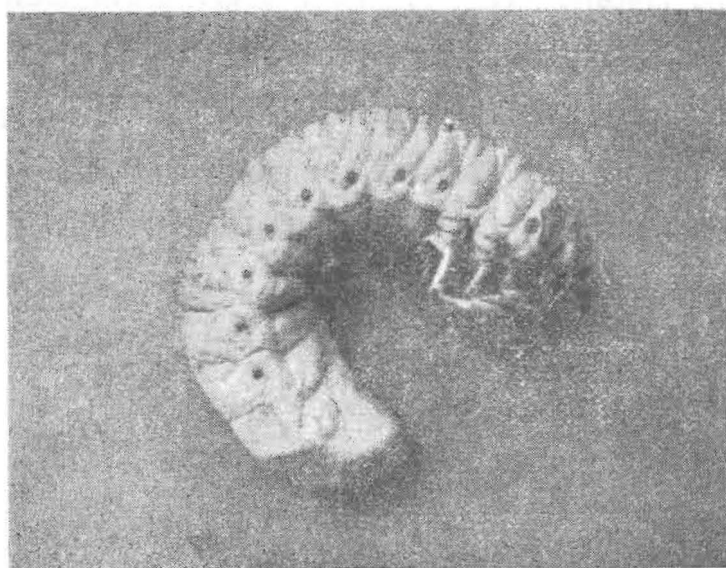


WHITE GRUB MANAGEMENT IN COCONUT AND ARECANUT GARDENS



**CENTRAL PLANTATION CROPS RESEARCH INSTITUTE
(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)**

Kasaragod - 670 124, Kerala, India

WHITE GRUB MANAGEMENT IN COCONUT AND ARECANUT GARDENS

White grubs or root grubs are pests of coconut and arecanut in some localised tracts of Kerala and Karnataka. The common species involved are *Leucopholis coneophora* and *L. burmeisteri* on coconut and arecanut, respectively. The grubs are brown headed, soft, white bodied ones inhabiting the soil. Adult cockchafers emerge during May-June on receipt of pre-monsoon showers. Beetles lay eggs in soil at different depths. Eggs hatch in about three weeks. The newly emerged grubs feed on the roots of small plants and after a few days they divert their attention to tender roots of coconut/arecanut. The life cycle is completed in about an year. Grubs are seen in soil at different depths depending on the soil moisture/water table of the garden and availability of food.

Damage

Grubs feed on the apical soft region of the coconut roots. Infestation affects the process of absorption of

nutrients adversely. Infested palms show yellowing of leaves and immature nut fall. Infestation in a garden continuously for a few years results in stunting of growth of young palms. In nurseries, they cause drying up of leaves and gradual death of seedlings.

In the case of arecanut seedlings, the feeding on roots results in dropping and drying of leaves. Affected seedlings come off easily since the entire root system is usually eaten away. Sometimes the grubs even tunnel into the bole.

In grown up arecanut palms the grubs first feed on tender roots and then the older ones. In severe cases, the grubs feed even on the bole. As a result the stem tapers, leaves turn yellow and droop and the fruits drop. The whole palm may topple due to severe loss of the root system.

Control

An integration of different methods can only bring about effective reduction in pest population.

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Adults of *L. coneophora* do not feed on any plant and as such, tackling them on host plants is not feasible. Collection and destruction of beetles during the period of their mass emergence from soil (June-July) is an effective management practice for drastically reducing the population.

For Coconut application of BHC 5 per cent dust at 100 kg/ha in June and once again in September or heptachlor 5 per cent dust at 28 kg/ha in June reduces the grub population. Time and method of insecticide application are very important in achieving the desired results. Grubs can be killed by insecticides only when they are in the early stage. As the grubs are seen deep in the soil the insecticide has to be applied to that depth and mixed well with the soil. The grubs are distributed in the garden. Hence, the insecticide has to be applied in the entire garden.

Exposure of grubs by deep ploughing or digging to predation by birds is an effective cultural operation to reduce pest population.

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In the case of arecanut, as the grubs prefer moist soil, proper drainage should be provided. Application of systemic insecticide granules like dimethoate 5 G at 30 kg/ha, or soil amendments like *Pongamia* oil cake at 2,000 kg/ha, or contact insecticides like chlordane 5 per cent dust at 90 kg/ha or BHC 5 per cent dust at 120 kg/ha or quinalphos 1.5 per cent dust at 90 kg/ha in May before the onset of monsoon and again in September-October, after the cessation of monsoon, would control the pest. The treatment has to be given for 2-3 years continuously for achieving a satisfactory control of pest in a severely affected garden.

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Published by: M. K. Nair
Director, CPCRI,
Kasaragod-670 124, Kerala

*Text prepared
and edited by:* V. A. Abraham
Mariamma Daniel
August 1989

Printed at : Sharada Press, Mangalore.