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EFFECT OF PRE-HARVEST APPLICATION OF INSECTICIDES ON INSECT INFESTATION IN STORED PADDY

Paddy in storage is subject to damage by a variety of pests among which the grainmoth *Sitotroga cerealella* O., the rice weevil *Sitophilus oryzae* L. and the lesser grain borer *Rhizopertha dominica* B. are of major importance in Kerala. With a view to determine the effect of pre-harvest spraying of crop with insecticides on insect infestation in stored paddy, an experiment was laid out using the insecticides detailed in Table 1. The different insecticide sprays were applied on paddy crop plots of size one cent each, selected at random in a main field, two days before the harvest. Two litres of spray fluid, were used per plot. Grains from each plot were processed separately and lots weighing 500 gm of grains from each plot were taken in small gunny bags and exposed to natural infestation in the godown which had a stock of paddy grains heavily infested with the different pests. Untreated lots of grains similarly packed served as control. Each treatment and control were replicated thrice.

Table 1

Pest damage to paddy grains of plots treated with different insecticides
2 days prior to harvest, stored for 3 months

Insecticide and concentrations		No. of grains damaged out of 500 grains			
		R I	R II	R III	Mean
DDT	0.2%	2.5	16.5	11.5	10.16
Parathion	0.05%	14.5	13.5	18.5	15.50
Malathion	0.2%	21.0	18.5	18.5	19.33
Sevin	0.2%	7.5	14.0	5.0	8.83
Thiodan	0.05%	11.5	5.0	13.5	10.00
Sumithion	0.15%	5.5	7.5	3.5	5.50
Control		24.0	230	21.0	22.66

F. Test: Significant

C. D. at 5% level 6.848

Based on their effectiveness the insecticides can be ranked as follows:-

T6 T4 T5 T1 T2 T3 T7

Results were assessed 3 months after exposure of the grains under the different treatments to pest infestations in the godown by counting the number of grains damaged in 500 grains in each replication.

Results are presented in Table 1. Analysis of variance of the data shows that all the insecticidal treatments except malathion were significantly effective at 5% level in preventing insect damage in stored paddy. Among the treatments sumithion was found to be best, followed in the descending order of effectiveness by sevin, thiodan, DDT, parathion and malathion.

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