

## Stink Bugs in Corn: Biology, Damage, and Control

Stink bugs appearing in corn fields can damage seedlings and plants that have entered the reproductive stage. They are more likely to be found, in groups, on plants near field edges and adjacent to non crop areas. Among stink bug species, brown (*Euschistus servis*), onespotted (*Euschistus variolarius*), and green stink bugs are the most dominant stink bugs found in corn fields. Knowledge of the insect biology can lead to the selection of appropriate control tools to help protect corn yield potential.

### Habit

Stink bugs feed on a wide variety of cultivated crops, annual winter weeds, ornamental trees, shrubs, and vines. Corn planted into wheat or rye cover crops is more susceptible to damage from stink bugs. The insect may overwinter in the cover crop residue and possibly weeds present in cover crops, and subsequently feed on the emerging corn.

### Identification

**Brown stink bug.** Adult is 1/2 inch long with a shield-shaped body, pointed 'shoulders', and piercing-sucking mouthparts. The upper side of the body is light to dark



brown and yellow to light-green on the underside. The immature bugs (nymphs) look like the adults, except smaller, wingless, and light green.

**Onespotted stink bug.** This species looks similar to the brown stink bug except for a small spot on the underside of the abdomen.

**Green stink bug species.** Green stink bug, *Acrosternum hilare* (Say), and southern green stink bug, *Nezara viridula* (Linnaeus), measure 14 to 19 mm long and are bright green color. A narrow, orange to yellow line borders the major body regions of the green stink bug.

### Life Stages

In early spring when the temperature rises over 70° F, adults that overwintered under protected areas emerge and start feeding on various weeds and cultivated host plants. Females lay several hundred eggs in clusters, usually in mid- or late June, on plant tissues. The nymphs hatch from the eggs and pass through five instars before becoming adults. Both stink bug species have two generations per year.

### Damage

Stink bugs attack corn plants between V3 to R3. The nymphs and adults feed by inserting their needle-like mouthparts into plant tissues and injecting enzymes to dissolve the tissue, then sucking out plant sap. As a result, a slimy area may be formed where the stink bug has fed.

Damaged plants become stunted with less root mass, which makes them more susceptible to other stresses the rest of the growing season.

The most distinct symptom of stink bug feeding is the suckering of the stunted plants, which can occur approximately 10 days after stink bug feeding occurs. A combination of physical damage and chemical injection may encourage tillers, which can grow as tall as the original plant, to develop from the base of the damaged plant. Other symptoms may include ear deformation or

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abortion and a row of oval, identical holes with yellow borders, due to a single feeding puncture of an unwrapped leaf. Stink bugs can reduce yield potential when severe feeding kills the seedlings, which results in stand reduction. and the potential loss of ears through abortion.

### Scouting

- It is critical to scout the field early, two weeks after corn emergence, as adults start feeding 10 to 20 days before damage symptoms appear on corn seedlings.
- Scouting corn plants that are close to an alfalfa field is critical as they might be more vulnerable to stink bug infestations.
- Stink bugs may be a problem in late planted corn and in no - till systems.
- Look for stink bug activity while scouting for cutworm feeding (cut plants). Look at the base of the plants, on the leaves, at leaf nodes, and in the whorls.
- Keep in mind that stink bugs hide low during the day or when it is windy.

### Thresholds and Management

Stink bugs in corn are not an economic concern at this time and well-defined thresholds have not been established. However, University of Nebraska has determined the following thresholds on the seedlings:

- Consider insecticide treatment if 10 percent or more of healthy, uninjured, less than 24 inches tall corn are infested with the bugs.

- Consider a postemergence treatment when three – to – five percent of injured plants are damaged and have stink bugs. Although chemical control is rarely required, because most of the damage is identified after the problem has occurred, products labeled for stink bug control in Nebraska are listed in Table 1.

Sources: Cullen, E. 2007. *Stink bugs in corn and soybeans. Integrated Pest and Crop Management, University of Wisconsin*, <http://ipcm.wisc.edu>, (verified 6/28/2010).  
 Hunt, T. & et al. 2010. *Scouting for and treating stink bugs on seedling corn. Crop Watch, University of Nebraska*. <http://cropwatch.unl.edu>, (verified 6/29/2010).  
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 Rice, M. 2002. *Stink bugs can twist corn. Integrated Crop Management, Iowa State University Extension*. <http://www.ipm.iastate.edu>, (verified 6/27/2010).

Table 1. Insecticides labeled for control of stink bugs in corn.		
Product	Active ingredient	Rate of application (acre)
Delta Gold®*	Deltamethrin	1.5-1.9 fl oz
Hero™*	Zeta-cypermethrin + bifenthrin	4.0-10.3 fl oz
Mustang MAX™* EC	Zeta-cypermethrin	2.72-4.0 fl oz
PennCap-M®*	Methyl parathion	1-3 pints
Proaxis™*	Gamma-cyhalothrin	2.56-3.84 fl oz
Warrior II with Zeon Technology®*	Lambda-cyhalothrin	2.56-3.84 fl oz

\*use restricted to certified applicators.  
 Source: University of Nebraska, 2010

#### Summary: Stink Bugs

- **Overwinter as adults.**
  - **Suck sap from plant tissue.**
- **Damage occurs April through September.**
- **Look for suckering and rows of holes in leaves.**
  - **General thresholds undetermined.**
  - **Chemical control rarely required.**
- **Check local recommendations for labeled products.**

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Technology Development by Monsanto and Design(SM) is a servicemark of Monsanto Technology LLC. All other trademarks are the property of their respective owners. ©2010 Monsanto Company.07092010SMK