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Field Bioefficacy of Different Insecticides for the Control of Ber Fruit Fly, *Carpomyia Vesuviana* Costa. (Tephritidae : Diptera)

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Ber (*Zizyphus mauritiana* Lamk) is one of the important fruit trees in India and is attacked by fifty species of insect pest throughout the country (Wadhi and Batra 1964). Out of these, fruit fly, *Carpomyia Vesuviana* Costa (Tephritidae : Diptera) is one of the important pest which cause considerable damage resulting in the deterioration of quality and reduction in quantity of the fruit produce. Pruthi and Batra (1960) recorded it to be the most serious pest of ber in North West India. Being a serious pest of ber, orchards of this region, a field investigation was carried out at semi arid condition of Sardar Krushinagar (Gujarat) with a view to find out most effective insecticides for its control.

An experiment was conducted at experimental orchards under Fruit Improvement Project, Gujarat Agricultural University, Sardar Krushinagar during the year 1985-86. The insecticides *viz.*, Fenthion 0.03%, Methyl-O-demeton 0.03%, Monocrotophos 0.03%, Formothion 0.03%, Thiometon 0.03%, Malathion 0.07%, Quinalphos 0.05%, Phenthoate 0.05%, Methyl Parathion 0.03%, Phosalone 0.05%, Endosulfan 0.07%, Decamethrin 0.00125%, Phosphamidon 0.03%, Dimethoate 0.03%, were tested and compared with two untreated control *viz.*, A.T.T. (Away from treated tree) and N.T.T. (Near treated tree). All trees were thoroughly sprayed with the Knapsack Sprayer with the respective treatments. The observations of infested fruits were recorded by counting 100 fruits from four directions of each tree (North, South, West, East). The fruits possessing maggots, galleries or exit holes were considered as infested. The data on incidence of fruit fly (%) were statistically analysed and presented in Table-1.

The data presented in Table-1, revealed that the least incidence of fruit fly (3.83%) was recorded in Dimethoate 0.03% which was at par with Fenthion 0.03%, Phosphamidon 0.03% and Decamethrin 0.00125% with 11.86, 14.90 and 14.95% incidence respectively. In other treatments, incidence ranged from 15.44% (Malathion 0.07%) to 18.98%) (Formothion 0.03%) and were equally effective. Endosulfan 0.07% recorded maximum incidence i.e., 20.50% and found least effective. Both the control treatments i.e., A.T.T. and N.T.T. recorded 41.54 and 30.56% infestation, respectively and it was significantly imferior to insecticidal treatments. Further, among the untreated (control) treatments, N.T.T. recorded least incidence

TABLE I

Efficacy of different insecticides for the control of ber fruit fly, *Carpomyia vesuviana* Costa

Sr. No.	*Treatments*	*Concentration tested* (%)	*Mean incidence* (%)
1.	Fenthion	0.03	11.86 (4.1)
2.	Methyl-0-demeton	0.03	15.87 (7.5)
3.	Monocrotophos	0.03	16.68 (8.2)
4.	Formothion	0.03	18.98 (10.6)
5.	Thiometon	0.03	17.62 (9.2)
6.	Malathion	0.07	15.44 (7.1)
7.	Quinalphos	0.05	18.16 (9.7)
8.	Phenthoate	0.05	16.75 (8.3)
9.	Methyl Parathion	0.03	17.56 (9.1)
10.	Phosalone	0.05	17.22 (8.7)
11.	Endosulfan	0.07	20.50 (12.3)
12	Decamethrin	0.00125	14.95 (6.7)
13.	Phosphamidon	0.03	14.90 (6.6)
14.	Dimethoate	0.03	8.83 (2.3)
15.	A.T.T. (control)	—	41.54 (44.0)
16.	N.T.T. (control)	—	30.56 (25.8)
		S. EM (±)	1.64
		CD (P=0.05%)	4.63
		CV (%)	17.06

(Figures in parentheses are retransformed values, those outside are angular transformed values).

A.T.T. : Away from treated tree.

N.T.T. : Near treated tree.

than the A.T.T., which may be due to drifting effect of insecticides to the untreated trees.

From these results, it is concluded that among all tested insecticides, Dimethoate 0.03%, Fenthion 0.08%, Phosphamidon 0.03% and Decamethrin 0.00125% were found to be most promising insecticides. The performance of Dimethoate in the present investigation was in confirmity with the results reported by Bakhshi and Singh (1974) while, Singh *et al.* (1973), Saxena (1968) and Lakra and Singh (1981) recommended malathion to be the best treatment for controlling this pest.

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