

Research Paper :

Biology of *Leucinodes orbonalis* : An Important Pest of Brinjal

S.M. WANKHEDE, V.D. KALE AND S.M. GANGURDE

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See end of the article for authors' affiliations

Correspondence to :
S.M. WANKHEDE
Department of
Entomology, Mahatma
Phule Krishi
Vidyapeeth, Rahuri,
AHMEDNAGAR
(M.S.) INDIA

SUMMARY

The pre-oviposition, oviposition and post-oviposition periods of *Leucinodes orbonalis* were found 7.1 ± 0.29 hours, 2.3 ± 0.21 and 1.5 ± 0.18 days, respectively. The larvae passed through five instars. The incubation, larval and pupal periods were 3.8 ± 0.18 , 13.8 ± 0.70 and 10.2 ± 0.36 days, respectively. The pupation took place on the glass jars, soil, muslin cloth, sometimes inside the fruits and on the leaves of the plants. The longevity of male moth was 1.7 ± 0.17 days while female lived for 3.3 ± 0.32 days. The mean time taken from egg to adult stage was 27.8 ± 1.24 days. Number of eggs laid by a female was with an average of 120.3 ± 3.04 .

Key words :

Leucinodes orbonalis
Guenee, Biology
and brinjal

Brinjal, the king of vegetable is an important crop because of its nutritional, medicinal as well as commercial value. Of 26 pests recorded on brinjal crop (Vevai, 1970), brinjal shoot and fruit borer, *Leucinodes orbonalis* Guenee is the most destructive pest of brinjal (*Solanum melongena* L.). The larvae bore into petiole and midribs of large leaves or young growing shoots (Pradhan, 1969) close the opening with their frass and feed within. In the later stages, caterpillars bore into flower, buds and fruits entering from under the calyx having no visible sign of infestation and feed inside the fruits (Butani and Verma, 1976). Such fruits lose their market value. So, the sufficient knowledge about the biology of an insect is necessary for adopting suitable control measure.

MATERIALS AND METHODS

The biology of *L. orbonalis* was studied at room temperature in the laboratory of Department of Entomology, Post Graduate Institute, Mahatma Phule Krishi Vidyapeeth, Rahuri during *kharif*, 2008. The larvae of brinjal fruit borer were collected in large numbers from the infested fruits from Rahuri market, Dist. Ahmednagar. These larvae were reared separately in clean plastic vials. The slices of fresh fruits of brinjal were cut and provided daily in the vials to serve as food for developing larvae. The mouths of each vials was closed. Freshly formed pupae within cocoons were transferred daily into Petridishes for emergence of adults. A pair of newly

emerged male and female moths were released in a rearing apparatus containing fresh twig of brinjal plant for egg laying. A fresh brinjal twig with 3 to 4 leaves - was kept in a small conical flask containing water and placed within the rearing apparatus and it was replaced daily and piece of polythene sheet was used to surround the stem of the twig, which served as covering to protect the fall of adults in it. Two cotton swabs soaked in 10 per cent glucose solution one at bottom and other was kept hanging in the rearing apparatus were provided as food. The eggs laid on twigs were removed with a fine camel's hair brush and transferred into clean Petridishes having blotting paper. The observations on the duration of different stages *i.e.* egg, larvae, pupa and adult were recorded with the help of a binocular microscope.

RESULTS AND DISCUSSION

The pre-oviposition, oviposition and post-oviposition period were found 5 to 9 hours, 1-3 and 1-2 days, respectively (Table 1). Ali and Sanghi (1962) reported that pre-oviposition period was fairly short. These results are in agreement with that of Mehto *et al.* (1983) who reported oviposition period from 1.4 to 2.9 days. Jat *et al.* (2003) reported that pre-oviposition, oviposition and post oviposition periods of *L. orbonalis* were found 7.40 hours, 2.43 and 1.26 days.

Egg:

The eggs were generally laid singly or in

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