

Life Cycle and Management of Pomegranate Fruit Borer

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Introduction

Pomegranate fruit borer is distributed all over India and all over the World. It is the most widespread, polyphagous and destructive pest of pomegranate fruit in standing crop. The damage of fruit borer is seen throughout the year irrespective of the bahar treatment. It is widespread polyphagous and destructive pest all over India and common in Maharashtra and all-over North places of India. Peak incidence in the month of August and is high in between November-December, month. Damage start from the flowering to button stage of period. The fruit has leathery skin or rind mainly yellow more or less overlaid with light or dark pink or dark red. The interior is separated by membranous skin and white spongy tissue into compartment packed with transparent sacs filled with tart, fleshy-juicy, red, pink or whitish pulp in color. In each sac there is one white or red, angular, soft or hard seed. The seeds represent about 52% of the weight of the whole fruit. The biology, life cycle, symptoms and management are discussed below:

Symptoms

- ✓ The female butterfly lays eggs on flowers, buds and the calyx of developed fruits. After hatching, the caterpillars are enter the fruit and feed on the arils and inner parts of the fruit.
- ✓ The symptoms are the odious smell and excreta of caterpillars coming out of the entry holes and ultimately leading to fruit rot and damage of full mature fruit.
- ✓



Fig. 1: Symptoms of Anar butterfly (*Deudorix Isocrates*)

Pest identification

- ✓ Egg: They are laid singly on tender leaves stalks and flower buds.
- ✓ Larva: Full-grown larvae are dark brownish with short hairy and white patches all over the body surface and measures about 16 to 20mm long.
- ✓ Pupa: Pupation occurs either inside fruits or on the stalk holding it.
- ✓ Adult: Adults are glossy bluish in the case of male and brownish violet color in the case of female with a conspicuous orange patches on the forewings.

Biology of the pest

Adults lay eggs on the stalks or flower buds with incubation period lasting 7-10 days. The larva hatches and bores into the fruit with the larval period lasting for 18-47 days. Pupation lasts for 7-34 days and the life cycle is completed in 1-2 months.

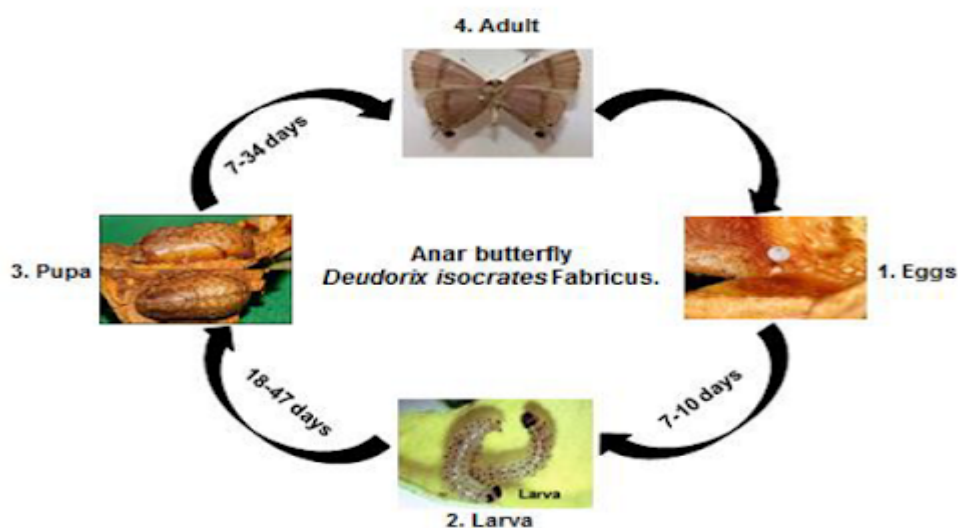


Fig. 2: Life Cycle of Fruit Borer

Damage symptoms:

- ✓ Caterpillar bores into young fruits.
- ✓ Feeds on internal contents (pulp and seeds)
- ✓ Fruit rotting and dropping may occur

Management practices:

- ✓ Removal and destruction all the affected fruits help to reduce the infestation.
- ✓ The fruits if covered with polythene or paper bags may escape infestation.
- ✓ Spray applications of fenvalerate 0.005%, or carbaryl 0.2 % or quinalphos 0.06% or decamethrin 0.0028% effectively controls the pest.
- ✓ Spraying with decametric at 0.0028% at the time when more than 50% of fruits have set. Repeat after two weeks with carbaryl at 0.2% or fenvalerate at 0.005%. In non-rainy season quinalphos at 0.06% was effective.



- ✓ Spraying with malathion 50 EC at 2 ml/L or carbaryl 50WP at 4 g/L or neemark at 5 ml/L or monocrotophos 36 SL at 1 ml/L of water starting from flowering to harvesting stage at an interval of 21 days for effective management of the pest.
- ✓ Spraying with methyl parathion (metacid) 50 EC at 1 ml/L or carbaryl 50 WP 0.2% can also control this pest.
- ✓ The parasitoids namely, *Telenomus* sp., *Ooencyrtus papilionis* and *Trichogramma chilostraeae* are known to cause up to 60% parasitism on *D. isocrates* in Peninsular India.
- ✓ Release *T. chilonis* at 2.5 lakh/ha, four times at ten days interval has been recommended.
- ✓ The eggs of *D. epijarbas* were found to be parasitized up to 62% by *Trichogramma* sp. in nature.
- ✓ Covering the entire orchard with nylon net followed by spray with contact insecticide has been recommended.