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Stalk borers on the move!

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Stalk borers on the move!

Abstract

Stalk borer is a pest to corn and occasionally soybeans. Damage is usually limited to the first few rows adjacent to grassy fencerows, terrace backslopes, and road ditches, but occasionally the damage is fieldwide. Stalk borers have one generation per year. Moths are attracted to leaves and stems of grasses and broadleaf weeds, starting in late August through mid-October. The eggs overwinter and hatch the following spring starting when around 500 base-41 degree days has accumulated. These larvae feed in the spring growth of the grasses, but eventually grow too large to stay inside the small grass stems, forcing them to move to larger plants.

Keywords

Entomology

Disciplines

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INTEGRATED CROP MANAGEMENT

Stalk borers on the move!

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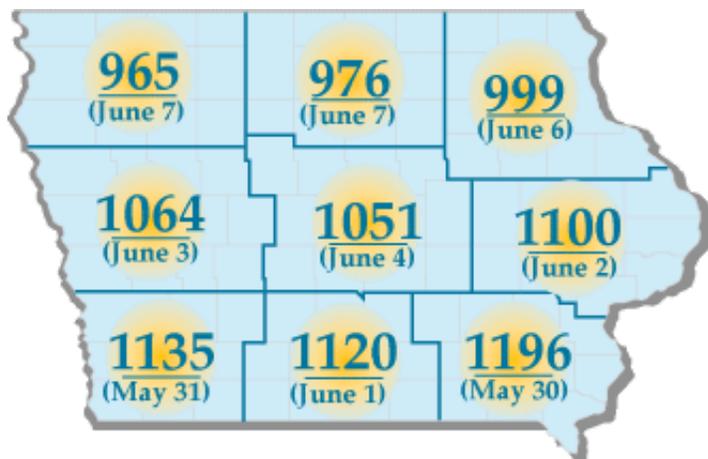
[1]

Early stage stalk borer has a purple midsection and an orange head with a black stripe.



[2]

Stalk borer larva feeding in corn stalk.



Left: Degree day accumulations 41°F. January 1, 1998 through May 25, 1998 (projected scouting date for stalk borer migration [1,300 degree days]).

Stalk borer eggs have already hatched and most larvae are now in smooth bromegrass and other grasses, and in giant ragweed. However, some stalk borers may already be in corn because they moved there first instead of into the grass. When 1,300-1,400 degree days have occurred in your area (see the map), scout to determine if the larvae are moving into corn. These dates predict when 10 percent of the larvae will move to corn.

Begin by scouting corn adjacent to grass terraces, waterways, ditches, and fencerows where

stalk borer stand loss has occurred within the last several years. Look for small larvae down inside the whorls or for feeding holes in the new leaves. Larvae that are feeding in the whorl, but haven't tunneled into the plant, can be killed with an insecticide. The smaller the corn, the more likely it can be killed by stalk borers. Once corn has seven leaf collars emerged (V7 stage), stalk borers are unlikely to kill the plants. Stalk borers don't move very far from grass, so only the first four rows of corn next to grass would need to be sprayed.

Stalk borer economic thresholds.

	Percentage of infested plants at three corn prices		
Leaf stage	\$2/bu	\$3/bu	\$4/bu
1	10	7	5
2	12	8	6
3	15	10	7
4	16	11	8
5	17	12	9
6	34	23	17
7	100	100	100

Economic thresholds (see table) can help in deciding whether or not to apply an insecticide. These economic thresholds are based on the percentage of infested plants, and assume \$13/acre control costs and 80 percent control with an insecticide. From the table, determine the expected market value of corn (if you can!) and the plant stage. If the number of infested plants exceeds the percentage given for the plant stage and market value selected, then an insecticide application can be economically justified. Young plants have a lower threshold because they are more easily killed than older plants. Larry Pedigo, research entomologist (ISU), developed these thresholds.

These economic injury levels are based on \$13/acre control costs and 80 percent control with an insecticide. Labeled insecticides and rates per acre include Ambush 2E (6.4 to 12.8 ounces), Asana XL (5.8 to 9.6 ounces), Lorsban 4E (2 to 3 pints), Pounce 3.2EC (4 to 8 ounces), or Warrior 1EC (2.56 to 3.84 ounces). Always read and follow label directions.

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