

CHEMICAL CONTROL OF THE ARECANUT WHITE GRUB *LEUCOPHOLIS BURMEISTERI* BRENSKE

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The white grub is a serious pest of arecanut in many parts of South Kanara district, Karnataka State. The typical symptoms of damage shown by the affected palms are yellowing of leaves, reduction in the size of crown and reduced yields. The damage is caused by the feeding of the roots by the grubs of *Leucopholis burmeisteri*. In severe cases, the trees succumb to the attack. The work done so far on this pest (Ann. Rep. for 1960, 1961, 1964, 1969; and Rajamani & Nambiar 1970) has related to studying the life history of this pest and developing control measures with contact soil insecticides (both in dust formulations and emulsifiable concentrates) only. The present study was made to assess the comparative effectiveness of five granular and one dust formulation (Table 1) in controlling this pest.

Materials and methods: A field experiment was laid out in November, 1972 in a heavily infested garden in Polya, Puttur taluk, South Kanara district. The trees showed all the typical symptoms of severe root grub infestation.

TABLE 1—Insecticides used with dosage

S. No.	Insecticides	Classification	Dosage
1.	Phorate (Thimet 10%-Cyanamid)	Granules	15 kg/ha
2.	Thiodemeton (Solvirex 5%-Sandoz)	„	30 kg/ha
3.	Thiodemeton (Disyston 5%-Bayer)	„	30 kg/ha
4.	Dimethoate (Rogor 5%-Rallis)	„	30 kg/ha
5.	Carbofuran (Furadan 3%-Rallis)	„	45 kg/ha
6.	Chlordane (Intox-8, 5%-Sandoz)	Dust	30 kg/ha
7.	Control	..	No treatment

The experiment was laid out in Randomised Block Design with four replications. The plot size was 50 sq. m. per treatment.

Before the treatments were given the population of eggs, grubs, pupae and adult beetles were determined using three samples of soil of 50 cm³ volume drawn 30 cm away from the base of the palms. The first and second doses of insecticides were applied to the plots in November 1972 and May 1973. Monthly counts were taken on the number of grubs. The data were statistically analysed.

Results and discussion: Analysis showed that all the treatments were highly significant (Table 2).

TABLE 2—Effect of insecticides on the number of grubs

Insecticides	Mean number of grubs per treatment
Phorate (Thimet)	21.0
Thiodemeton (Solvirex)	35.0
Thiodemeton (Disyston)	26.0
Dimethoate (Rogor)	13.8
Carbofuran (Furadan)	31.8
Chlordane (Intox 8)	28.3
Control	82.3
SE per plot 11.72	Overall mean 33.97
SE per treatment mean 5.86	C.V% 34.50
	C.D.P. (0.05%) 17.4

Dimethoate (Rogor)	Phorate (Thimet)	Thiodemeton (Disyston)	Chlordane (Intox 8)	Carbofuran (Furadan)	Thiodemeton (Solvirex)	Control
13.8	21.0	26.0	28.3	31.8	35.0	82.0

The study showed that plots treated with Rogor 5% granules had the least number of grubs (13.8) at the end of one year followed by Thimet (21.0), Disyston (26.0), Chlordane (28.3), Furadan (31.8) and Solvirex (35.0).

Conclusion: Dimethoate (Rogor 5% granules @ 30 kg/ha) gave good control of the white grubs *L. burmeisteri*

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