

September 16, 2014

STEM BORERS CHALLENGE SOYBEAN FARMERS

Soybean stem borers or *Dectes* stem borer's are expanding their territory in Nebraska again this year. They are moving north and east from their first appearance in Nebraska in Jefferson and Thayer Counties a few years ago. This year stem borers can be found in much of Saline County, SW Lancaster and Western Gage County. The interesting thing is that producers may not know if they have them unless harvest delays of serious storms result in plant breakage and harvest losses.

The *Dectes* stem borer is a small, grayish longhorned beetle which lays its eggs in soybean petioles. Larvae tunnel down the petiole and into the stem, causing the en-tire leaf to wilt and die. Dead, wilted and drying leaves above the normal senescence zone at the bottom of the plant can help identify stem borer infestations. The dead leaves are mostly down in the plant canopy and are often overlooked. Bored stalks reveal reddish interior discoloration when split. As the soybean plants reach ma-turity, the larvae tunnel to the base of the main stalk. As the plants dry out, larvae girdle the stalk internally. This weak-ens the stems and can result in lodging if harvest id delayed or significant wind storms challenge the mature plants. Larvae overwinter in the stem bases, plugging the hollowed section near the girdling point so the stem base appears solid. The larvae are cannibalistic, so only one remains within each infested plant late in the year.

Dr. Robert Wright and graduate students at the University of Nebraska have been doing research on soybean stem borer in Nebraska since 2013 with support from the Nebraska Soybean Board. Last year in studies at UNL's South Central Ag Lab near Clay Center, peak *Dectes* emergence occurred in early July with emergence continuing through July. Studies in commercial soybean fields in south central Nebraska showed peak numbers (more than three beetles per 20 sweeps) around July 8-15, with adults detectable through early August. Seasonal occurrence appears to be somewhat later this year than last in south central Nebraska.

Dr. Wright would like information from farmers who attempted control of stem borers. Contact Paul Hay at the Extension Office in Beatrice 402-223-1384 if you treated some fields. Paul will do the interview to collect the data Dr. Wright would need.

Wind storms in early October in 2013 resulted in some light to very significant damage in the Daykin to Milford area. Losses from 1-2 bushels per acre to over 7 bushels per acre were detected. Our best recommendations at this point are to scout fields and harvest positive fields early in harvest season. Pay close attention to early planted and early maturing varieties as they tend to have more problems and be aware of fields where you have had problems in the past.

Previous research has not established an economic threshold for this insect. Research by Phil Sloderbeck and Larry Buschmann at KSU's Southwest Research and Extension Center, Garden City, Kan. was published in the *Journal of Insect Science*. They evaluated application of Warrior insecticide in nine replicated on-farm studies over a three-year period. Applications were timed to correspond with the peak density of *Dectes* in soybeans and a second treatment was made 14 days later. They monitored adult densities and end of season percent of plants with larval tunneling. The results varied from year to year. The dual treatments resulted in 74 percent, 88 percent and 89 percent adult control in the treated fields. The resultant tunneling reductions in the fields were 0 percent, 59 percent, and 75 percent. The yield impacts in the fields were all less than one percent, hardly a paying proposition. Insecticide applications to control *Dectes* may not improve grower profits, and may lead to late season outbreaks of other pests such as spider mites; bean leaf beetle, stinkbugs or soybean aphids by eliminating natural enemies which help suppress these arthropod pests.

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