

## **EVALUATION OF CERTAIN NEW INSECTICIDES AGAINST CHILLI THRIPS (*Scirtothrips dorsalis*) AND MITES (*Polyphagotarsonemus latus*)**

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### **ABSTRACT**

Field evaluation of the bioefficacy of certain new insecticides along with traditional insecticides as foliar spray against chilli thrips, *Scirtothrips dorsalis* and mites, *Polyphagotarsonemus latus* was undertaken under irrigated conditions during 2001 and 2002. Results indicated that among seventeen insecticides tested, Fipronil 5% SC @ 0.01% followed by Triazophos 40 EC @ 0.06%, Phosalone 50EC @ 0.075 and Carbaryl 50WDP @ 0.15% were found to be more effective against thrips, as they reduced thrips population, while, Endosulfan 35 EC @ 0.07% Quinalphos 25 EC @ 0.055 and Indoxacarb 14.5SC @ 0.0145% were found to be least effective. Dicofof 18.5 EC @ 0.09% followed by Phosalone 50EC @ 0.07% and Profenophos 50EC @ 0.05% were found to be effective against mites, while, other treatments were to be in-effective.

**Key words:** Chilli, Thrips, Mites, Insecticides.

Chilli (*Capsicum annum* Linn.) is one of the most important commercial crop grown in Andhra Pradesh (A.P.) both under irrigated and rainfed conditions. In A.P. it is grown in an area of 1.89 lac ha with a production of 3.7 lac tons. Though there are many factors responsible for low yields, the major constraint is the regular occurrence of insect pests. Thrips (*S. dorsalis*), mites (*P. latus*) and pod borers (*Heliothis arimigera*, *Spodoptera litura*) are the most important recurring pests in chilli (Reddy and Puttaswamy, 1983). Recently, the incidence of thrips and mites is in increasing trend and causing heavy economic losses to farming community. Hence, a field experiment was laid out at J.V.R. Horticultural Research Station, to evaluate certain new insecticides along with traditional insecticides against thrips and mites.

### **MATERIALS AND METHODS**

Field trials were carried out at J.V.R. Horticultural Research Station, Malyal, Warangal District (A.P.) during 2001 and 2002. The trial was laid out in a Randomised Block Design replicated thrice consisting of eighteen treatments (Table). Chilli variety LCA-206 was transplanted in 5.4m x 1.8m plots with inter and intra row distance of 60 cm during September. The crop was maintained implementing scientific management practices except plant protection measures. Seventeen insecticides viz., Dimethoate 30 EC (0.06%), Quinalphos 25EC (0.05%), Endosulfan 35EC (0.07%), Carbaryl 50 WDP

(0.15%), Imidacloprid 200 SL (0.025%), Chlorpyrifos 20 EC (0.05%), Profenophos 50 EC (0.05%), Dichlorovas 76 EC (0.076%), Dicofof 18.5 EC (0.09%), Phosalone 50 EC (0.07%), Triazophos 40 EC (0.06%), Fipronil 5 SC (0.01%), Azadirachtin 300 ppm (0.00015%), Indoxacarb 14.5 SC (0.0145%), Thiomethoxam 25 WG (0.005%), Acetamiprid 20 SP (0.002%), Monocrotophos 36 SL (0.06%) were sprayed three times at an interval of ten days. Five plants per plot were selected and tagged for further observations. Observations were recorded on number of thrips per five terminal leaves, number of mites per leaf and the intensity of damage was recorded in terms of score values using standard scoring procedure (0 to 5 scale).

### **RESULTS AND DISCUSSION**

The results obtained from the field experiments are furnished in the Table. Data presented in Table indicate that, the efficacy of all the treatments were found to be reduced with increase in days after spray. Among all the insecticides evaluated, at 2DAS, Fipronil 5%SC @ 0.01% was found to be the best treatment against thrips, followed by Triazophos 40% EC @ 0.06%, Dimethoate 30% EC @ 0.06%, Carbaryl 50% WDP @ 0.15% and Phosalone 50% EC @ 0.07%, while, lowest efficacy was observed with Quinalphos 25% EC @ 0.05% followed by Dichlorovas 76% EC @ 0.076% and Indoxacarb 14.5% SC @ 0.0145%. Almost similar trend was observed at 5DAS and 10 DAS. Similar trend of results were reported by Bagle (1993), Bhodhade *et al.* (1985) and Patel *et al.* (1997).