

5-11-1998

Realistic expectations for herbicides


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Recommended Citation

Hartzler, Robert G. and Owen, Micheal D., "Realistic expectations for herbicides" (1998). *Integrated Crop Management News*. 2279.
<http://lib.dr.iastate.edu/cropnews/2279>

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Realistic expectations for herbicides

Abstract

Black cutworm is a pest of corn in Iowa, occasionally causing economic loss. Cooperators around Iowa assist Iowa State University integrated pest management staff in determining when black cutworm adults arrive from overwintering sites near the Gulf Coast. A network of pheromone traps shows that two major black cutworm flights occurred in Iowa this spring, the first on April 14 and the second on April 18-20. Both flights were reported across the entire state.

Keywords

Agronomy, Entomology

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Entomology | Weed Science

INTEGRATED CROP MANAGEMENT

Realistic expectations for herbicides

Black cutworm is a pest of corn in Iowa, occasionally causing economic loss. Cooperators around Iowa assist Iowa State University integrated pest management staff in determining when black cutworm adults arrive from overwintering sites near the Gulf Coast. A network of pheromone traps shows that two major black cutworm flights occurred in Iowa this spring, the first on April 14 and the second on April 18-20. Both flights were reported across the entire state. Trap data provide us with a key first step in black cutworm management because it lets us know when the moths arrive and females lay eggs. We then track degree day accumulations to calculate when black cutworm larvae will reach a size that they can start cutting corn.

Predicted dates. The presence of a major flight does not mean that there will be economic damage from black cutworms. Adverse weather, lack of adequate food for newly hatched larvae, predation, and disease can reduce larval populations. We do not recommend planting-time insecticide treatments for black cutworm control but instead encourage farmers to scout fields for larvae cutting corn. Larvae are large enough to begin cutting when about 300 base-50 degree days have accumulated since eggs were laid. The map shows the anticipated date when cutting is likely to begin, based on accumulated base-50 degree days as of May 3, and assuming average temperatures over the next 2 weeks. This year's map is simple compared with previous years' maps, largely because of the uniformity of flight arrival in Iowa.

Scouting. Begin scouting a day or two before the projected scouting date for your area. Fields with early spring weed growth, especially where tillage was delayed until just prior to planting, and corn planted into soybean stubble are the most likely areas for black cutworm problems. Look for leaf feeding as a sign of early cutworm injury. If you find leaf feeding, try to find the larva responsible in the soil near the damaged plant. Dingy cutworms look much like black cutworms but rarely if ever cause economic damage and do not warrant treatment. Dingy cutworms can be distinguished by having four slightly raised black spots, or tubercles, of uniform diameter on each body segment. Black cutworms also have four tubercles, but one pair of tubercles is clearly larger than the other pair. If you find black cutworm larvae, mark off 100 plants in a row, and scout these same plants for cutting over time. Establish the 100-plant monitoring stations in several spots in the field. The strips allow you to monitor how damage progresses (or doesn't) over time.

Economic (treatment) thresholds. When cutworms are small (less than 1 inch long) they have much time remaining to feed and can cause considerable damage. An insecticide treatment should be considered if 2-3 percent of the plants is wilted or cut. For black cutworms longer than 1 inch, treatment should be considered if 5 percent of the plants is cut.

For fields with populations under 20,000 larvae, use judgment and consider treating sooner. You can stop scouting when the field is sprayed with a rescue treatment, or if the corn plants reach V5 (five-leaf) stage; cutworms have difficulty cutting plants this large. A planting time treatment with an insecticide may not control large populations of black cutworms, so check these fields as well.

What are suggested insecticide treatments? The products in the table are labeled for rescue treatments of corn for black cutworm control. If the surface is dry, rotary hoeing just after application will increase the effectiveness of Lorsban. However, Ambush, Asana, Pounce, or Warrior should not be incorporated. Read the specific product label before application.

Product	Ounces per acre
Ambush 2EC	6.4-12.8
Asana XL	5.8-9.6
Lorsban 4E	2-4
Pounce 3.2E	4-8
Warrior 1EC	1.92-3.2

This article originally appeared on pages 72-73 of the IC-480 (9) -- May 11, 1998 issue.

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