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Michigan State University

Cooperative Extension Service

IPM Facts

Doug Landis and Bruce Glebink, Department of Entomology and Pesticide Research Center

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Managing Black Cutworms In Sugar Beets

Doug Landis and Bruce Giebink
Department of Entomology
and Pesticide Research Center
Michigan State University

Of the many cutworm species in Michigan, the black cutworm¹ is the most damaging to field crops. Sugar beets and many other seedling field crops can be damaged by black cutworm feeding.

Description of life stages:

Larvae (caterpillars) are light gray to nearly black with four black, raised bumps on the top of each segment. Larvae have a faint, narrow stripe down their back. They have three pairs of legs just behind the head and a series of fleshy rear legs (prolegs). Larvae curl when disturbed. Full grown larvae are about 1 1/2 to 2 inches long. Adult cutworm moths are active at night and are attracted to lights. Moths are brown to black and have a 1 3/4-inch wingspan. Their front wings are longer, darker, and narrower than the pale white hind wings.

Life cycle:

Adult moths begin flying during the first warm spring evenings. They migrate to Michigan from southern states, with the first flight generally peaking in late May. Female moths lay about 1300 eggs in clusters, primarily on low, densely growing plants like chickweed, curly dock, and mustard. Young larvae feed above-ground on weeds or sugar beet leaves until they are about 1/2-inch long. After that they feed at, or just below the soil surface, cutting off plants at the base. Most feeding occurs at night; larvae hide beneath plant debris or in loose soil during the day. Cutworms typically remain near the surface in moist soils, but may go as deep as 2 to 3 inches during dry conditions.

Damage:

Cutworm damage may occur as soon as seedlings emerge. Plants severed below ground will appear wilted, while those cut above ground can be found lying on the soil surface.

Cutworm larvae will occasionally pull a leaf partially into their soil burrow. Many move from plant to plant on successive nights. Cutworms will often kill or stunt larger plants by burrowing into the stem.

Management:

Biological control — A number of ground-dwelling predators, particularly ground beetles, feed on black cutworm larvae which helps keep populations in check. These beetles also hide beneath plant debris and feed at night.

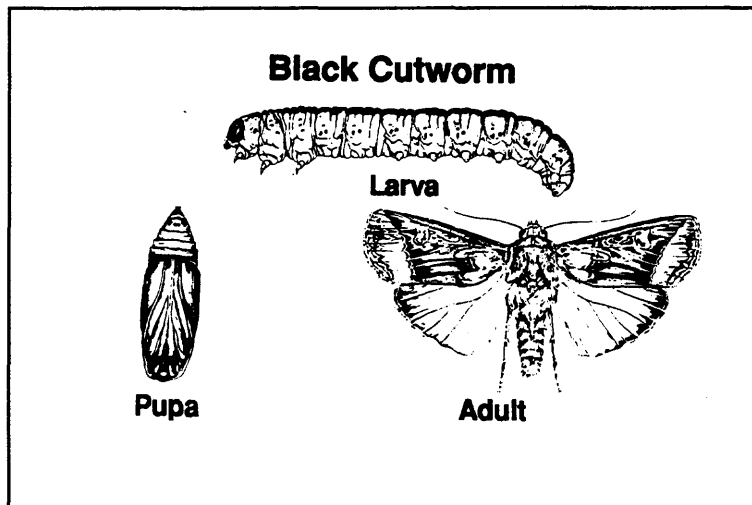
Cultural Control — Cutworm damage can often be reduced by not planting sugar beets on newly broken sod or in fields where weed cover was heavy in the spring.

Chemical control — See table for recommended insecticide applications. At-threshold treatments are generally the most effective option for cutworm control. If cutworms are historically a problem in a particular field, you may want to apply a granular cutworm control insecticide at planting. However, these may not provide acceptable control of heavy infestations, and a rescue treatment may be necessary in some cases.

Scouting & Economic Thresholds:

Early detection and treatment is extremely important. Cutworms can quickly destroy stands and are hard to control when fully grown.

¹ Black cutworm: *Agrotis ipsilon* (Hufnagel)



Start checking sugar beet fields after the first seedlings have germinated. Check five groups of 20 plants (100 total) particularly in low, wet areas within fields. Look closely for freshly cut and wilted plants and leaves with small, irregular holes chewed in them, and for cutworms on the plants or hiding in the soil near damaged plants. Count and record the number of damaged plants (leaf feeding, cut, or wilting) and the size of cutworms.

A threshold has been reached if 5 percent (two or more of the 100 plants) show cutworm feeding, and if small larvae are still present.

Additional considerations:

Although it is difficult to predict a cutworm infestation, several field conditions increase the probability for a problem. These include an early spring weed cover before planting, and fields close to heavy permanent vegetation, such as woods, ditches and fencerows. Cultural practices and environmental situations that contribute to such field conditions include reduced tillage, a late, wet spring, or poorly drained fields. Starving cutworms by destroying weeds a week or more before planting reduces the potential for cutworm damage.

Recommended insecticide applications for controlling black cutworm larvae in sugar beets¹

<u>Chemical</u>	<u>Formulation²</u>	<u>Rate³</u>	<u>RUP⁴</u>	<u>Precautions & Restrictions⁵</u>
carbaryl bait (Sevin)	5% B 20% B	40 lb 10 lb	N N	PHI 14 days. Baits are more reliable than sprays when soil surface is dry.
Lorsban	4 EC	1 qt	N	PHI 30 days. Maximum 1 gal per acre per season.
carbaryl (Sevin)	4 F 80 S	3 pt 1 7/8 lb	N N	PHI 14 days. Do not apply to wet seedling plants or if rain is expected within 48 hours.
Lorsban	15 G	8 oz/1000 row ft.	N	Apply over plants in the 2- to 4-leaf stage. Maximum 1 application per year.

- ¹ Treat when five percent of plants or more show cutworm damage. Apply in a band over the plants. Apply in the evening, when practical.
- ² Other formulations may be available.
- ³ Rate per acre unless otherwise indicated. Be sure your equipment is properly calibrated. Refer to Extension Bulletin E-1582
- Chemical Control of Insects and Nematodes in Field and Forage Crops**, available at your county Extension Office.
- ⁴ Restricted Use Pesticide.
- ⁵ PHI = Pre Harvest Interval.

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This publication contains pesticide recommendations based on research and pesticide regulations. However, changes in pesticide regulations occur constantly. Some pesticides mentioned may no longer be available, and some uses may no longer be legal. If you have questions about the legality and/or registration status for using pesticides, contact your county Cooperative Extension Service office.

To protect yourself and others and the environment, always read the label before applying any pesticide.

Illustrations courtesy of North Carolina State Cooperative Extension Service, Extension Bulletin AG-271.



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