

COMPARATIVE EFFICACY OF SOME PESTICIDES AGAINST *EUTETRANYCHUS ORIENTALIS* (KLEIN) INFESTING BER

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Ber (*Ziziphus mauritiana* Lemk.), is one of the ancient and commonly grown fruit trees, well adapted to the State of Rajasthan. In literature, *Eutetranychus orientalis* is reported under the common name of oriental red mite (Sadann and Kanta 1972; Banu and Channa Basavana 1972) and citrus mite (Dhooria and Butani 1982). *E. orientalis* has been observed infesting ber trees in semi-arid region of Rajasthan causing appreciable loss, however information on the comparative toxicity of different pesticides against *E. orientalis* infesting ber is available. Dhooria and Butani (1984) recommended oxydemeton methyl at 0.025 per cent as a foliar spray for the control of *E. orientalis* on fruit trees. The present study was undertaken to test some newer pesticides under field conditions for the control of this pest.

In order to evaluate the efficacy of nine pesticides against *E. orientalis*, field trial was conducted in the randomized block design in the ber orchard at Horticultural farm, College of Agriculture, Jobner, in the second week of April 1990 on Gola variety of ber which has been found to be the most susceptible. During the second week of April when pest population touched the level of 35-40 mites/5 cm² leaf area, the spraying of different pesticides was done in the evening hours covering the entire plants. Three plants in each treatment including the control were tagged before the spraying. The population counts were made just before and one, two, three, seven and fifteen days after the treatment. The pre- and post-treatment population counts were made on five leaves plucked differently from the top, middle and bottom portions of each of the tagged plants. One spot of one cm² was randomly selected on the lower surface of each leaf for absolute counting of mites. The pest populations/5 cm² was counted under a stereobinocular microscope (25 X). The mortality data were transformed into respective angular values for carrying out the statistical analysis.

Minimum and maximum reduction in mite population was obtained after one and three days intervals respectively (Table 1). Ethion proved as the most effective at all the intervals except at one day (Table 1), where as phosphamidon proved to be the most effective treatment, however, both these remained at par at one, seven and fifteen days intervals. Phosphamidon ranked second in the order of efficacy at all intervals. Dicofol being less effective initially and third in the order of efficacy remained comparable to danitol at two and fifteen days intervals. Dimethoate,

Table 1. Relative efficacy of different pesticides against *E. orientalis* infesting *ber*

S.No.	Treatment	Conc. * (%)	Per cent reduction in population after				
			1 day	2 days	3 days	7 days	15 days
1.	Phosphamidon	0.05	82.1 (65.0)	94.1 (76.0)	95.2 (77.3)	82.7 (65.4)	64.3 (53.3)
2.	Dimethoate	0.05	74.3 (59.6)	75.9 (60.6)	76.4 (60.3)	66.5 (54.7)	57.9 (49.5)
3.	Dicofol	0.04	58.1 (49.6)	79.1 (62.7)	94.7 (76.6)	80.4 (63.7)	60.4 (52.0)
4.	Ethion	0.05	78.4 (62.3)	95.8 (78.1)	96.7 (79.7)	84.1 (66.5)	65.7 (54.2)
5.	Danitol	0.025	74.4 (59.6)	76.4 (50.9)	79.0 (52.7)	68.4 (55.8)	61.6 (51.7)
6.	Phosalone	0.05	72.2 (58.1)	73.1 (58.7)	76.1 (60.7)	64.3 (55.3)	54.4 (47.5)
7.	Monocrotophos	0.04	65.4 (54.4)	68.4 (55.8)	74.4 (59.6)	60.2 (52.5)	50.4 (45.2)
8.	Endosulfan	0.05	46.2 (42.8)	47.8 (43.7)	50.7 (49.0)	43.5 (41.3)	40.2 (39.4)
9.	Fenvalerate	0.02	44.1 (41.6)	46.0 (42.7)	48.8 (44.3)	41.7 (42.2)	38.3 (38.3)
10.	Control	—	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	6.9 (15.2)	11.7 (20.0)
CD 5%			2.7	2.0	2.3	2.5	2.3

* Concentration based on efficacy range trials.

Values in parenthesis are angular values of reduction percentage.

danitol, phosalone and monocrotophos in the middle order of efficacy. Endosulfan and fenvalerate provided the least protection from the mite infestation to *ber* plants at all intervals, however, both remained comparable at one, seven and fifteen days intervals.

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