



Western Bean Cutworm in Corn

Western Bean Cutworm (WBC) and the potential devastation this pest can inflict on cornfields is becoming a more urgent concern for Western Cornbelt producers. There is also an increased awareness that detection of and protection from this pest is difficult. By knowing more about the WBC's history, life cycle, physical damage and economic loss, top producers can minimize the impact by this pest.

History

The WBC is native to the high plains region of the United States, where it was documented as a pest in dry beans years ago. Sometime in the last half-century, the pest developed an appetite for corn and migration to cornfields to the east was inevitable. The WBC adult moths prefers lighter soils when overwintering but have been known to cause economic damage anywhere west of Interstate 35 in Iowa. This leads entomologists to believe the WBC has adapted to laying eggs in finer soils or flight distance is much greater than previously thought. All field corn in the western cornbelt without an in-plant insect-protection trait like Herculex™ I * should be scouted beginning in mid-July. Field corn in the Western Cornbelt has traditionally been treated with a broadcast liquid insecticide.



Life Cycle

Depending on the number of heat units accumulated during a given year, the WBC moths can usually be found in light traps in early July. Scouting for egg masses on upper leaves and larvae in the tassels and silks starts in mid-July. The eggs are pumpkin-shaped and become purple when hatch is close. Magnification of the egg mass is necessary for initial identification. Once hatched, the larvae move from the whorl to the tassel. Silks soon follow and the WBC quickly migrates to the ear where insecticides are not effective. The larvae start out dark brown and become lighter with each growth stage until reaching a pinkish-tan color. The larvae are often confused with Corn Earworm that have similar features and occupy corn silks and ears at the same time. Damage and management of these two insects is not the same, so correct identification is important.



Damage

In the ear tip, the WBC increases in size over several weeks. Nearly all of the damage is done by the last stages of the larvae by the grain they consume and the diseases they introduce. In the final stage of larvae growth, the larvae are over one inch in length and have an amazing appetite for their size. In addition, the WBC has no problem sharing the



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same ear with many other WBC larvae unlike the Corn Earworm which is cannibalistic and generally less destructive.

Economics

While WBC is not a serious problem in every field every year, the occurrence of economic loss has been increasing. Warmer, dry winters and/or winters with snow cover keep the over-wintering population high. Documented losses of several bushels per acre have been found when an average of one WBC per ear and it is common to find more than one larvae per ear.

Management

Most University extension departments agree that the threshold level is between five and ten percent egg masses found. However, even professional agronomists will admit to having problems pulling the trigger on treatment. It takes sampling many locations in a field every few days to stay on top of this insect. To make matters worse, insecticides miss those cutworms protected by ear husks and latecomers that have not yet hatched.

Herculex™ I * technology mentioned earlier takes care of the timing problems broadcast applications have by providing full season protection of the Western Bean Cutworm. Though the protection is not one-hundred percent, it is high enough to offer a substantial improvement over the downfalls of broadcast insecticide treatments.

*Herculex I Insect Protection technology by Dow AgroScience and Pioneer Hi-Bred. Herculex is a trademark of Dow AgroSciences LLC

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CREDITS: University of Nebraska Cooperative Extension, Western Bean Cutworm in Corn and Dry Beans, publication G98-1359-A
Colorado State University Cooperative Extension, Western bean Cutworm: Characteristics & Management in Corn and Dry Beans, publication 5.538