

Managing Stink Bugs in Corn and Soybean

KEY POINTS

- Stink bug populations can increase after a mild winter and in cropping systems that use no-till and/or cover crops.
- Stink bugs are commonly found on corn in the beginning of the growing season and on soybeans later in the season.



Figure 1. (Top) Brown marmorated stink bug, (middle) Brown stink bug, (bottom) Green stink bug. Photo source for BMSB and GSB: Susan Ellis, Bugwood.org. Photo source for BSB: Russ Ottens, University of Georgia, Bugwood.org.

Management Practices that can Increase Stink Bug Populations

Stink bugs overwinter in wooded and grassy areas, previous crop residue and other plant debris, and in cover crops. Stink bugs that move into the field from other crops or vegetation may initially colonize the outside edges of the field. If stink bugs overwinter in crop residue or in cover crops, damage may be noted throughout the field.

- **No-till.** Stink bug damage may be more severe in corn planted in no-till fields due to the increased crop residue.
- **Cover crops.** Cropping systems that include cover crops are especially at risk for stink bug damage. A cover crop provides an overwintering site and an early spring food source. Stink bug populations can build on the cover crop, move to emerging corn plants early in the season, and then to soybeans later in the season.
- **Improper planting.** Stink bug damage can occur to corn seeds and seedlings when seed slots are not closed properly during planting, which can allow stink bugs to access the underground stem and growing point of the corn seedling.

Table 1. Stink bug identification (See Figure 1)

Stink bug species	Crop and (feeding site)	Characteristics
Brown marmorated	Corn (ear) Soybean (pods & seed)	Adults are brown with whitish bands on the antennae, they congregate into large groups, and two generations/year are common.
Green	Soybean (pods & seed)	Adults are bright green with a distinguishing triangular-shaped plate partially covering the wings. Nymphs are black and red.
Brown	Corn (seedlings & ear) Soybean (pods & seed)	Adults are brown and have a sharply -pointed area behind the head that is often orange-tipped. The body underside is pale green to yellowish and males have a distinct dark spot near the tip of the abdomen underside. One generation/year.

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Table 2. Damage to corn and soybean (see Figure 2)

Common name	Feeding site and damage
Green stink bug	Soybean: pierce pods and destroy or severely damage the developing seed; pods take on a flattened appearance; unfilled pods can cause delayed maturity
Brown stink bug	Corn: feed on and kill seedlings, damage young leaves & ears Soybean: pierce pods and destroy or severely damage the developing seed; pods take on a flattened appearance; unfilled pods can cause delayed maturity
Brown marmorated stink bug	Corn: feed on developing ears causing deformed ears with aborted and shriveled kernels Soybean: pierce pods and destroy or severely damage the developing seed; pods take on a flattened appearance; unfilled pods can cause delayed maturity



Figure 2. Varying degrees of stink bug damage to corn ears and soybean pods and seeds. Soybean photo source: Ric Bessin, University of Kentucky.

Scouting for Stink Bugs

When scouting for stink bugs in corn or soybean fields, concentrate on field edges first as initial outbreaks usually occur in border rows. If damage is noted on the field edges, examine the interior of the field. Economic thresholds are based on the numbers of large nymphs and adults, and the extent of damage. Thresholds vary by region and stink bug species present. Check with local university extension for economic threshold recommendations in your area.

Corn

- Begin scouting for stink bugs during the two weeks following corn emergence to protect seedlings.
- Continue scouting through pollination to protect the developing ear. Look for stink bugs on the stalk, especially in the area where the ear is beginning to form.

Soybean

- Stink bug populations generally do not exceed economic thresholds on soybean in the vegetative growth stages. Weekly scouting should begin at early pod development.
- Sampling for stink bugs in soybean can be done with sweep nets.
- The brown marmorated stink bug is often hard to sample via sweep nets and may require inspections of individual plants to count insects per foot of row.

Management Options

Insecticidal rescue treatments on seedling corn may be necessary when stink bug populations reach economic thresholds. It is also critical to protect corn from stink bug feeding during the pre-tassel stage when the ear is forming (Figure 2). To protect soybean yield and quality, pod establishment and elongation through seed fill are the critical stages for considering insecticide treatments if stink bug populations have reached economic thresholds.

- Insecticides must be delivered into the crop canopy at high volumes to reach the insects hiding within the foliage.
- Ground applications are more effective than aerial applications because they generally use higher volumes which provide better spray coverage and better canopy penetration.
- Insecticidal seed treatments may provide some stink bug protection for a short time.
- After stink bug emergence, early burndown of a cover crop can help reduce a food source and lower stink bug populations.

Sources:

¹ Roberson, R. Stink bugs threaten Southeast corn crop. 20 May 2010. Southeast Farm Press. <http://southeastfarmpress.com>. ² Townsend, L. and Bessin, R. Stink bug damage to corn. University of Kentucky. <http://www2.ca.uky.edu>. ³ Akin, S. A guide for scouting insects of field corn in the mid-southern U.S. Arkansas Corn and Grain Sorghum Board. ⁴ Reising, D. 2014. Stink bugs in corn. North Carolina State University Extension. <https://entomology.ces.ncsu.edu/2014/07/stink-bugs-in-corn/>. ⁵ Hunt, T., Wright, B. and Jarvi, K. Stink bugs reported in corn and soybeans. CropWatch. University of Nebraska-Lincoln Extension. Web sources verified 3/15/18. 140205080250

Performance may vary from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** 140205080250 021518RDH.