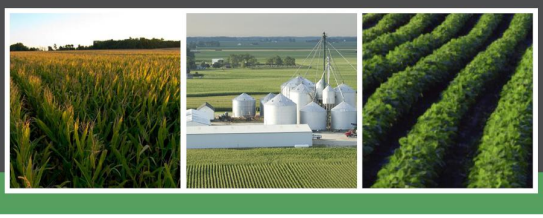

Agronomic Spotlight

Stink Bugs in Corn and Soybean

- Stink bugs feed on the fruits and seeds of a wide range of plants including corn and soybeans.
- The brown marmorated stink bug, initially discovered in the eastern United States in the 1990s, is quickly spreading throughout the country.
- Additional stink bug species that affect crops include the brown stink bug that infests corn fields early in the season and the green stink bug that infests soybean fields later in the season.

Identification of the Different Species

Stink bugs are shield-shaped as nymphs and adults and often release an odor when disturbed. Green stink bug nymphs change color as they grow while brown stink bugs and brown marmorated stink bugs have similar coloration as nymphs and adults. Stink bugs use long piercing-sucking mouthparts to feed. Stink bugs overwinter in leaflitter, crop residue, and other plant debris.

Brown marmorated stink bugs commonly feed on and damage corn ears. The adults are mottled shades of brown and gray and are covered with dense puncture marks on the upper side of the body (Figure 1). The underside of the body is white, sometimes with gray or black markings. They have dark red eyes and the legs are brown with faint white banding. A distinguishing feature of this species is the broad light and dark bands on the last two antennal segments.

Figure 1. Brown marmorated stink bug. Photo source: Susan Ellis, Bugwood.org.

Brown stink bugs commonly feed on corn in the early vegetative stages. The adults are nearly 12 to 15 mm long and are dull grayish-yellow in color (Figure 2).

Figure 2. Brown stink bug. Photo source: Russ Ottens, University of Georgia, Bugwood.org.

Green stink bugs commonly feed on soybeans. The adults are bright green in color and measure 14 to 19 mm long (Figure 3). A narrow, orange to yellow line borders the major body regions.

Figure 3. Green stink bug. Photo source: Susan Ellis, Bugwood.org. (image number 1366044)

Damage to Corn and Soybean

Stink bugs that move into the field from other crops or vegetation may initially colonize the outside edges of the field. If stink bugs overwintered in crop residue or in a cover crop, damage may be initially noted throughout the field. Enzymes that are transmitted from the mouthparts into plant tissues during feeding can cause phytotoxic symptoms and growth abnormalities. Plants that have been damaged by stink bugs may be more susceptible to other stress factors such as drought, disease, or attacks by other insect pests.

Corn. Stink bugs primarily prefer to feed on young corn seedlings or developing ears and kernels, but can be found feeding on any plant part. Early season feeding on corn seeds and seedlings can reduce stands and potentially reduce yield. Surviving plants may be stunted and have poor root systems. When feeding occurs in the whorl, leaves will have bands of holes across them. If the growing point is killed or damaged, the plants may produce tillers or die. Tillers

Figure 4. Shrunken and unfilled kernels may indicate stink bug damage. Photo courtesy of Dr. Galen Dively, University of Maryland.

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Stink Bugs in Corn and Soybean

may produce harvestable grain if initiated early in the growing season. Generally, tillers do not have a negative effect on yield potential unless severe insect feeding causes excessive tillering.

Feeding can severely damage developing ears and kernels and potentially result in significant yield loss (Figures 4 and 5). A damaged corn ear will often point away from the plant stem because the portion of the ear with damaged, aborted kernels will not elongate equally to the side without damage.

Figure 5. Symptoms of stink bug damage include misshapen ears. Top photo courtesy of Dr. Angus Catchot, Mississippi State University.

Soybean. In soybean, stink bugs are most commonly found feeding on young, tender pods and developing seeds. Feeding results in deformation and abortion of the pods and seeds within the pods (Figure 6). Additionally, feeding can reduce seed quality, oil content, and germination. Stink bug populations may be highest on soybean during the soft, immature seed growth stage (R5.5-R6) while the impact on seed yield and quality parameters may be greatest when feeding occurs during pod set through late seed fill (R3-R5.5). Due to pod load reductions, soybean stems may retain their greenness which can delay harvest.

Figure 6. Damage to soybean pods and seeds by stink bugs. Photo Courtesy of Ric Bessin, University of Kentucky.

For information on scouting and management of stink bugs in corn and soybean, see the Spotlight **Managing Stink Bugs in Corn and Soybean**.

Sources

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