Kansas State University Agricultural Experiment Station and Cooperative Extension Service

KANSAS CROP PESTS

K-STATE Research and Extension

Black Cutworms

The black cutworm, *Agrotis ipsilon* (Hufnagel), may infest field crops anywhere in Kansas. But economic infestations occur most commonly in eastern Kansas and especially in the southeastern fourth of the state — south of I-70 and east to Highway 177. Black cutworms have a wide host range but are of most agricultural concern to corn producers. They can also be problematic for vegetable growers and in turf grasses.

Figure 1. Adult black cutworm moth

Adult black cutworms are relatively large, heavy-bodied moths with 1- to 2-inch wingspans (Figures 1 and 2). They are a nondescript grayish-brown color. Forewings have small, but distinctive black zigzag markings extending the length of each wing. These black wavy lines may become somewhat indistinct as the adults lose wing scales during flight and from crawling through vegetation. Forewings may then take on a mottled appearance. Hind wings are off-white with tan borders. Like most adult cutworms, the black cutworm moth can crawl rapidly to seek shelter when exposed.

Eggs are white initially, but eventually turn brown. They are spherical with small protrusions, or ribs, and usually deposited singly or in small clusters. Larvae are dark gray to black, robust, and 1 to 1½ inches long (Figure 3). Many small protrusions or tubercles give these worms their characteristic "greasy" appearance. The head capsule is brownish, and larvae go through five to nine instars, depending on environmental conditions, before pupating. They are often called the "overflow" worm because they seem to thrive in the lower, wetter areas of fields. Pupae are light brown initially, becoming dark mahogany after a few hours (Figure 4).

Figure 3. Cutworm larvae

Figure 4. Cutworm pupae

Figure 2.

Female – filiform antennae

Male – feathery antennae

Biology

Black cutworms generally do not overwinter in Kansas. After overwintering as pupae, the moths migrate or are blown into Kansas from southern states, usually beginning in March. Females deposit from 1,000 to 2,000 eggs individually or in small groups. They generally deposit eggs in low, wet areas of fields, overflow ground, and in other areas overgrown with weeds, especially winter annual weeds. They do not lay eggs on bare soil. Larvae feed on whatever vegetation is available and often the younger larvae, through about the third or fourth instar remain on the host plant. The larger larvae descend the host plant at dawn and remain in the soil during the day, feeding primarily at night or during cloudy days. Mature larvae pupate in the soil and adults emerge later to start the cycle again. This may occur two to three times per year in Kansas. Adults of the last generation migrate to southern states in the fall where they overwinter. This cycle starts again in the spring.

Figure 5. Cutworm damage showing severed stalk of corn

Damage

Black cutworm outbreaks on corn occur somewhat sporadically and at random locations. Conditions that seem to favor infestations are late planting, reduced or no-till cultivation, weedy patches, low areas in fields, and fields adjacent to non-crop vegetative areas. Late-planted fields with pre-plant weeds that were controlled late can be especially troublesome. Weeds can attract an influx of moths and seem to be the key factor determining if corn will be attacked by the larvae after the weeds are controlled.

Young larvae feed on corn leaves. Very small larvae often cause only scattered, transparent "windows" in leaves, but eventually, visible notches and irregular holes start to appear. This early damage often goes unnoticed and generally has negligible impact on the plant. Larger larvae will often chew through the stalk at night, severing plants (Figure 5). This is the damage that is usually noticed because plant stands are reduced if the plant is severed below the growing point. One cutworm, feeding on plants at the two- to four-leaf stage may sever three to four corn plants before pupating. Corn up to about 15 inches in height is most vulnerable to stand reduction. Small plants are usually pulled into the cutworm's burrow, or under a clod to be fed on in a darkened, protected place. Corn plants can be killed, even if not severed, by cutworms chewing through growing points when tunneling through the base of the small stalks.

Management

Some corn hybrids are resistant to black cutworm damage. Use of these hybrids may reduce the need for other means of control. Some seed treatments are also labeled for cutworm suppression, and these may be considered when selecting management options. Because cutworm infestations are so sporadic, pre-plant or planting-time treatments are only justified where perennial infestations occur. Likewise, rescue treatments (applied if plants are infested) are preferred over preventive treatments (applied before or at planting). The application of an insecticide as a rescue treatment should be considered when 3 to 5 percent of the plants in the two-leaf stage have been severed and the majority of the larvae are ½ inch long or less.

Photo Credits

Figures 1 and 4 – Holly Davis

Figure 2 – Robert Bauernfeind

Figures 3 and 5 – Phil Sloderbeck

R. Jeff Whitworth, Ph.D., Associate Professor

Holly Davis, Insect Diagnostician

Department of Entomology

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2954 **February 2011**

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Gary M. Pierzynski, Interim Director.