

PLOUGHING AND HARROWING

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THE opinion that ploughing causes root damage and that this affects the growth of the palms is exaggerated.

Excessive ploughing is the real cause of any serious set-back which might occur; ploughing may either be too frequent or too deep or at the wrong time, particularly in dry areas.



MECHANICAL CULTIVATION OF COCONUTS

The Director with Mr. J. A. Cadelis, Field Officer, inspecting our new tractor.

A tractor-drawn plough or disc-harrow can work six times as fast as a pair of buffaloes. Thus when rain is irregular and uncertain, or the monsoon is only of short duration, more ground can be covered while the ground is still soft and moist.

It is obvious that even careful ploughing must cause a certain amount of root damage but providing the damage is not extensive, crops are not reduced nor is growth retarded. On the contrary if only a few roots are damaged they can send out numerous feeding rootlets which may even result in a greater uptake of plant nutrients from the soil.

As it is possible for ploughing to cause root damage, it may well be asked "Why plough at all?" The purpose of ploughing is:—

- (1) To break up the hard crust of the soil, to allow rain-water and air to penetrate down into the sub-soil so that the roots may develop and the palms will benefit thereby.
- (2) To turn weeds and grasses into the soil so as to improve its texture and its moisture-holding capacity. Such vegetation decays and liberates plant food which feeds the palms.
- (3) To encourage the roots of the palm to develop downwards into the sub-soil and so safeguard the palms against the worst effects of drought.

Good practice is to plough once in two years. It is even better to plough alternate rows in alternate years so as not to damage all the surface roots in the same year. This is particularly important in the case of long-neglected estates.

Ploughing should not be too deep; generally six inches to eight inches is sufficient, though it is possible to go deeper where there is little surface rooting. The plough should not go any closer than six feet of the base of any palm, as otherwise it would disturb the manure circle.

In order to keep soil wash to a minimum, ploughing should never be up and down but always across the slope, that is following the contour. It is necessary also to have a proper system of catch-water drains.

Ploughing should be done either before or after manuring; if a full dose is applied once in every two years, the entire area should be ploughed; if only a half dose is applied, only alternate rows corresponding to the half circles need be ploughed.

Ploughing should not be done near the end of the rainy season because ill-effects may result, if the succeeding drought is unexpectedly early. This is where the mechanical or tractor plough can prove so useful, because it works six times as fast as an ordinary bullock plough. Thus when rain is irregular or uncertain, or the monsoon is only of short duration, much more ground can be covered while the ground is still soft and moist. In this way the whole of the estate can always be kept properly cultivated.

Harrowing or surface cultivation is done to keep down weeds which would compete with the palms for moisture during the dry season, and it should be carried out at the beginning of a dry spell. Frequency of harrowing depends on the amount of weed growth and if there are no cattle, it may be necessary to harrow three times a year.