SOYBEAN STEM BORER

Soybean Pests

Overview

Soybean stem borer (*Dectes texanus texanus*) is also commonly referred to as Dectes stem borer. It is a small, long-horned beetle whose larvae attack soybean and other hosts including sunflower, giant ragweed and cocklebur. It is a native insect species in North America east of the Rocky Mountains. Although soybean stem borer damage to soybean has been reported since the 1970s, it has not generally been considered a major pest. In recent years however, reports of damage have increased. Dectes stem borer damage to soybean has been reported most frequently in areas across Texas, Kansas and Nebraska, along the Mississippi and Ohio Rivers, and along the Atlantic coast (Figure 1).

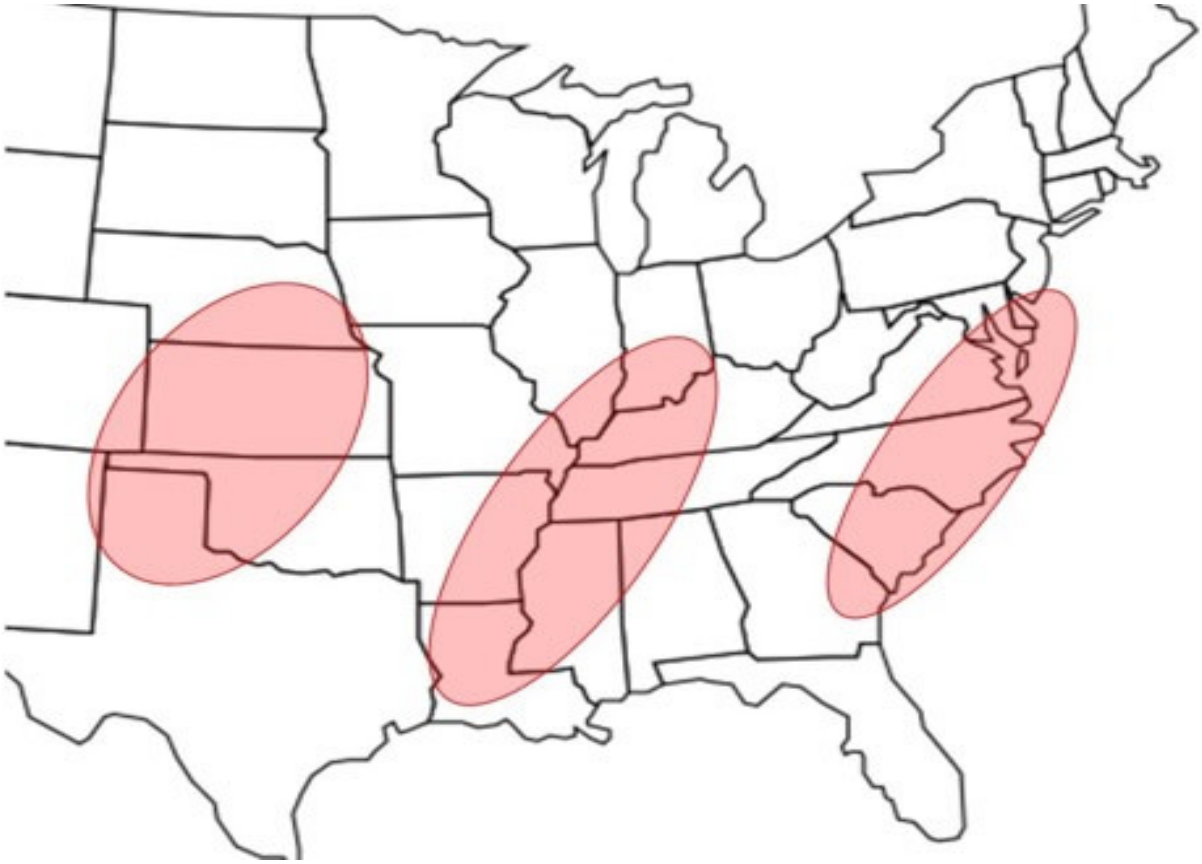

Figure 1. Areas of frequent soybean stem borer infestation in soybean. (Adapted from Buschman and Sloderbeck, 2007.)

Adults are present in soybean fields from late June through August. The females lay eggs into the stems at leaf attachment points, (petioles). When the eggs hatch the larvae will bore into the stem where they begin to feed on the pith. Larvae are cannibalistic, so there is only one larva per stem. There is minimal yield loss caused by larval stem feeding. Stem damage could be confused with symptoms of brown stem rot.

As the larvae mature, they move to the base of the plant stem where they will hollow out the interior to form an overwintering chamber. The formation of the overwintering chamber creates a weak location on the stem where the plants have a greater risk of lodging. This lodging can result in harvest difficulties and significant yield loss. The larva will overwinter in the field to emerge as an adult the following summer.

Scouting

Identification

Adult beetles are gray to bluish-gray and 3/8 to ¾ inches long (Figure 2). Antennae are

longer than the body (about 1 inch long) and have alternating light and dark gray bands.

Figure 2. Dectes stem borer adult. Photo courtesy of IPMimages.org.: J.P. Michaud, Kansas State University, Bugwood.org

Larvae are a light cream color, cylindrical shaped, and when mature are about ½ to 5/8 inch

long (Figure 3).

Figure 3. Dectes Stem borer larva. Photo courtesy of J.P. Michaud, K-State Research and Extension.

Soybean fields can be monitored for the presence of beetles and plant damage beginning in late June. Adult beetles are active during the day but secretive, spending much of the time hiding under leaves within the plant canopy. Sometimes they may be seen flying and running around on plant surfaces. When approached, beetles either take flight or fall to the ground, feigning death. When the beetles lay eggs into the stem, the associated leaf will eventually wilt and die. Fields should be checked in at least five locations looking for plants with wilting or dead leaves. Particularly close attention should be paid to fields that were either planted early or were planted to a shorter season variety. These types of fields tend to be more susceptible to damage by the formation of larval overwintering chambers, thus have a greater risk of lodging. If 50% of the checked plants have stem borer damage, the field is at risk for significant stand loss. Early harvest is recommended for fields that have this degree of infestation.

Management

Soybean stem borer is a difficult pest to control. It is best approached with a combination of practices including:

- Infested fields should be harvested as soon as the mature beans are dry enough to be processed by a combine to avoid lodging risks.
- Rotation to a crop other than soybeans.
- Growing longer season soybean varieties can be an effective practice by allowing more time to harvest the crop before infested plants lodge.
- Control of within field weeds such as sunflowers, ragweed, and cocklebur will reduce these alternate hosts and consequently the number of borers in the field.
- Another control method is to plant a trap crop of sunflowers next to a soybean field. The beetles prefer to lay eggs in the sunflowers, thus reducing the number of beetles found in the adjacent soybeans.

Insecticides:

The adult stem borers are susceptible to insecticides but because they are found on the plants for an extended period of time, controlling adult beetles would be expensive and is not recommended. The larvae are well protected within the stem of the plant, thus topically applied insecticides will not kill them.

Resources

Soybean Stem Borer
Kansas State University, 2013
https://entomology.k-state.edu/extension/insect-information/crop-pests/soybeans/sbsb/

Soybean Stem Borer
University of Missouri, 2005
https://extension2.missouri.edu/G7152

This website is funded by the soybean checkoff