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EFFICACY OF CERTAIN NEW INSECTICIDES AGAINST PEST COMPLEX OF CHILLI (*Capsicum annum* L.)

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ABSTRACT

A field experiment was conducted at JVR horticultural research station, Acharya N.G. Ranga Agricultural University, A.P during three consecutive years., 2002-03, 2003-04 and 2004-05 in a randomized block design with seventeen insecticidal treatments which were replicated three times and tested against thrips, mites and pod borers. Among all the treatments, Fipronil 5% SC @ 2ml/lit was found to be the best treatment followed by Spinosad 45%SC @ 0.3 and 0.2ml/lit. Dicofol 18.5% EC @ 5ml was the best treatment followed by Phosalone 50% EC @ 3ml against mites. Spinosad 45% SC @ 0.3 and 0.2ml was the best treatment against pod borers followed by Indoxacarb 14.5% SC @ 1.0 and 0.5ml.

Key words : Chilli, Thrips, Mites, Pod borers, Insecticide.

Chilli, *Capsicum annum L.* is one of the most important spice crop grown in India as well in Andhra Pradesh. Chilli crop is infested by many insect pests, among which, sucking pest complex viz., thrips, *Scirtothrips dorsalis* and mites, *Polyphago tarsonemus latus* and pod borers viz., *Helicoverpa armigera* and *Spodoptera litura* are prominent (Reddy, D.N.R. and Puttaswamy, 1989). The present study was under taken to find out the bioefficacy of certain new insecticides along with some old insecticides against sucking and pod borer complex in chilli crop.

The experiment was conducted at J.V.R. Horticultural Research Station, Acharya N.G. Ranga Agricultural University (ANGRAU), Malyal, Warangal District, Andhra Pradesh during three consecutive years 2002-03, 2003-04, 2004-05 *kharif* seasons. The insecticides were evaluated against thrips, mites and pod borers.

MATERIALS AND METHODS

Five plants were tagged at random in each treatment and observed for the effect of treatments against thrips, mites and pod borers. The effect of insecticides treatments against thrips was evaluated based on percent plants effected, score values (0-5 scale) and number of thrips per leaf. For calculating number of thrips, one leaf each from top, middle and bottom were selected. The efficacy of treatments against mites were recorded as percent incidence and number of mites/leaf. The effect of treatments on pod borer incidence was calculated in terms of percent pods effected by borers. The phytotoxicity effect of treatments on chilli crop was also studied and phytotoxicity symptoms like leaf tip injury, necrosis, hyponasty epinasty and wilting etc., were recorded.

RESULTS AND DISCUSSION

The data presented in the table indicates that, among 16 insecticides tested, Fipronil 5% SC @ 2ml was found to be the best treatment against thrips followed by Spinosad 45% SC @ 0.3 and 0.2 ml as they resulted in lowest percent incidence, lowest score values and lowest no. of thrips/leaf (Rao, D. Mallikarjuna *et al*, 1995), while lowest efficacy against thrips was recorded in plots sprayed with Indoxcarb 14.5% SC @ 0.5 ml and Thiomethoxam 25 WG @ 0.1 g and 0.2 g. With regards to mites, Dicofol 18.5 EC @ 5 ml and Phosalone 50 EC @ 3ml were the best treatments (Patel *et al*, 1997). While lowest efficacy was observed with Thiomethoxam 25 WG @ 0.1 g followed by Indoxacarb 14.5% SL @ 0.5 ml (Karmakar *et al*, 1996). Significantly highest efficacy against pod borers was recorded in plots sprayed with Spinosad 45% SC @ 0.3ml and 0.2 ml respectively. While lowest efficacy was observed with Dicofol 18.5% EC @ 5ml and Fipronil 5% SC @ 2.0 ml. From the table, it was also evident that none of the treatments had shown any phytotoxicity symptoms like leaf tip injury, necrosis, hyponasty, epinasty, and wilting etc., With regards to yield, significantly highest yield was observed in Fipronol 5% SC @ 2 ml (23.2 q/Ac) and Spinosad 45% SC @ 0.3 g, while lowest yield was seen with Indoxacarb 14.5% SL @ 0.5 ml and Thimethoxam 25 WG @ 0.2g.