PLANTING COCONUTS ON OLD RUBBER LANDS

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RUBBER lands which have become uneconomic due to old age or neglect or which do not give an adequate yield of rubber, due to unfavourable conditions, can be successfully replanted with coconuts, if the soil and climatic conditions are suitable for this crop. Several estates on the hilly uplands between Kurunegala and Matale have recently been replanted with coconuts with very promising results.

The required conditions are :—

(1) The soil must be at least of average fertility and not liable to water-logging.

(2) The rainfall must be between 50 and 80 inches and well distributed.

(3) The elevation must be below 1,500 feet. Above this, yields are reduced and nuts are small.

(4) The land should not be too steep or rocky. There should be no impermeable hard pan of clay, rock or conglomerate close to the surface.

(5) The exhausted soil must be restored with fertilisers.

There are two methods of replanting : (*a*) underplanting the old stand of rubber with coconuts, and (*b*) felling the rubber completely before planting the coconuts. The former method has several disadvantages :—

(*a*) **Shade.**—Under the heavy shade of standing rubber, coconut seedlings grow up pale and "leggy" ; they lack vigour and their fruiting will be considerably retarded.

(*b*) **Injury to Plants.**—The coconut seedlings are liable to be damaged by branches which rot and fall off and later, when the rubber is felled, the damage to the seedlings can be very severe unless costly and elaborate precautions are taken.

(*c*) **Diseases.**—There are two plant diseases, common to both coconuts and rubber, viz., *Phytophthora palmivora* and *Fomes lignosus*. If they are prevalent in the standing rubber, they are likely to infect the coconut seedlings.

When the land is cleared before replanting with coconuts, the timber and stumps must both be completely removed ; it is easier therefore to cut round the roots and either push over or pull down the old stand without felling. In hilly land, it is possible to cut the roots of a number of trees, so that by starting at the top of the hill, several trees can be pushed over at once. The use of elephants can be considered if they are available.

(*d*) **Pests.**—When rubber is pulled down before replanting with coconuts, extreme care must be taken that there are no breeding grounds left for the rhinoceros beetle *Oryctes rhinoceros* which is very destructive to coconuts and which in turn provides a hole for the red weevil, *Rhyncopherous ferrugineus* in which to lay its eggs. This pest will kill the young plants if undetected in the grub

stage. Damp and rotting wood buried under vegetation or soil, or any rubber stumps left in the ground provide fertile breeding grounds for the beetle grubs and dead and decaying woody matter will produce an army of termites. Termites are likely to attack the coconut seedlings, they feed on portions of the husk and may then injure the growing roots.

For the treatment of individual seedlings attacked by termites, paradichloro-benzene (P.D.B.) is recommended (Leaflet No. 2). The best defence against termites is to clear the land of any rotting timber or other undercomposed woody matter and to sprinkle around every seedling a quarter ounce of P.D.B. mixed with 8 ozs. of sand in a shallow furrow 6 to 9 inches from its base and to cover up the furrow with soil. All termite mounds should be levelled and treated with petrol.

Beetle catchers must always be employed on young plantations. They should make a daily round, armed with a steel spear to kill and withdraw all beetles which may be discovered burrowing into the young palms. The wounds, should be lightly dressed with light tar or Mason's mixture, after the holes have been stopped up with wads of fibre (Leaflet No. 4). It should be noted that the fat grubs of the coconut beetle are greatly relished by poultry and this should encourage the labour force to collect them. A single stump left in the ground may yiled as many as 25 grubs, which are to be found in the rotting damp tissue, just below ground level.

Thus to obtain the best results the land should be completely cleared of rubber logs and rubber stumps. Rubber makes very good fuel and the timber can be cut into logs and sold as firewood. One estate made Rs. 13,000 from 232 acres of old rubber in a single year. The brushwood should all be burnt because as previously stated no woody matter must be left behind. The resulting ash which contains 12 per cent. Potash and 7 per cent. Phosphoric acid, should be used in the preparation of planting holes. In order to maintain the organic matter in the soil a green manure should be planted (Leaflet No. 7) and regularly harrowed or slashed.

The cleared land should then be lined for planting at 26 feet distances. On steeper lands the lines may follow the contour, so that water conservation trenches can be established. Elsewhere the planting should be either square or triangular, preferably the latter as this gives more palms to the acre, makes better use of the land and keeps the soil cool and moist. (See C.C.Q., 1950, Vol. 2, page 29 and 1951, Vol. 1, page 21).

Holing is the next operation. Planting holes of the required dimensions must be prepared and filled as described in Leaflet No. 18, and after they have been planted, these seedlings must be cared for as described in Leaflet No. 12, so that the fertility of the exhausted soil is adequately restored.

With proper care, the plants should begin to flower and bear fruit in seven years, but it is not until the tenth year that an economic crop can be expected.

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