



(*Helicoverpa armigera*)

Cotton Bollworm

Helicoverpa armigera is a highly polyphagous pest, capable of feeding on more than 60 cultivated and wild plant species. Major host crops include: Soybean, Tomato, Maize, Bengal gram (Chickpea), Red gram (Pigeon pea), Cotton, Chilli, Green gram (Mung bean), Okra, Rose, Cowpea, Sunflower, Sorghum, Chrysanthemum, Groundnut (Peanut), and many others.

The larvae feed aggressively on both vegetative and reproductive parts of the plant. Although they may nibble on leaves and stems, they show a strong preference for flower buds, inflorescences, fruits, pods, and developing grains, causing significant economic losses. Females are prolific egg-layers, laying up to 1,000 eggs during their lifespan, enabling the pest to have multiple overlapping generations annually, especially in warmer climates. Its adaptability, wide host range, and resistance to many insecticides make it particularly dangerous.

Helico-Enemy™ is a next-generation sex pheromone lure designed specifically to monitor and manage populations of *Helicoverpa armigera*



Outsmart the Moths

trap, monitor, and protect
with **Helico-Enemy™**

Recommended
Funnel Trap



Species specific
Attracts only male
helicoverpa armigera



Natural
99.9% natural
pheromone



Durability
Prolonged
shelf life



Performance
Long-lasting - up
to 8 weeks



All weather
Works on all weather
conditions



Taxonomy & Distribution

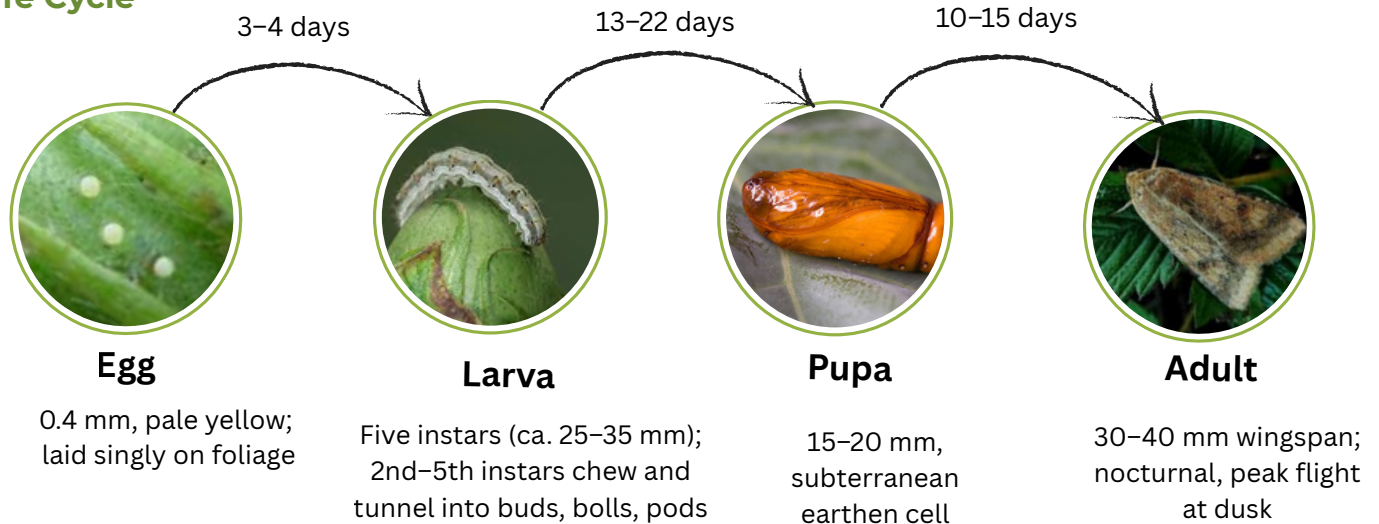
Order: Lepidoptera

Family: Noctuidae

Genus & Species: *Helicoverpa armigera*

Common Names: Cotton Bollworm, Tomato Fruitworm, Legume Pod Borer, Maize Earworm

Life Cycle



Damage

The cotton bollworm causes crop injury primarily during its larval stage, which is responsible for all economically significant damage. Eggs are laid singly on flower buds, young leaves, and tender plant parts.

The first instar larva—upon hatching—immediately begins feeding on tender plant tissues such as leaf buds or flower structures. At this stage, the damage is minimal, typically appearing as small pinholes.

As they grow, the larvae bore into floral buds, flowers, and developing bolls. Entry points are marked by round holes with frass deposits. Internal feeding causes boll rotting, premature fruit drop, and loss of fiber quality. Damaged bolls also become vulnerable to secondary fungal infections.



Helicoverpa armigera eggs laid on chickpea leaves

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Damage on cotton bolls

In maize, larvae first feed on silks, impairing pollination and seed set. Once established, late instars tunnel into developing ears, feeding on immature kernels and contaminating them with frass. The ear tips become entry points for pathogens such as *Fusarium* spp., leading to mold and mycotoxin contamination. This not only reduces grain quality but also poses food safety concerns.



Helicoverpa armigera feeding on maize

In legumes, larvae bore into floral buds and green pods. One larva may destroy several seeds by moving from pod to pod. Damage is visible as chewed pods with boreholes and frass accumulation. Pod drop and seed shriveling are common.

Severe infestation causes up to 90% yield loss in unmanaged fields.



Helicoverpa armigera damage on pegion pea

In tomato, *H. armigera* larvae cause characteristic holes on green and ripening fruits. Damage begins at the calyx or midfruit and leads to internal pulp destruction. A single larva can damage multiple fruits before pupating. Feeding wounds open up the fruit to bacterial and fungal rot. Early flower feeding also results in flower abortion and reduced fruit set.



Helicoverpa armigera damage on tomato



Helicoverpa armigera feeding inside chilli fruit

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Helico-Enemy™

Helico-Enemy™ is a next-generation sex pheromone lure designed specifically to monitor and manage populations of *Helicoverpa armigera*—the cotton bollworm

Formulated with a precise blend of synthetic pheromone components that mimic the natural sex pheromone emitted by female moths, **Helico-Enemy™** attracts male moths into traps, thereby disrupting mating cycles and enabling early detection of infestations.

The product is encapsulated in a high-stability rubber septa dispenser that ensures a controlled and sustained release over 8 weeks in field conditions.

Trapping

Recommended trap



Funnel trap



Funnel trap in the field



Helico-Enemy™

Trap Density

4 - 5 traps per hectare for monitoring.

5-10 traps per hectare for mass trapping.

Optimal Trap Placement

Height: Hang traps at canopy height, typically 30–90 cm above ground or at the crop canopy level.

Clear Entry: Position each trap so that entry slots are free from nearby branches, leaves, or other objects that might block fly access.

Trap Maintenance

- Inspect the traps on a regular basis.
- Replace the pheromone dispenser every 8 weeks to achieve optimum results.

Act now—protect your yield before the first moth flight!

Contact us!!



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