

## EFFICACY OF CERTAIN PESTICIDES AGAINST SPIDER MITE, *TETRANYCHUS LUDENI* ZACHER ON RIDGE GOURD

ASHOK SHARMA AND A.R. NAQVI

Department of Entomology, SKN College of Agriculture  
Jobner 303 329

The spider mite, *Tetranychus ludeni* Zacher is an important pest of several vegetable crops in India. It is also known to cause severe damage to crops like beans, okra, brinjal, castor etc., in summer season, offering heavy losses in the yield (Channabasavanna 1971). Earlier the toxicity of some of the commonly used pesticides has been studied in the laboratory and under field conditions on this mite (Jagadish 1979). The present study was, therefore, undertaken to study the susceptibility of this mite to some newer acaricides and cypermethrin, a synthetic pyrethroid.

The test crop ridge gourd cultivar local was sprayed with 11 pesticides (Table 1) against *T. ludeni* in June 1990. The experiment was laid out in randomised block design and replicated thrice. The plot size for each treatment was 2x3 metres comprising five plants. The crop was sprayed upto run off stage in evening hours. Three randomly selected plants from each treatment were tagged before the application of the pesticides. For pest population (pre and post), three leaves representing top, middle and bottom portions of each plant were plucked and a 3 cm<sup>2</sup> area on the lower side of the above leaves was examined for counting of mites.

Ethion (0.03%) proved superior over other pesticides and resulted into cent percent mortality of *T. ludeni* after three and seven days and remained significantly better than phosphamidon (0.03%) at all intervals which ranked second in efficacy, followed by dicofol (0.05%), dimethoate (0.03%) and monocrotophos (0.05%) (Table 1). Mortality percentage decreased after seven days of treatment (upto 15 days) in all the treatments. This can be attributed to the gradual diminishing efficacy of the pesticides and likely migration of mites from the untreated plants.

The treatment of phosphamidon and dicofol were at par at one day interval, however, it was comparable with each other at all intervals. Dicofol stood third in efficacy at all intervals except at 15 days interval where dimethoate ranked third. Monocrotophos and quinalphos both at 0.05% concentration were at par at one, three and seven days intervals. Malathion (0.05%) and cypermethrin (0.02%) proved to be least effective at all the intervals upto fifteen days. The result indicated that ethion (0.03%) proved superior to other pesticides followed by phosphamidon (0.03%).

Table 1. Efficacy of various pesticides against *T. ludeni* infesting ridge gourd under field conditions

Treatment	Conc (%)	Per cent population reduction days after treatment			
		1 day	3 days	7 days	15 days
Quinalphos	0.05	60.5 (51.0)	71.3 (57.6)	60.7 (49.7)	36.9 (32.0)
Phosalone	0.05	57.8 (42.8)	67.5 (55.2)	59.9 (51.0)	35.4 (36.4)
Ethion	0.03	73.1 (59.2)	100.0 (90.0)	100.0 (90.0)	69.7 (62.7)
Danitol	0.05	51.2 (45.6)	67.3 (55.2)	56.0 (48.5)	33.6 (35.4)
Phosphamidon	0.03	67.3 (55.2)	95.2 (77.3)	87.0 (70.6)	59.0 (50.1)
Malathion	0.05	38.3 (38.0)	47.5 (48.0)	36.9 (32.0)	23.6 (30.5)
Dimethoate	0.03	62.8 (52.4)	78.3 (62.3)	71.8 (58.4)	50.0 (49.4)
Endosulfan	0.05	43.0 (40.9)	48.0 (48.4)	38.6 (33.1)	30.3 (33.4)
Dicofol	0.05	64.8 (53.6)	85.3 (67.4)	75.2 (65.2)	51.9 (45.2)
Monocrotophos	0.05	62.5 (52.6)	74.4 (59.6)	62.8 (52.4)	40.0 (38.8)
Cypermethrin	0.02	32.0 (35.2)	38.6 (33.1)	29.6 (23.5)	19.4 (27.2)
Control	—	9.8 (18.0)	4.7 (12.6)	14.6 (24.4)	18.0 (15.7)
CD 5%		4.0	4.2	2.9	3.7

Values in parenthesis are angular values.

Malathion (0.05%) and cypermethrin (0.02%) were the least effective, however, all the pesticides were superior over the control.

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