

Research Paper :

Biology of brinjal shoot and fruit borer (*Leucinodes orbonalis* Guen.) in Raichur district of Karnataka



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SUMMARY

A laboratory experiment was conducted during the year 2009-10 to study the biology of brinjal shoot and fruit borer, *Leucinodes orbonalis* Guen. The studies revealed that it completed its total life cycle in 36.27 days. Mating took place on the same or next day after emergence. The pre-oviposition, oviposition, incubation, larval and pupal periods were found to be 1.20, 1.90, 3.66, 15.72 and 9.66 days, respectively. Female laid 160 eggs. There were five instars. The longevity of male and female was 3.0 and 5.20 days.

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Brinjal or eggplant (*Solanum melongena* L.) is one of the most important vegetable crops of Raichur district of Karnataka. This crop is vulnerable to the attack of many insect pests. Among which shoot and fruit borer, *Leucinodes orbonalis* Guenee, is the most destructive pest. Fruit and shoot borer (SFB) larvae bore into tender shoots and fruits, retarding plant growth and causing fruit damage as high as 92% and reduction in yield up to 60% by adversely affecting both quality and quantity of crop output and making the fruits unmarketable and unfit for human consumption (Mall *et al.*, 1992). Biology of this pest been studied earlier by Singh and Singh (2001), Harit and Shukla (2005) and Patial *et al.* (2007). Biology of pest is very important for the management point of view, So far no life cycle studies have been conducted and an attempt was made to work out the biology of *L.orbonalis* in Raichur district, Karnataka under house conditions which will help in managing this pest in a better way.

MATERIALS AND METHODS

The present investigation was carried

during 2009 -10 under laboratory conditions. The rearing was carried under ambient conditions (*i.e.*, 27°C and 65-70% RH) according to AVRDC method (AVRDC, 1999). Diets commonly used for rearing polyphagous insect, *Helicoverpa armigera* were used for rearing eggplant fruit and shoot borer supplemented with eggplant fruit powder with the addition of 1 part of dried eggplant fruit powder to every 10 parts of diet mixture. To prepare the eggplant fruit powder, young tender eggplant fruits were collected, washed thoroughly with tap water, and sliced thinly (2–3 mm). Slices were dried in an oven at 60°C for 48–72 hours. The dried slices were grinded to a very fine powder, and refrigerated in tightly sealed containers. 20 g agar was added to 1 liter distilled water in a stainless steel container and thoroughly mixed. boiling was continued until the agar has dissolved and the solution has become clear. Solution was allowed to cool to 55°C. 190 g of the selected diet was combined with 19 g of dried eggplant fruit powder, and poured the mixture into a large blender. Added the cooled (55°C) agar solution, and bended the mixture thoroughly for about a

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