BLACK CUTWORM (BCW)

Agrotis ipsilon

Description:

Adults:

Moderate sized moth with a wingspan of about 1.5 in (3.8 cm). Forewing is uniformly dark brown with a distinct black dagger-shaped marking near the outer edge of each forewing. The inner two-thirds of the forewing is dark, while the outer third is much lighter in color.

Eggs:

Eggs are spherical and white in color initially, turning brown before hatching and often laid in clusters before crops are planted on grasses, weeds, and crop debris.

Larvae:

Uniformly colored on dorsal and lateral surfaces, ranging from light gray or grayish brown in color to nearly black, and brownish head with numerous dark spots. Curl up into a C-shape when disturbed.

Pupae:

Mature larva burrow into the soil and pupate. Pupae are orange-brown and becoming dark brown in color as they age.

Hosts:

Wide host range including nearly all vegetable crops, corn, alfalfa, clover, cotton, rice, sorghum, strawberry, sugarbeet, tobacco, and occasionally grains and grasses.

Left: BCW adult. Note color pattern and dagger-shaped marking (source: UMass Extension). Right: BCW larva (Bugwood.org).

Damage:

- Larval feeding occurs at night; during the day larvae are usually found just below the soil surface or under dirt clods.
- Newly hatched larvae feed on weeds and/or young plants, leaving small irregular holes in the leaves.
- Large larvae may notch the stems of seedlings immediately below the soil surface, which can cause plants to wilt and die. They may completely cut through stalks, and sometimes drag cut plants under the soil to continue feeding during daylight hours.

Left: BCW chew through plant stems at the base (source: John Obermeyer, Purdue). Right: once plants exceed 12" in height the stems are difficult to cut through, but BCW injury can occur (Nebraska Entomology).

Phenology:

- Overwinters as larvae in warmer southern regions of Texas, areas near the Gulf of Mexico, and northern Mexico and reinvades temperate areas annually through migration.
- Number of generations depends on the climate and weather conditions. Typically, four generations in southern regions and 1-3 generations in northern US and Canada.

Life Stages / Degree-Days:

Life Stage	*Activity*	*Cumulative DD (base 50°F)*
Biofix	Significant moth capture	0
Egg hatch (post biofix)	-	90
1st – 3rd instar	Leaf feeding	91-311
4th instar	Leaf cutting begins	312-364
5th instar	Leaf cutting	365-430
6th – 7th instar	Leaf cutting slows	431-630
Pupa	No feeding	641-989

For best results, scouting corn crops for black cutworms should start before 300-degree days accumulate after significant capture.

Lure Type and Maintenance:

- PHEROCON® BCW controlled release septa.
- Replace PHEROCON® BCW lures every 4 weeks.

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Lure Storage:

- Store in unopened factory sealed packages in a cool place (< 74° F or 24° C maximum) for short periods or refrigerate longer term.
- Refrigerate or freeze unopened packages to carry over for annual storage.

Trap Design:

- PHEROCON® 1C Trap, PHEROCON® Bucket Trap, or PHEROCON® VI White Delta Trap.

Placement Time:

- Place traps in field in early spring.

Placement Pattern:

- Place traps on edges of field or inside field 16-24 rows from edge.
- Traps should be suspended on a stake so bottom of trap is just above canopy.
- Place traps at least 50-100 ft (15-30 m) apart.

Trap Maintenance:

- Check traps at least weekly, but preferably twice a week.
- Replace trap liners every 4 weeks or when fouled with dust or insect debris.

Recommendations:

- After the crop is up, check for a row of four or more wilted plants with completely or partially severed stems. If you find damage, look for cutworms by digging around the base of the plants and sifting soil for caterpillars.
- Pheromone traps are more effective during spring flight when larvae present the greatest threat to young plants.
- Plants tend to outgrow their susceptibility to feeding injury; corn at the one-leaf stage is very susceptible but by the 4- or 5-leaf stage plant yield was not reduced by feeding.
- Scouting of fields should be combined with pheromone traps and degree day models to make an accurate assessment of the threat and prediction of damage levels.

Source: Recommendations and certain other sections were sourced from UC IPM Pest Management Guidelines for Cutworms, University of Minnesota Black Cutworm pest management, and UF IFAS Extension black cutworm.

Note, always:

- Use only one lure per trap.
- Count and record captures as recommended.
- Change trap as needed.
- Discard lures in trash far from the area of use and remove trash afterwards.
- Follow recommendations.
- Contact local extension authorities and consultants for regional advice.

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