

Control of Phyllody of Sesamum (*Sesamum orientale* L.)

Sesamum suffers from a number of diseases of which phyllody is the most important one. It is transmitted in the field by the insect vector, *Orosius albi-cinctus* (Sahambi, 1958; Vasudeva and Sahambi, 1955, 1957). For the control of insect vector, various insecticides have been recommended (Sahambi, 1958; Tandon and Banerjee, 1968). The present studies were undertaken to control the insect vector and thus to reduce disease incidence.

The experiment was laid out at the Experimental Research Station, Block 'E' of this institute during 1972-73, 1973-74 and 1974-75. Sesamum variety-6/53 which is highly susceptible to phyllody was sown in plots of 6.2×4 m size. Randomized block design with four replications was followed. One row of Bajra (*Pennisetum typhoides*) was planted as border row between the treatments in order to check the movement of vector from one plot to another. The crop was planted

TABLE 1. Average percentage of infection of phyllody of sesamum

Treatments	Average percentage infection			Mean	Mean when transformed back*
	1972—'73	1973—'74	1974—'75		
Thimet + Metasystox	6.46	5.60	5.15	5.74	1.0
Thimet + Endrin	10.22	9.94	7.68	9.29	2.6
Thimet + Imidan 50 W	10.60	10.76	10.88	10.75	3.5
Thimet	14.09	12.85	15.95	14.29	6.1
Metasystox	15.51	12.10	15.80	14.47	6.3
Endrin	16.08	13.51	16.81	15.47	7.1
Imidan 50 W	18.92	15.62	18.76	17.77	9.3
Control	22.91	18.20	23.24	21.32	13.2
S. E. for treatment	0.43	0.23	0.66
C. D. at 5%	1.26	0.69	1.94
S. E. for treatment (pooled)	0.77
C. D. at 5% " " " "	2.33

* Angle = $1 \sqrt{\text{percentage of infection}}$
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in the first week of July in all the years of experimentation and spraying was started in the third week of July and 5 sprays were given subsequently at weekly intervals. Thimet granules (10 G) were applied to the soil at the time of sowing and the application was repeated after 45 days of sowing. Four insecticides were used separately and in combination with Thimet. The following insecticides were used: (1) Imidan 50 W. (0, O-dimethyl S-phthalimido-methyl phosphorodithioate) - 0.03 per cent, (2) Endrin (1, 2, 3, 4, 10, 10-hexachloro-6, 7-epoxy-1, 4, 4a, 5, 6, 7, 8, 8a, octahydro-1, 4-endo-endo-5, 8-dimethanonaphthalene)-0.03 per cent (3) Metasytox (25 per cent demeton-O-methyl sulphoxide-O, O-dimethyl S-2 (Sulphenyl) ethyl thiophosphate)-0.03 per cent and (4) Thimet 10 G (0, O-diethyl S-[(ethylthio) methyl] phosphorodithioate)-10 kg / ha.

Average percentage of phyllody of sesamum was assessed and the results are presented in Table 1.

It was evident from the combined analysis that the disease was reduced significantly by all the insecticides. Thimet+Metasystox was found to be the most effective in preventing the spread of disease. Thimet+Endrin and Thimet+Imidan 50 W did not differ significantly among themselves. The differences among Thimet, Metasystox

and Endrin were also non-significant. However, Imidan 50 W was found to be inferior to all the chemicals tested. This indicates that 10 kg / ha of Thimet 10 G combined with Metasystox sprays may be used for the control of disease.

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