

CHEMICAL CONTROL OF THRIPS *STENCHAETOTHRIPS BIFORMIS* BAGNALL USING SYNTHETIC PYRETHROIDS IN RICE NURSERY

Severe outbreaks of rice thrips *Stenchaetothrips biformis* (Bagnall) in the nursery and in the main field were noted in several rice growing tracts of Kerala. Barwal and Rao (1983) found carbaryl, endosulfan, chlorpyrifos, malathion, phosalone and quinalphos all at 0.05% concentration effective against the pest. Monocrotophos (0.04%) and Phosphamidon (0.1%) were found better than methyl demeton (0.025%), chlorpyrifos (0.02%) and BHC dust (2.5 kg ai/ha) by Chakkaravarthy *et al.* (1982).

The relative efficacy of the synthetic pyrethroids and some selected organophosphates in controlling the pest was assessed in a field experiment at the College of Agriculture, Vellayani. The recommended field doses and one lower dose of which were included in the treatments. There were 11 treatments including control (Table 1).

The experiment was laid out in nursery where Ptb 10 seedlings were raised. Each seed bed of size 10 x 2 m served as a replicate and there were three replications for each treatment. The insecticides were sprayed using a knapsack sprayer ensuring thorough coverage of the seedlings. Screens of 1.5 m height were used to prevent interplot drift of the pesticides. Pre-treatment counts were taken using a wet circular stainless steel disc of size 25 cm diameter. The total number of thrips trapped per 10 sweeps from each replication was counted. Post treatment counts were taken at 48 h after spraying. The percentage mortality was calculated and the results were statistically analysed.

As seen from the table, all the insecticides at the higher doses were very effective in controlling the pest, giving 90 to 99 per cent kill of the pest in 48 h, while there was 12.05 per cent mortality in control during the period. There was no significant difference among the mortalities caused by the above treatments. BPMC and flucythrinate gave above 90 per cent mortality at the lower doses of the pesticides also. Though the mortality in lower doses of the remaining pesticides was less except in dichlorvos 0.025% the level of kill was sufficient to give effective control of the pest in the field, the mortalities in 48 h being 85 per cent or more. Thus the results indicated the desirability of reducing the dosage of pesticides used for the control of thrips in rice nurseries. Deltamethrin 0.0015%, BPMC 0.025%, Flucythrinate 0.005%, Cypermethrin 0.005%, Fenvalerate 0.0125%, Chlorpyrifos 0.025%, Monocrotophos 0.025%, Dimethoate 0.025% and Quinalphos 0.025% may be recommended for the control of thrips incidence on rice.

Table 1

Effect of two doses of insecticides on the population of thrips
Stenchaetothrips biformis (Bagnall) in rice nursery

Insecticide	Formulation used	Per cent concentration	Mean mortality % at 48 h after treatment
1	2	3	4
Deltamethrin	Decis 2.8 EC	0.003	98.94 (9.95)
		0.0015	88.34 (9.40)
BPMC	Bipvin 50 EC	0.05	88.78 (9.94)
		0.025	90.63 (9.52)
Flucythrinate	Pay off 10 EC	0.01	98.04 (9.90)
		0.005	90.86 (9.53)
Cypermethrin	Ripcord 10 EC	0.01	97.57 (9.88)
		0.005	88.62 (9.41)
Fenvalerate	Sumicidin 20 EC	0.025	97.49 (9.87)
		0.0125	87.40 (9.35)
Chlorpyrifos	Coroban 20 EC	0.05	96.94 (9.85)
		0.025	84.51 (9.19)
Monocrotophos	Nuvacron 40 EC	0.05	96.47 (9.82)
		0.025	87.09 (9.33)
Dimethoate	Rogor 30 EC	0.05	95.28 (9.76)
		0.025	85.75 (9.26)
Quinalphos	Ekalux 25 EC	0.05	94.17 (9.70)
		0.025	85.05 (9.22)
Dichlorvos	Nuvan 100 EC	0.05	93.99 (9.69)
		0.025	76.11 (8.72)
Control			12.95 (3.60)
CD (0.05)			(0.25)

Values given in parenthesis are transformed (angles)

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