

# A note on the Control of Stemfly *Ophiomyia Phaseoli* Coq. on Cowpea *Vigna unguiculata* (L.)

Cowpea *Vigna unguiculata* which is grown both for vegetable and grain purposes in Tamil Nadu is a good source of protein. Among the various pests that infest this crop, the stemfly *Ophiomyia phaseoli* is an important one in the early stages of crop growth. The adult flies lay their eggs on the tender stem of young plants. The maggots that hatch out, mine the leaf and stem and feed on the inner contents. The affected plants succumb to the injury, wilt and die, thus resulting in the reduction in plant population and consequent loss in yield.

A field trial was conducted in F. No. 3 of Millet Breeding Station with CO 3 cowpea in plots of 5 x 3 m to evaluate the efficacy of soil application of aldicarb (Temik 10G), phorate (Thimet 10G), and carbofuran (Furadon 3G) along with seed treatment of

carbofuran 4 per cent, phorate 4 per cent and 2 per cent (2 per cent gum was used as sticker) and monocrotophos (Nuvacron 40EC) 0.04 per cent spray given a week after sowing for the control of stemfly and compared against an untreated control replicated three times. A common round of treatment with monocrotophos 0.04 per cent was given at the time of pod formation to check the pod borers to all the plots except control. The incidence of stemfly was recorded 20 days after sowing by noting the total number of plants and the plants showing the damage by stemfly. Further, the affected plants were pulled out and dissected to note the various stages of the insect. At the time of harvest the yield data were collected on grain basis. The data were statistically analysed, the profit over control was worked out and the details are furnished in Table.

TABLE. Effect of granular, seed treatment and spray formulations on the infestation and yield of cowpea

Treatment	% Infestation of stemfly	Yield in kg Per plot Per ha		Net profit Rs. P.
Aldicarb (Temik 10 G) 1 kg ai/ha	3.74(10.94)*	1.61	1073	468.0
Phorate (Thimet 10 G) 1 kg ai/ha	10.40(18.81)	1.29	860	86.0
Carbofuran (Furadan 3G) 1 kg ai/ha	4.21(11.71)	2.69	1793	1486.0
Carbofuran 4% seed treatment**	5.26(13.07)	1.60	1066	
Phorate 4% seed treatment	5.91(13.48)	1.92	1280	726.0
Phorate 2% seed treatment	5.14(12.51)	1.83	1220	643.0
Monocrotophos 0.04% spray	7.24(15.05)	1.21	806	12.0
CONTROL	10.75(19.13)	1.19	793	-
CD	5.24 (P=0.05)	0.52 (P=0.01)		

\* Figures in parentheses are transformed values

\*\* Free sample, cost not known

The data on stemfly infestation indicated that all the insecticides evaluated except phorate 10G were superior to control. Among these, aldicarb 10G recorded the lowest incidence (3.74%) and the next in order were carbofuran 3G (4.21%) and phorate 2 per cent seed treatment (5.14%). The untreated control recorded the highest incidence (10.75%). Mostly the pupal stage of the insect was noticed in the affected stems.

The highest yield of 1793 kg/ha was recorded in plots treated with carbofuran 3G which was statistically superior to all other treatments. The next in order were phorate seed treatment 4 and 2 per cent and these two were on par. The other treatments were on par with control.

A net profit of Rs. 1486 was noted in carbofuran 3G while phorate seed treatment at 4 and 2 per cent showed a net profit of Rs. 726 and Rs. 643 respectively. The fact that carbofuran 3G recorded the highest yield and net

profit though with a slightly lower level of control of stemfly indicated that this insecticide may have phytotonic effect (Venugopal and Litsinger, 1980).

Soil application of carbofuran 3G @ 1 kg ai/ha at the time of sowing can be recommended for the control of stemfly in cowpea grown under irrigated conditions.

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#### REFERENCE

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