

Research Paper :

## Performance of some insecticides against *Leucinodes orbonalis* G.

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### SUMMARY

Emamectin benzoate, novaluron, diflubenzuron, *Bacillus thuringiensis* and untreated control were evaluated for bioefficacy and impact on coccinellides on brinjal crop by conducting field experiment in *Kharif*, 2007. Emamectin benzoate treatment was significantly superior recorded 5.00 per cent shoot damage over diflubenzuron and *BtK*, It was followed by novaluron which exhibited 5.78 (59.66 per cent reduction) per cent shoot damage. The percentage mortality of larvae from the treatment was maximum in emamectin benzoate with a mean of 11.51 and 11.44 per cent fruit damage (57.24 and 57.12 per cent reduction in damage) on number and weight basis, respectively. Novaluron significantly reduced fruit damage (53 and 54 per cent reduction on number and weight basis, respectively). Maximum coccinellides population recorded in untreated control and *BtK* was 4.16 and 3.22, respectively. It was followed by emamectin benzoate and novaluron which recorded 2.24 and 1.80, respectively. The yield of healthy fruits in emamectin benzoate and novaluron treated plots were recorded 24.06 and 23.14 t ha<sup>-1</sup>, respectively.

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### Key words :

*Leucinodes orbonalis*, Brinjal, Coccinellides, *Bacillus thuringiensis*

Brinjal, the king of vegetable, is an important crop because of its nutritional, medicinal as well as commercial value. Brinjal or egg plant (*Solanum melongena* Linn.) belonging to family Solanaceae is native of India. It is available every where at reasonable price hence is known as 'poor man's vegetable'. On hundred gram of edible part of brinjal has a potential to supply 40 g carbohydrates, 1.4 g protein, 0.3 g of minerals and vitamins viz., A, B, and C (Aycord, 1983). It is well known for its medicinal value against liver complaints, toothache, diabetes and also it is a good appetizer (Choudhary, 1977). Vevai (1970) reported invasion of brinjal crop by 26 pests in India, Amongst these, shoot and fruit borer, *Leucinodes orbonalis* Guenee (Pylalidae : Lepidoptera) is important one. The shoot and fruit borer of brinjal has been reported through out the country (Patel and Basu, 1948). It is most destructive and active throughout the year, particularly under high temperature and humid conditions causing great damage. The larvae of *L. orbonalis* bore into the young axillary shoots, causing wilting and enter the fruits unobtrusively, with small enhanced holes plugged with excreta. This pest accounts for 40.11 per cent of shoot infestation and 62.50 and 55.40 per cent fruit infestation on number and weight basis, respectively (Tripathi *et al.*,

1996). For effective management of the pest, the present study was taken to evaluate the some insecticides against brinjal shoot and fruit borer and predadary coccinellides.

### MATERIALS AND METHODS

The present investigation was carried out at Instructional Farm, Post Graduate Institute, Mahatma Phule Krishi Vidyapeeth, Rahuri during *Kharif* 2008 in Randomized Block Design. Five treatments were evaluated viz., diflubenzuron 50 g, novaluron 25 g, *Bacillus thuringiensis* 500 g, emamectin benzoate 10 g a.i. and untreated control with four replications. Five sprays of insecticides were undertaken at 45, 60, 75, 90 and 105 days after transplanting during morning times using Knapsack sprayer. Pre-treatment observations were recorded 24 hours before application of treatment and post treatment observations were recorded on 3, 7 and 10 days after spraying. The fruit damage was recorded at each picking. The shoot and fruit infestations were recorded by counting total number of healthy and infested shoots and fruits on randomly selected and tagged five plants in each treatment. The total number of coccinellides were recorded on the randomly selected and tagged ten plants in each treatment at 3, 7 and 10 days after spraying. Thus, the data generated were

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