

AGRONOMIC

Spotlight



Technology
Development
by MONSANTO™

Western Bean Cutworm

Western bean cutworm (WBC) is a relatively new pest to the Midwest. Although it was originally a pest of dry bean, WBC is now a serious pest of corn in some parts of the Corn Belt. Properly identifying WBC and understanding its thresholds can help determine if control options are needed.

Life Cycle

Corn fields in the late-whorl stage are target locations for females to begin egg laying. Egg masses of 5 to 200 are usually laid on the upper surface of the top leaves. The eggs, about the size of a pinhead, are white when first laid. The eggs turn tan and then purple (Figure 1 (A)) just before the larvae hatch. Newly hatched larvae are approximately 0.25 inch in length and are dark brown. Most eggs are laid during peak moth flight, which usually occurs during late July or early August. Timing of moth flights must be compatible with the corn stage for ear feeding.

Larvae first feed on pollen. Then they feed on corn ears for several weeks before they drop to the soil, where they overwinter.

Identification

Young larvae are tan with a darker, faint diamond-shaped pattern on their backs (Figure 1 (B)). This insect can be distinguished from the corn earworm by dark stripes immediately behind the head, and the absence of small dark spines or stripes on the side of the body. As the larvae mature, they become a pinkish tan or pale brown and reach a length of 1.5 inches.

Management

WBC larval feeding damages corn through reduced grain yield and quality. Pollination may be poor if silks are damaged from feeding. Once the ear is formed, WBC feed on developing kernels and can destroy as much as 50 to 60% of

the kernels. Losses due to direct larval feeding may be compounded by subsequent fungal and mold infections associated with larval waste products.

Scouting for WBC should start when moth flights begin, usually in mid-July. Check 20 consecutive corn plants at five different locations in the field. An insecticide application has historically been recommended if 8% of the evaluated plants contain an egg mass or if young WBC larvae are found in the tassel.

Previously, management of WBC larvae relied on spraying insecticides if larvae thresholds were reached. Currently, Genuity® SmartStax™ corn provides preventative control of WBC which can improve grain quality and increase yield potential.

If needed, there are several insecticides labeled for control of WBC larvae. When an insecticide is used, apply it when 90 to 95% tassel emergence has occurred. If the tassels have already emerged, the application should be timed when 70 to 90% of the larvae have hatched. Timing insecticide sprays is critical for acceptable control. Once the larvae reach the ear tip, control is nearly impossible, making Genuity® SmartStax™ corn an attractive management option.



Figure 1. (A) Western bean cutworm egg mass shortly before hatching. (B) Western bean cutworm larvae. (C) Western bean cutworm adult captured in pheromone trap.

Sources: E. Cullen. 2008. *Wisconsin Crop Manager*. Volume 15 Number 22, Aug 7, 2008; R. Seymour and others. 2004. *Western bean cutworm in corn and dry beans*. Univ. of Nebraska Ext. NebGuide G1359; B. Wright and R. Seymour. 1996. *Western bean cutworm management*. Univ. of Nebraska Extension. PM Guide. <http://entomology.unl.edu>. 6/10/09; K.L. Steffey et al. 1999. *Handbook of Corn Insects*. Entomological Society of America.

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