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Protecting Field Crops from Cutworms

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Cutworms are large, cylindrical, smooth skinned caterpillars that cut young plants near the soil surface or chew on the leaves of larger plants. Cutworm numbers are usually kept low by a combination of natural enemies (parasites, predators, and diseases) and unfavorable weather. Scattered fields of corn, soybeans, sugarbeets and other crops are damaged by cutworms every year. The black cutworm is the species most frequently found. Some years favor cutworm development and outbreaks occur over large areas in a variety of crops. Examples of such outbreaks: the variegated cutworm damage to sugarbeets in 1972 and to potatoes and other vegetable crops in 1977, and the darksided cutworm damage to newly seeded alfalfa and clover and other crops in 1978.

There is no effective way to predict cutworm outbreak years and to pinpoint crops that will be damaged. Early alerts of cutworms are sent through your County Agricultural Extension Agent. Check your own fields for cutworms when

PLEASE NOTE

Cutworm alerts are based on early reports of cutworm damage. Please report your finds of cutworms to your County Extension Agent. Your report will be used to warn others of the threat of cutworms to their crops.

the alert is given. The information here will help you recognize cutworms and their damage and help you select a control when it is needed.

BIOLOGY

Adult cutworms are dull colored miller moths. They are active at night and attracted to lights. They hide in shaded places during the day and are

seldom seen. The moths lay small, rounded, somewhat flattened eggs that are pale yellow when laid but darken as they approach hatching. The larvae (caterpillars) that hatch from these eggs are the cutworms that damage crops. The larvae have a definite head, six jointed legs just behind the head, and a series of fleshy legs near the rear of their bodies. Fully grown, they are about 1¼ to 2 inches long.

There are many species of cutworms. Their color ranges from a light gray to almost black depending on the species. The fully grown larvae burrow into the soil and make little cells. They form pupae (a resting stage) and transform to adults in these cells. Different species of cutworms have one to four or more generations per year. Three of the most common cutworms are described below to point out the variations that exist.

Black Cutworm

The black cutworm is consistently the most damaging species of cutworm in corn, soybeans, and sugarbeets. It cuts small plants at soil level at night during May and June. The black cutworms sometimes pull the plants down into tunnels in the ground and feed on them during the day. At other times, the cut plants are left to wilt on the ground. The black cutworm weakens larger plants by partially cutting them at their bases. This can kill young plants and retard the growth of older plants. The black cutworm is especially abundant in wet, low weedy areas of fields. It remains in the soil when the soil crusts during hot, dry weather. The black cutworm has several overlapping generations per year. It is not damaging to established plants and only the early, first generation is a threat to field crops.

The black cutworm has a pale brown head with black arcs in the middle. Its body varies in color from pale gray to black with 4 black, raised bumps on the top of each segment (see Figure 1). Its skin has many small granules set in it. It is very aggres-

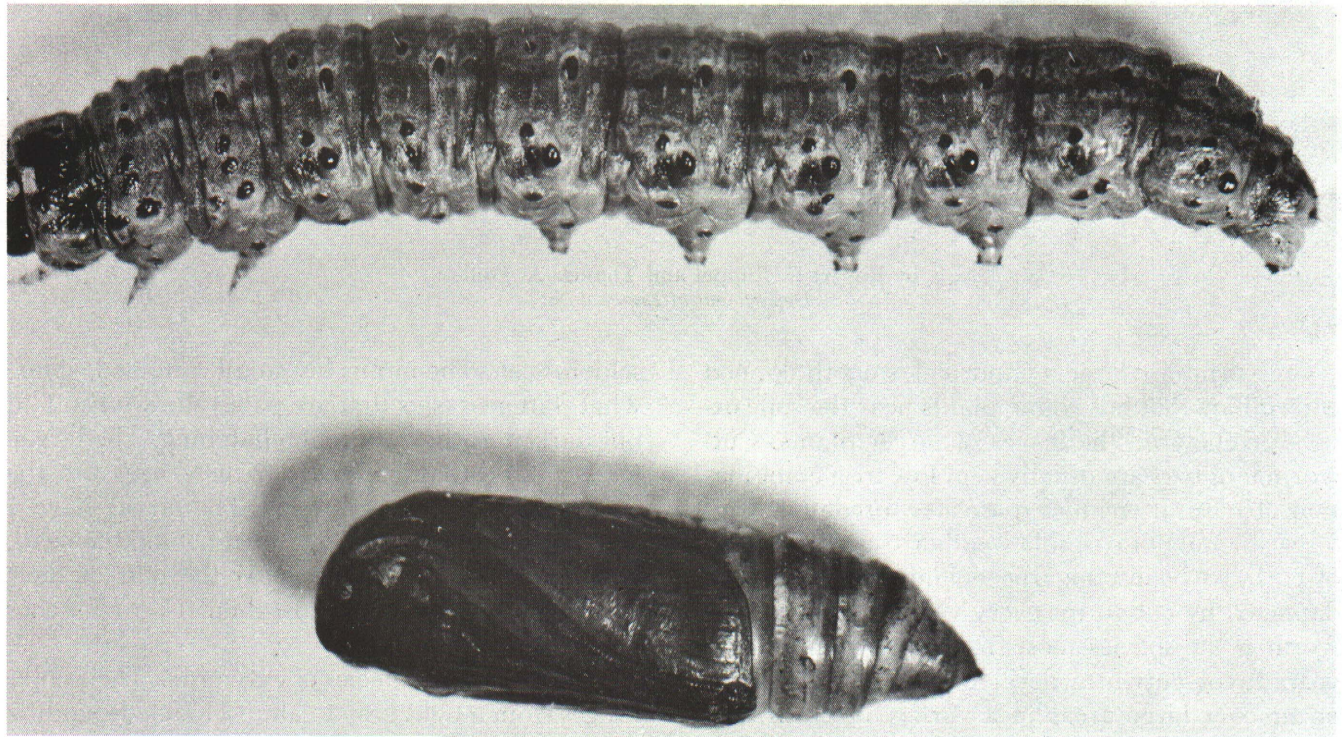


Figure 1. The black cutworm, a common cutworm. The larva is shown above and the pupa is shown below.

sive and will bite when handled, but is harmless. They will eat one another when they are put together.

Variegated Cutworm

The variegated cutworm does not usually cut off plants. It chews irregular, often nearly circular holes in the leaves. These holes increase with the size of the worm, which can completely strip leaves when abundant. It will attack many plants, but is particularly damaging to sugarbeets and potatoes. There are two generations of variegated cutworms per year. The first generation larvae found in the fields during late June to early August damage crops.

The variegated cutworm has a light colored head with a dark netting and broad, dark arcs on it. Its skin is smooth and the body color varies from light gray to dark brown. Four to seven white or yellow spots down the middle of its back make this species relatively easy to identify. They feed mostly at night and hide during the day in shaded areas near the bases of crowns of the plants.

Darksided Cutworm

The darksided cutworm cuts off young plants near their bases and also climbs larger plants to feed on leaves and buds. They attack many plants

but have been especially damaging to newly seeded alfalfa and to young soybeans and drybeans.

The darksided cutworm has only one generation per year. They lay their eggs in the fall in cultivated soil, especially in newly planted cover crops. The larvae hatch in the spring and feed on the cover crop or weeds. They attack crops that are later planted in the field. They can be damaging to crops from May through early July.

The darksided cutworm is somewhat smaller than the others. It has a pale brown head with groups of darker, round flecks above and behind the eyes. The top of its body is a pale brown with a narrow, pale stripe down its middle, and the lower part of its body is whitish. Narrow, dark stripes on each side give it its common name. It feeds at night and, like the black cutworm, hides in the soil near the plants during the day.

DETECTION AND CONTROL

Cutworms can destroy stands very quickly and are extremely hard to control when they are fully grown. Early detection is extremely important. Start checking your fields at the first germination of the crop. Cutworms are frequently most abundant in wet and weedy areas, so check such areas especially carefully. Check 2 or 3 times a week until the plants are well established and at about

weekly intervals after that.

Look for cut or wilting plants and leaves with holes chewed in them in about 25 to 50 feet of row in 4 or 5 different areas of the field. Look for the cutworms on the plants, in the crowns, or hiding in the soil near the damaged plants. Cutworms are commonly found only in parts of a field. Check the field for cutworms when this damage is seen to determine if only a part of the field needs to be protected.

One of the insecticides in Table 1 is recommended if about 5 percent of the small plants show cutworm damage. Application is not recommended if the damage is less than 5 percent. Check the field frequently, however, when even a small amount of damage is seen and treat the field if the damage reaches 5 percent. **Do not delay in applying an insecticide if it is needed for**

cutworm control.

Baits, when available, are more effective than sprays especially when the soil has crusted and the cutworms are working under the crust. Roto-till or cultivate to break the crust before applying an insecticide for cutworm control. Lower the boom on the sprayer to concentrate the spray on the plants. Apply the insecticide, when possible, in the evening to have the insecticide fresh when the cutworms emerge at night. Treat only the infested area and a 20 to 40 foot border around it.

Cutworms are too frequently not detected until stand has been lost and replanting is necessary. Disc the area to be replanted to destroy any remaining crop or weeds that could sustain the cutworms until the new plants have germinated. Check the replanting frequently and apply an insecticide when damage is seen.

Table 1. Insecticides Recommended for Cutworm Control in Field Crops.

<i>Insecticide</i>	<i>Formulation</i>	<i>Amount</i>	<i>PHI^a and Limits</i>
<u>CORN</u>			
Lorsban	4 lb/gal EC	1 qt/A	14 days for grazing or silage; 35 days for grain. Maximum 15 pt/A/season.
	15% G	6¾ lb/A	14 days for grazing or silage; 35 days grain. Maximum 2 applications/season.
carbaryl (Savit, Sevin)	4 lb/gal F	6 fl oz/1,000 row ft	0 days.
	80% WP	4 oz/1,000 row ft	
Sevin bait	5% B	40 lb/A	0 days.
	20% B	10 lb/A	
trichlorfon (Dylox, Proxol)	80% WP	1¼ lb/A	0 days. Maximum 3 applications/season.
	4 lb/gal EC	1 qt/A	
Pydrin	2.4 lb/gal EC	10⅓ fl oz/A	21 days. Maximum 53⅓ fl oz/A/season, RUP ^b .
<u>DRY BEANS</u>			
Sevin bait	5% B	40 lb/A	0 days.
	20% B	10 lb/A	
carbaryl (Savit, Sevin)	4 lb/gal F	1½ qt/A	0 days. Do not apply if seedlings are wet or if rain is expected within 2 days.
	80% WP	1⅞ lb/A	
	50% WP	3 lb/A	
Orthene	75% WP	1⅓ lb/A	14 days. Do not feed vines.
Pydrin	2.4 lb/gal EC	8 fl oz	21 days. Maximum 42⅓ fl oz/A/season, RUP ^b .

^aPre Harvest Interval: the time, in days, between application and harvest or other use of the crop.

^bRestricted Use Pesticide: for sale to, and for use by, only persons with Pesticide Applicators Certificates.

Table 1. Insecticides Recommended for Cutworm Control in Field Crops (continued).

<i>Insecticide</i>	<i>Formulation</i>	<i>Amount</i>	<i>PHI^a and Limits</i>
<u>LEGUME HAYS AND FORAGES</u>			
Lorsban	4 lb/gal EC	1 qt/A	21 days. Maximum 1 application per cutting and 4 applications/season.
Sevin bait	5% B 20% B	30 lb/A 7½ lb/A	0 days.
carbaryl (Savit, Sevin)	4 lb/gal F 80% WP 50% WP	1½ qt/A 1⅞ lb/A 3 lb/A	0 days. Do not apply if seedlings are wet or if rain is expected within 2 days.
<u>SOYBEANS</u>			
Lorsban	4 lb/gal EC	1 qt/A	14 days for grazing, 28 days fodder or beans. Maximum 3 qt/A/season.
carbaryl (Savit, Sevin)	4 lb/gal F 80% WP	1½ qt/A 1⅞ lb/A	0 days. Do not apply if seedlings are wet or if rain is expected within 2 days. Do not mix with 24-DB.
Pydrin	2.4 lb/gal EC	8 fl oz/A	21 days. Maximum 42⅔ fl oz/A/season, RUP ^b .
<u>SMALL GRAINS</u>			
trichlorfon (Dylox, Proxol)	4 lb/gal EC 80% WP	1 qt/A 1¼ lb/A	0 days grazing, 21 days grain. Do not apply in rye. Maximum 3 applications/season.
Sevin bait	5% B	40 lb/A	0 days.
<u>SUGARBEETS</u>			
Sevin bait	5% B 20% B	40 lb/A 10 lb/A	14 days.
Lorsban	4 lb/gal EC	1 qt/A	30 days. Maximum 1 gal/A/season.
carbaryl (Savit, Sevin)	4 lb/gal F 80% WP	1½ qt/A 1⅞ lb/A	14 days. Do not apply if seedlings are wet or if rain is expected within 2 days.

^a*Pre Harvest Interval: the time, in days, between application and harvest or other use of the crop.*

^b*Restricted Use Pesticide: for sale to, and for use by, only persons with Pesticide Applicators Certificates.*



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