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Field Evaluation Of Some Insecticides Against Brinjal Shoot And Fruit Borer, *Leucinodes Orbonalis* Guen.

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ABSTRACT

A field experiment for evaluating newer insecticides in comparision with conventional insecticides against brinjal shoot and fruit borer, *Leucinodes orbonalis* Guen. was conducted during *Kharif* 2002-2003 at Dr. PDKV, Akola (M.S.). The results reveled that amongst newer insecticides cartap hydrochloride 50 SP @ 0.1% was found most effective in reducing shoot infestation (4.20%), fruit infestation (23.72% on number basis and 25.30% on weight basis) and increasing yield of brinjal fruit (78.73 q/ha). Whereas, spinosad 45 EC @ 0.01% and thiodicarb 75 WP @ 0.1% were also found effective in reducing shoot and fruit borer infestation and increasing yield. Among the conventional insecticides cypermethrin 25 EC @ 0.006% was found to be superior in terms of efficacy and yield. However, the incremental cost benefit ratio (ICBR) showed that the application of cypermethrin 25 EC @ 0.006% was economically most viable treatment (1:27.02) followed by monocrotophos 36 WSC @ 0.05% (1:26.85).

Key words : Brinjal shoot and fruit borer, *Leucinodes orbonalis* Guen, Chemical control, ICBR.

INTRODUCTION

Vegetable farming has an important place in Indian agriculture due to their nutritional, medicinal and commercial value, occupies 2 to 5 per cent of total cropped area in the country. Amongst the vegetables, brinjal or egg plant (*Solanum melongena* L.) of family solanaceae is most important one. In India, brinigal is being cultivated round the year in kharif, rabi and summer season over an area of 5 lakh hectares with a production of 5.44 million tonnes of fruits. However, in Maharashtra state, it is cultivated over an area of 0.25 lakh hectares with production of 0.34 metric toones Anonymous, (2002).

Brinjal has not been only a staple vegetable in our diet since ancient times but has also different medicinal values against liver complaints, toothache, diabetes, and also is good appetizer. Being high in economic values, now a days cultivation of brinjal is becoming menace to the farmers because of attack of insect pests. More than 26 pests species belonging to 50 families from 10 orders are reported on brinjal all over the world (Frengpong and Buohing, 1978). Brinjal shoot and fruit borer, *Leucinodes orbonalis* Guen. (Lepidoptera : Pyralidae) is most destructive and is considered to be the limiting factor in quantitative as well as qualitative harvest of brinjal fruits. The larvae of *L. orbonalis* Guen. bore into the young axillary shoots, causing wilting and enters into fruits unobtrusively with small entrance holes plugged with excreta. Full grown larvae before going for pupation comes out of the fruit by making exit holes. The pest accounts for 44.11 per cent of shoot infestation and 62.50 and 55.40 per cent fruit infestation on number and weight basis, respectively Tripathi *at al.*, (1996). However, 48.30 per cent losses in yield of brinjal fruit are reported by this pest Singh *et al.*, (2000).

Several insecticides belonging to various groups have been recommended for the management of this pest in various parts of the country. But indiscriminate use of these insecticides created a several problems in natural ecosystem, resulting in environmental pollution, pest resistance, resurgence and health hazards, etc. Now a days it is seen that brinjal growers are not getting satisfactory control of the pest inspite of repeated and need based applications of recommended insecticides. Hence such insecticides needs to be substituted by superior insecticides especially newer ecofriendly products.Therefore, the present investigation was undertaken to evaluate the performance of different insecticides against *L. orbonalis* Guen. in Vidharbha region of Maharashtra.

MATERIALS AND METHODS

Field investigation was carried out during *Kharif* season of 2002-2003 at the research farm of Department of Entomology, Dr. Panjabrao Deshmukh Agril. University, Akola (M.S.). The experiment was laid out in a randomised block design with seven treatments comprised of three

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