

BORERS

1. Gram pod borer, *Helicoverpa armigera*, Noctuidae, Lepidoptera

Symptom of damage: In the early stages, plants seen defoliated. Boreholes seen on the pods and affected pods have no seeds.

Nature of damage: Young larva feeds on tender leaves, buds, flowers, and subsequently it bores into the pods and feeds on the seeds with its head and part of the body only thrust inside, the rest remaining outside. A single larva may destroy 30-40 pods before maturity.

Egg: Spherical in shape with a flattened base, giving dome shaped appearance, surface is sculptured in the form of longitudinal ribs. Yellowish-white, glistening and change to dark brown, before hatching.

Larva: Newly hatched caterpillar is sluggish and whitish-green in colour. Full-grown larva is 3.5-4.0 cm in length with pale-green body colour. However, the colour varies according to the food intake. Dorsal surface bears dark broken stripes. Head is reddish-brown. Larva is highly cannibalistic and readily eats one another.

Pupa: It pupates in soil in earthen cell. Pupa is obtect type. Freshly formed pupa is greenish yellow in colour and darkened prior to emergence of moths.

Adult: It is a medium-sized light brown coloured moth. On the forewings, there is speck that forms a V-shaped mark. Hind wings are dull grey coloured with a black border on the distal end. Female moth is bigger than male and presence of tuft of hairs on the tip of the abdomen.

2. Blue butterfly, *Lampides boeticus*, Lycaenidae, Lepidoptera

Symptom of damage: Bore holes on buds, flowers, green pods and matured pods.

Nature of damage: The larva bores into the buds, flowers and green pods just within couple of hours after hatching and feeds inside the developing grains.

Egg: Eggs are laid on the buds, flowers, green pods and on shoot and leaves. Greenish white in colour, round in shape with a slight depression at the top.

Larva: Newly hatched larva is yellowish green in colour with black head and a dark-brown patch on the prothorax and cylindrical body with scattered hair. Full-grown larva is yellowish green to yellowish red sometimes light purple in colour, ventral surface is light green. Whole larva is covered with small setae and marked with irregular black markings. It looks like a slug. Brownish mid-dorsal and yellowish lateral lines are well marked.

Pupa: Pupa are green in colour later on it darkens and wings are also visible.

Adult: It is medium sized butterfly. The colour of the wings is violet metallic blue to dusky blue. The tail of hind wings is black and tipped with white. The female is slightly bigger than the male. In males, the abdomen is slender and tapering, while in female it is long and broader at the tip.