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Western bean cutworms: status and scouting

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Western bean cutworms: status and scouting

Abstract

Western bean cutworms have caused significant damage to some cornfields in Iowa since 2000. In the last couple of years, this insect seems to be moving eastward in Iowa. As it expands its range, it will cause damage to those fields not protected against this insect. A network of pheromone traps have been placed throughout the state to assist in scouting efforts for this pest. Iowa State University Extension is cooperating with Pioneer Hi-Bred agronomists in eastern Iowa to survey counties where the insect has not yet been reported.

Keywords

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INTEGRATED CROP MANAGEMENT

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Western bean cutworms have caused significant damage to some cornfields in Iowa since 2000.

In the last couple of years, this insect seems to be moving eastward in Iowa. As it expands its range, it will cause damage to those fields not protected against this insect. A network of pheromone traps have been placed throughout the state to assist in scouting efforts for this pest. Iowa State University Extension is cooperating with Pioneer Hi-Bred agronomists in eastern Iowa to survey counties where the insect has not yet been reported. Most traps are now in place and results are being posted on a [Western Bean Cutworm website](#) [1]. Additionally, I am operating a blacklight trap in eastern Boone County, and during July 10-12, the trap was catching between 200-300 moths per night. Traps cannot be used to predict which fields should be sprayed, rather they can indicate those areas that have significant moth flights and where fields should be scouted.

Corn hybrids with Herculex™, which contains a Bt protein (Cry1F), should be adequately protected against significant western bean cutworm damage.

Other corn hybrids, however, should now be scouted for western bean cutworm eggs, especially in the western half of Iowa.

Cornfields in the late-whorl stage are most attractive to the females for egg laying. Eggs are laid in masses of 5 to 200, usually on the upper surface of the top leaves. The eggs are about the size of a pinhead. The eggs are white when first laid and then they turn tan and finally purple just before the larvae hatch. Newly hatched larvae are approximately 0.25 inch in length and are dark brown. Young larvae are tan with a darker, faint diamond-shaped pattern on their backs. As the larvae mature, they become a pinkish tan or pale brown and reach a body length of 1.5 inches. Larvae first feed on pollen and then move to the corn ears, feeding there for several weeks before they drop to the soil where they overwinter. One larva per plant usually does not cause severe damage, but the ears may contain up to 10 larvae, which can substantially reduce yield, because western bean cutworms are not cannibalistic, compared with corn earworms.

Start scouting for the western bean cutworm in mid-July. In corn, check 20 consecutive plants at five locations. The University of Nebraska recommends that if 8 percent of the plants have an egg mass or young larvae are found in the tassel, consider applying an insecticide. Timing of the application is critical. If the tassel has not emerged when the larvae hatch, they will move into the whorl and feed on the developing pollen grains in the tassel. As the tassel emerges, the larvae will move down the plant to the green silks and then into the silk channel to feed on the developing ear.

If an insecticide is needed, apply it when 90 to 95 percent tassel has emerged. If the tassels have already emerged, the application should be timed for when 70-90 percent of the larvae have hatched. Once the larvae reach the ear tip, control is nearly impossible. If an insecticide application is needed, cornfields should be checked for the presence of spider mite colonies. If mites are found, select a product that does not stimulate mite flare ups (increased population growth).

Insecticides labeled for western bean cutworm in field corn.

| Insecticide | Rate/Acre | Comments |
|--------------------|------------------|--------------------------|
| Ambush* | 3.2-6.4 oz | May cause mite flare up. |
| Asana XL* | 2.9-5.8 oz | May cause mite flare up. |
| Baythroid 2* | 2.1-2.8 oz | |
| Capture 2EC* | 2.1-6.4 oz | |
| Lorsban 4E* | 1-2 pt | |
| Mustang Max* | 1.76-4.0 oz | |
| Penncap M* | 2-4 pt | |
| Pounce 3.2EC* | 2-4 oz | May cause mite flare up. |
| Sevin XLR Plus | 2 qt | |
| Warrior* | 1.92-3.2 oz | |

*Restricted-use insecticide.

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[1] <http://latroductus.ent.iastate.edu/westernbeancutworm/>

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