# Black cutworm, *Agrotis ipsilon*

## DESCRIPTION OF INSECT

**Immature stage:**

Caterpillars are relatively thick bodied, and reach 1.75 inches in length and 1/4 inch in width when mature.

Color varies from dark gray to black in upper half of body, without distinctive markings other than a pale stripe down the middle of the back and a few randomly scattered bristles. The caterpillar is otherwise hairless. The underside of the caterpillar is light gray. Under a hand lens, the skin appears bumpy and greasy.

Spiracles (small breathing holes on the thorax and abdomen) are black.

Three pairs of true legs on thorax (behind head); five pairs of prolegs towards the rear of the insect, on the abdomen.

**Mature stage:**

Adults are thick bodied, dark colored moths that fly at night. Their wingspan ranges from 1 – 1.75 inches.

The forewings are dark gray, brown or black and have a distinctive, dark colored marking in the shape of a dagger in the center of each forewing.

Hindwings are off-white or dirty white.

**Damaging stage(s):**

(caterpillars) only; adult moths do not feed

**Predictive models (degree day, plant phenology, threat temperatures, other)**

Caterpillars hatch once average air temperatures reach 55F (13C), and multiple overlapping generations can occur as long as temperatures are above this threshold.

Damage frequently appears following aeration, though caterpillars are typically present, without causing damage, before aeration

**Life cycle:**

40 – 60 days from egg to egg

Females lay eggs during the nighttime, usually on the tips of grass blades or on weeds such as curled dock or yellow rocket mustard.

Eggs hatch in 3-6 days

Larvae live for 20 – 40 days

Young larvae feed directly on leaf blades, causing little to no obvious damage

Older larvae are voracious feeders, eating up to a handful of foliage per night. These larvae reside during the day in the thatch and upper soil profile, where they construct silk-lined burrows. These are frequently found in aeration holes.

# INSECT REFERENCE

Larvae pupate in the larval burrow and the adult moth emerges roughly 2 weeks later.

**Conducive environmental conditions:**

temperatures above 55F (13C)

**Geographic distribution:**

worldwide

## DAMAGE CAUSED:

**Plants attacked:**

Foliage of cool-season turf on greens, tees and sometimes fairways. Bentgrass, Poa annua, tall fescue and ryegrass are preferred. Cutworms do not survive well on Kentucky bluegrass.

**Symptoms of damage:**

small dead patches of turf that can resemble dollar spot

sunken areas or pockmarks that resemble ball marks.

Pecking by birds

Damage frequently occurs around aeration holes or spike mark holes, where cutworms burrow during the day.

**Timing of damage:**

Damage is frequently most obvious following aeration

Damage occurs when average air temperatures are above 55F (13C)

**Insects that look similar; Pests that cause similar damage:**

Sod webworms are thinner bodied, and have prominent spots throughout the body.

Fall armyworm has obvious striping patterns and pale colored spiracles surrounded by a whitish ring.

Dollar spot causes similar damage, but produces mycelium when turf is incubated overnight.

## MONITORING TECHNIQUES:

Soap flush for larvae: This is the most useful of the monitoring techniques for cutworms. See IPM Template reference on “Monitoring for insects with soap flushes”.

Pheromone traps with female sex attractant. Monitoring for larvae should begin two weeks after the first peak of males is trapped.

## THRESHOLDS:

There are no hard and fast thresholds for this pest. Turf, even on greens, can tolerate very high numbers without any obvious signs of damage, so it is usually best to wait until early signs of damage are observed. Following use of a soap flush to confirm the presence of cutworms, treatments can be triggered.

## MANAGEMENT STRATEGIES:

Follow resistance management guidelines by rotating products as outlined in IPM Template Reference "Insecticide Resistance Management Groups." Always consult the most recent version of all product labels before use.

| Black cutworm management strategies | | | | |
|---|---|---|---|---|
| TYPE | TIMING/ THRESHOLD | PRACTICE | | COMMENTS |
| Cultural | N/A | Utilize tolerant/resistant turf types including Kentucky bluegrass<br>Remove clippings | | |
| Biological | Apply when 1st small larvae are detected with soap flush | Beneficial nematode products based on *Steinernema carpocapsae* (Millenium). For other suppliers, see http://www.oardc.ohio-state.edu/nematodes/nematode_suppliers.htm | | Moderate efficacy |
| Chemical | Apply curatively when damage threshold is reached | Active Ingredient (Product) | Label signal word | Include treatment of a 20 – 30 foot buffer zone around greens and tees to avoid re-infestation<br>Apply in 1 – 2 ga/1000 sq ft.<br>Do not water in |
| | | Bifenthrin (Talstar) | Caution | |
| | | Cyfluthrin (Tempo) | Caution | |
| | | Chlorpyrifos (Dursban) | Danger | |
| | | Deltamethrin (Deltagard) | Caution | |
| | | Halofenozide (Mach 2) | Caution | |
| | | Lambda cyhalothrin (Scimitar) | Caution | |
| | | Spinosad (Conserve) | None required | |