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Stalk Borers Set to Invade Border Rows

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Abstract

Stalk borers are notorious for killing or stunting corn rows next to fences, grassed waterways and conservation terraces. To stop this damage, fields must be scouted and an insecticide applied on a timely basis before the larvae have an opportunity to tunnel into the growing point of the young plants.

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Stalk Borers Set to Invade Border Rows

ICM News

June 9, 2008

By Marlin Rice and Rich Pope, Department of Entomology

Stalk borers are notorious for killing or stunting corn rows next to fences, grassed waterways and conservation terraces. To stop this damage, fields must be scouted and an insecticide applied on a timely basis before the larvae have an opportunity to tunnel into the growing point of the young plants.

Stalk Borers in Grass

There is one generation of stalk borers each year, and the eggs were laid late last summer and early fall. By early June, stalk borer larvae will have hatched in Iowa and most of the larvae will be inside brome grass, other grasses or giant ragweed.

However, a few stalk borers may already be in corn because they moved there first instead of to grass. Stalk borers in brome grass eventually kill the grass seed head,

causing "dead heads." The larvae eventually grow too large for the grass stems and then they crawl out in search of larger diameter plants, including corn.

Degree Days and Migration

Mid June is the predicted time for southern Iowa when stalk borers will move out of grass and into corn. Approximately 10 percent of the larvae will move out of the grass by 1,400 degree days (base 41 °F) and 50 percent of the larvae will have moved by 1,700 degree days. When 1,300-1,400 degree days have occurred in your area (Table 1), scout to determine whether the larvae are moving into corn. These dates predict when 10 and 50 percent of the larvae will move into corn.



Stalk borer damage to border rows

Scouting Border Rows

If stand loss has occurred in your corn fields in past years, then there is a good damage may occur again. In these situations, an insecticide can be sprayed to the border rows. However, if you are uncertain whether stalk borers are a potential threat, then scout the corn adjacent to grass terraces, waterways, ditches and fencerows at 1,300 degree days.

Stalk borers don't crawl very far from grass, so only the first four rows of corn next to grass would need to be sprayed. Look for small larvae resting inside the whorls or for new leaves with feeding holes. Larvae that are still feeding in the whorl, but that have not yet tunneled into the plant, can be killed with an over-the-top insecticide. The smaller the corn, the more likely it is to be killed by stalk borers. Once corn reaches the 7-leaf stage (V7 stage), stalk borers are unlikely to kill the plants.

Fields with Weeds

An exception to the border row problem is when weedy grasses, and especially giant ragweed, are growing throughout a corn field. If these weeds are killed with herbicides,

the stalk borers move out of the weeds and into the corn. Stalk borers can destroy a corn stand under these circumstances.

To prevent this destruction, an insecticide should be tank mixed with the herbicide (if it is a fast burndown herbicide) or the field should be sprayed with the insecticide approximately 7 days after the herbicide (if it is a slow burndown herbicide). Be sure to read the insecticide label before mixing pesticides.

Bt Corn

In some of our experiments, we have found that Bt corn (YieldGard® Corn Borer hybrids) suppresses or slows down stalk borer injury. Hybrids with this technology do not have the same toxic effect on stalk borers as on European corn borers, so don't expect complete control of this pest in Bt corn. You may want to scout your Bt corn acres as well if you have historically had a problem with stalk borers. We have not evaluated Herculex® I or Herculex® XTRA hybrids, so we are unfamiliar with the performance of this technology against stalk borers.

Table 1. 2008 projected dates for migration of stalk borer (base 41 °F).

Iowa Crop Reporting Districts	Accumulated DD41 (as of June 8)	Projected 10% migration (1400 DD)	Projected 50% migration (1700 DD)
NW	965	June 23	July 2
NC	948	June 24	July 2
NE	982	June 23	July 1
WC	1129	June 17	June 26
C	1089	June 18	June 28
EC	1172	June 16	June 25
SW	1243	June 13	June 22
SC	1239	June 13	June 22
SE	1327	June 11	June 20

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