

Black Cutworm

***Agrotis ipsilon* Hufnagel**

Appearance and Life History

Several cutworm species attack corn in the Midwest. Of these species, the black cutworm poses the most serious threat.



Adult moth with characteristic dark dagger-shaped marking near the outer edge of each forewing

Photo by J. Obermeyer

Black cutworm larvae vary in size from 1/8 inch (3 mm) when newly hatched to 2 inches (50 mm) when fully grown. They are light gray to almost black in color and have a greasy appearing texture and coarse granules of various sizes that can be seen on their skin.

Moths overwinter in Texas and Mexico and appear in the Midwest from late February through June. They are attracted to early spring vegetation, such as winter annual weeds, where mating and oviposition take place. The moths are active at night and prefer to deposit their eggs on low-growing, dense vegetation. Risk factors that increase the likelihood of black cutworm attacks include a field that is late spring plowed, corn following beans, late planted, or minimum tillage.



Larvae

Photo by J. Obermeyer

The black cutworm moth has a dark, dagger-shaped marking near the outer edge of each forewing. The inner two-thirds of the forewing is dark, while the outer one-third is much lighter in color. Its hind wings are light in color with a brown tint along the margins.



Larva

Photo by J. Obermeyer

Damage



Young larva and leaf damage

Photo by S. Dlugosz

Larger 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, which can result in severe stand reductions.

Black cutworms usually feed at night or during overcast days. They sometimes drag cut plants under dirt clods or into small holes in the soil to continue their feeding during the daylight hours.

Larval infestations usually appear first in weedy areas of fields. Newly hatched larvae feed on weeds, and/or young corn plants if present, leaving small irregular holes in the leaves. Such early feeding is of little significance to plants, but these signs are good indicators of the potential for severe damage by later cutworm instars.



Black cutworms sometimes drag cut plants under dirt clods or into small holes in the soil to continue their feeding

Photo by C.R. Edwards

Sampling Method

- Fields with pre-plant weeds are at highest risk and should be prioritized for sampling.
- To help with scouting visits and prediction of cutworm damage, check recent moth monitoring and larval developmental predictions provided by many state Cooperative Extension Services.
- *Scouting:*
 - Walk throughout fields shortly after plant emergence checking plants for signs of black cutworm feeding (leaf damage, wilted plants, or cut stalks).
 - Look for indications of other early season pests, such as wireworms, white grubs, corn flea beetle, etc.
 - Watch for cutworm damage during May and early June field visits.

Guide to Black Cutworm Development and Potential Damage in Corn

Larval instar	Approximate days left to feed	Potential number of corn plants that may be cut		
		1 leaf	2 leaf	4 leaf
4	25	4	3	1
5	21	4	3	1
6	14	4	3	1
7	5	1	1	1

- If black cutworm damage is observed, sample the field immediately to make an accurate assessment of the threat posed by the larvae.
- *Sampling:*
 - 5 areas of a field, 20 consecutive plants (total of 100 plants for the field).
 - Count and record the number of plants cut or damaged by black cutworms within each sample set. Determine the percentage of infested plants by adding together the number of cut or damaged plants from each set of 20 plants.
 - Determine the average stage of growth of the corn. Count and record the number of fully unrolled leaves on the 19th and 20th plant in each of the 5 sets of plants. The collar of the leaf is visible on a fully unrolled leaf. Determine the average number of fully unrolled leaves per plant by adding together the number recorded for each of the 10 plants and divide the sum by 10.
 - During the plant inspection process, collect at least 10 larvae if you wish to confirm the species identification. Drop collected cutworms into a small jar of alcohol.

Management Guidelines

Primarily Leaf Feeding - Control may be needed if 3% to 5% of the plants show leaf feeding and 2 or more cutworms can be found per 100 plants. Cutworm control is generally more effective at this time.

Stalk Damage - This table is based on cutworm feeding slightly above or below the soil surface, and may not work if the soil is dry and the cutworms are feeding 1/2 inch (13 mm) or more below soil surface.

Average Instar of BCW	6 or more	Number of Plant Leaves Fully Emerged				
		5	4	3	2	1
4.5	1% +	2% +	2% +	2% +	3% +	4% +
5.0	2% +	3% +	4% +	4% +	6% +	25% +
5.5	3% +	5% +	6% +	8% +	22% +	Don't
6.0	4% +	7% +	9% +	17% +	Don't	Don't
6.5	5% +	10% +	16% +	Don't	Don't	Don't
7.0	6% +	15% +	50% +	Don't	Don't	Don't

1. Look down the column at the left labeled "Average Instar of BCW" until you find the average instar of black cutworm found in the field. This is called the Instar Row.
2. Look across the top of the table and find the number that best represents the "Number of Plant Leaves Fully Emerged" for the plants inspected. A leaf is fully emerged if the leaf collar is visible. The column of figures below this is called the Leaf Column.
3. Follow the Instar Row and the Leaf Column to the place where they intersect. This figure is the control threshold. If the percentage of cut or damaged plants in the field equals or exceeds this number, treatment may be advisable.



Below are pictures of seedling corn that may be mis-identified as damaged by black cutworm. The damage caused by these "other" pests will be influenced by date of planting, tillage type, weather, weeds, etc. Though early damage by these pests may look similar to that observed for black cutworm, they will not significantly threaten the plant population and (ultimately yield of the corn) as would the black cutworm.

Identification of the pest and its damage is the first tenet of pest management! A thorough field scout carefully examines damaged plants and surrounding areas to find the culprit before management alternatives are considered.



B. Christine

Dingy cutworm leaf feeding



J. Obermeyer

Southern corn leaf beetle leaf feeding



J. Obermeyer

Early instar stalk borer tunneling



J. Obermeyer

Leaf roller damage



University of Illinois

Sod webworm damage



J. Obermeyer

Leaf feeding by slugs