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Field Evaluation of Different Insecticides for the Control of Banana Lace Wing Bug, *Stephanitis typicus* Dist

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Banana is one of the oldest fruits known to mankind. Simmonds (1966) has listed 182 insect pests on banana. Among them 36 insect species are reported attacking banana leaves. Lace wing bug, *Stephanitis typicus* Dist. is one of the important insect pests of banana which sucks the cell sap from the leaves. No information for its chemical control is available. With a view to find out effective and economical insecticide for its control, an experiment was conducted at farmer's field in Bakrol village near Anand during summer, 1988.

Field experiment was conducted in randomized block design with 10 treatments including one control (Table-1) replicated thrice. Plot size was 7.5 x 7.5 m with 25 plants in each plot. Five leaves from net plot area in each treatment were tagged randomly for recording the bug population. The data on population count of nymphs per leaf was recorded periodically and analysed statistically by using $\sqrt{x + 0.5}$ transformation.

TABLE 1

Relative efficacy of different insecticides for the control of banana lace wing bug, *S. typicus* Dist.

Insecticide	*Av. No. of bug nymph/leaf*					*Cost of one spray (Rs.)*
	Before spray	*After Spray*				
		24 h	*48 h*	*2 Week*	*3 Week*	
1. Phosphamidon 0.03%	10.71* (114.20)	1.59 (2.03)	0.88 (0.27)	1.66 (2.26)	2.01 (3.54)	110+
2. Dimethoate 0.03%	9.93 (98.10)	1.93 (3.22)	1.16 (0.85)	2.22 (4.43)	3.11 (9.17)	147
3. Monocrotophos 0.036%	8.91 (78.89)	1.51 (1.78)	0.93 (0.36)	0.71 (0.00)	1.47 (1.66)	228+
4. Methyl-o-demeton 0.05%	8.84 (77.65)	1.84 (2.89)	1.44 (1.57)	2.15 (4.12)	2.80 (7.34)	270
5. Dichlorvos 0.05%	9.28 (85.62)	1.36 (1.35)	0.79 (0.12)	1.75 (2.56)	3.40 (11.06)	162

1. 2.	3.	4.	5.	6.	7.	8.
6. Endosulfan 0.07%	9.21 (84.32)	0.71 (0.00)	0.71 (0.00)	1.95 (3.30)	2.66 (6.58)	228
7. Formothion 0.05%	9.60 (91.66)	1.26 (1.09)	1.00 (0.50)	3.40 (11.06)	4.48 (19.57)	235
8. Quinalphos 0.05%	9.58 (91.28)	2.14 (4.08)	1.04 (0.58)	3.45 (11.40)	4.72 (21.78)	298
9. Fenvalerate 0.01%	8.99 (80.32)	1.99 (3.46)	0.71 (0.00)	1.10 (0.71)	2.20 (4.34)	182
10. Control	7.26 (52.21)	7.63 (57.72)	7.92 (62.23)	8.70 (75.19)	8.76 (76.24)	—
S.Em. ±	0.62	0.43	0.21	0.43	0.30	
C.D. at 5%	NS	1.28	0.62	1.27	0.90	
C.V. %	11.68	34.07	21.64	27.41	14.80	

* $\sqrt{x + 0.5}$ transformed values.

Figures in parentheses are retransformed values.

\+ Labour charge Rs. 15 per day i.e. 15 x 4 = Rs. 60

Note : Sandovit @ 2 ml/l was mixed with all the insecticides.

The nymphal population of lace wing bug (Table-1) indicated significant superiority of all the insecticides to control till 3 weeks after their applications. However, among the insecticides endosulfan 0.07% gave cent per cent mortality of the bugs within 24 h of application which was significantly higher than quinalphos 0.05%. Endosulfan higher effectiveness was found till 3 weeks after spraying the quinalphos. Rest of the insecticides tested showed equal effectiveness as endosulfan after 24 h of application. However, benana plants sprayed with monocrotophos 0.036% had significantly low bug population as compared to methy-o-demeton 0.05% dimethoate 0.03%, formothion 0.05% and quinalphos 0.05% after 2 and 3 weeks of application. Whereas after 2 weeks of application crop sprayed with endosulfan and dichlorvos 0.05% had equal bug population as monocrotophos treated crop but earlier both the insecticides lost their persistent effect and bug population was found significantly higher than monocrotophos after 3 weeks spray. Phosphamidon 0.03% and fenvalerate 0.01% remained equally effective as monocrotophos since 24 h of application till 3 weeks of application. Of course both were at par to endosulfan and methyl-o-demeton. Among the systemic insecticides monocrotophos and phosphamidon proved more effective than dimethoate and methyl-o-demeton till 3 weeks after spray.

Considering the effectiveness and cost of the insecticides phosphamidon is preferred for the control of lace wing bug, *S. typicus* infesting banana than the other tested insecticides.

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REFERENCE

Simmonds, N. W. 1966. *Banana*, 512 pp Longmans, Green and Co. Ltd. London.