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Western bean cutworms— Trap catches and scouting

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Western bean cutworms— Trap catches and scouting

Abstract

Western bean cutworms are being trapped again throughout Iowa in 2005. 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 a number of individuals, including Pioneer Hi-Bred agronomists, in the operation of these traps. Most traps are now in place and results are being posted at www.ent.iastate.edu/trap/westernbeancutworm. Trap data 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.

Disciplines

Agriculture | Entomology

Additional information on where aphids have been reported in Iowa and management recommendations can be found at www.soybeanaphid.info.

Decorah, Iowa				
Percent plants with aphids				
	2002	2003	2004	2005
June 1	—	—	0	6
June 7	—	—	0	15
June 15	—	40	0	33
June 22	7	90	0	31
June 29	15	100	0	85
July 6	70	100	4	99
July 13	93	100	8	

Marlin E. Rice is a professor of entomology with extension and research responsibilities in field and forage crops.

Decorah, Iowa				
Average aphids per plant				
	2002	2003	2004	2005
June 1	—	—	0	0.1
June 7	—	—	0	1.4
June 15	—	10	0	2.5
June 22	1	115	0	4.0
June 29	2	341	0	48
July 6	14	745	0.5	179
July 13	25	2,803	1	



Insects and Mites

Western bean cutworms— Trap catches and scouting

by Marlin E. Rice, Carol Pilcher, and Rich Pope, Department of Entomology

Western bean cutworms are being trapped again throughout Iowa in 2005. 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 a number of individuals, including Pioneer Hi-Bred agronomists, in the operation of these traps. Most traps are now in place and results are being posted at www.ent.iastate.edu/trap/westernbeancutworm. Trap data 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 most western bean cutworm damage. Other corn hybrids, however, should now be scouted for western bean cutworm eggs, especially in the western half of Iowa.

Corn fields approaching VT 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 and are white when first laid. They then 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-



Western bean cutworm eggs are laid in clusters and turn dark purple a day before hatching. (Marlin E. Rice)

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 into the ears, feeding there for several weeks before they drop to the soil where they overwinter. Western bean cutworms are not cannibalistic, compared with corn earworms. One larva per plant usually does not cause severe damage, but the ears may contain up to 10 larvae, which can substantially reduce yield.



Newly hatched western bean cutworm larvae. (Marlin E. Rice)

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 if 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, corn fields 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

Marlin E. Rice is a professor of entomology with extension and research responsibilities in field and forage crops. Rich Pope is an extension program specialist in entomology with responsibilities in integrated pest management. Carol Pilcher is an instructor and extension program specialist in entomology with responsibilities in pest management and the environment.

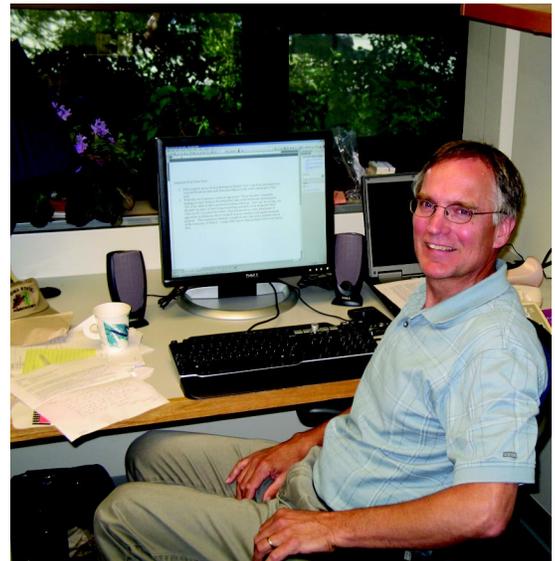
Elmore now on the job at Iowa State University

Roger Elmore, the new corn extension specialist at Iowa State University, began work on July 1. Elmore was previously a professor of agronomy and horticulture at the University of Nebraska. He received his bachelor's degree in agriculture from Illinois State and his master's and doctorate degrees from the University of Illinois in agronomy.

Elmore is a fellow of the American Society of Agronomy and an active member of several professional organizations including the Crop Science Society of America and the Nebraska Cooperative Extension Association. He has served as an associate editor for the *Journal of Production Agriculture* and the *Agronomy Journal*.

Elmore has worked internationally over the years with projects in Ghana, China, Argentina, and Puerto Rico. He also served with the Peace Corps in Malaysia. His international work provided him with a unique perspective on corn production and agricultural systems, and has made a profound impact on his extension and research philosophy as well as his philosophy about life in general.

The staff at the *ICM Newsletter* welcome Elmore to Iowa State.



Roger Elmore settles in at Iowa State. (Rich Pope)