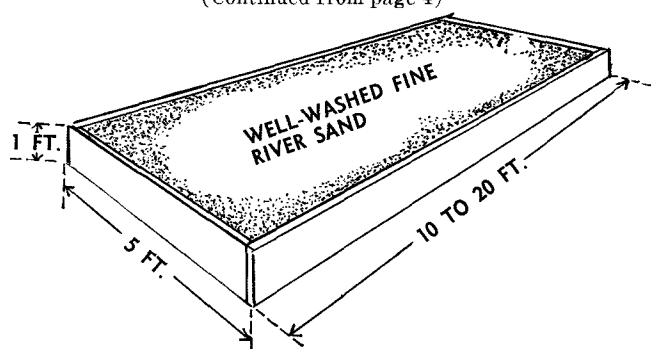


FIG. 2. Sand bed with wooden plank sides.

be of any length but should not be more than 5 ft wide for convenience of removal later. After the sand beds have been prepared, seeds from freshly harvested ripe fruits, which have had the fleshy, fibrous pulp removed in water, should be obtained for planting.

When the pulp and fibers have been removed, three small holes will be found at one end of the seed. From one of these holes the seedling will emerge. The seeds are planted approx 3 in. apart and about 1 in. deep (Figure 3). The end containing the holes should face downward. The beds are exposed to the full sun and should be heavily watered at least twice a day, otherwise poor germination will result due to dry-out.

In about eight weeks, the first leaf of early germinating seeds appears in the sand beds. Seeds do not germinate at the same time but continue to germinate for many weeks. Every two weeks, over a period of about two months, those seedlings with two leaves are lifted and transferred to the nursery. Great care is necessary; the young root must not be damaged and the seed must be kept firmly attached to the seedling. Another important factor at this stage is that the surrounding seedling must not be disturbed during the lifting process.

The nursery should be started shortly after the seeds have been sown in the sand beds. The best plot for the nursery is a flat piece of land in the vicinity of a good water supply and of the heaviest soil, preferably a heavy clay. Heavy clay is preferred because at the time of transplanting the plants into the open field, the wet, sticky clay soil will cling to and protect the roots of the plants. It is important to prevent water-logging where a heavy clay soil has been selected. If available, well-rotted cattle manure should be applied and worked into the soil together with about 8 oz of Christmas Island rock phosphate for every 4 sq yd of nursery. Fruit bunch or lallang mulching should be laid down after the plants have been planted in the nursery.

Seedlings are spaced at least 3 ft x 3 ft triangular. A hole about 6 in deep is made with a sharp-pointed stick. The seedling is placed in the hole with the adhering seed just below the surface. The tip of the rootlet should touch the bottom of the hole and it may be necessary to add a little fine, loose earth to achieve this. The rootlet should never be bent; the hole may be made deeper if necessary. The soil is then pressed well round the root so that the young seedling is firm. If the weather is dry immediately after transplanting, the seedlings should be carefully watered for several days. After 12-18 months in the nursery, the plants are transplanted to the open field. This trans-

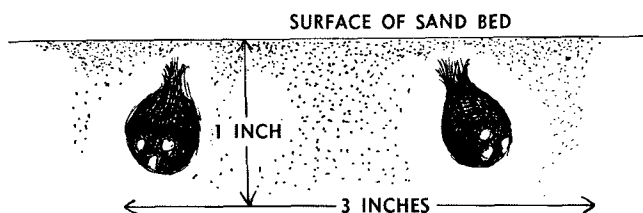


FIG. 3. Position of seeds in sand bed.

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