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W027-Cotton Insects: Stink Bugs

The University of Tennessee Agricultural Extension Service

Agricultural Extension Service
The University of Tennessee
W027

Cotton Insects

Stink Bugs

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Classification and Description

Stink bugs (Hemiptera: Pentatomidae) are true bugs with piercing-sucking mouthparts and incomplete metamorphosis. The immature stages (nymphs) and adults of several species may damage cotton. Predatory stink bugs may also be found in cotton.

The green stink bug (*Acrosternum hilare*) is the most common species that feeds on cotton in Tennessee. The brown stink bug (*Euschitus servus*) is another common component of the stink bug complex.

Green stink bug

Hosts, Life History and Distribution

Both green and brown stink bugs are found throughout the state. A third species, the southern green stink bug (*Nezara viridula*), is less common in Tennessee and often confined to the southernmost counties. Stink bugs have a wide host range that includes many cultivated crops, including corn and soybeans as well as numerous uncultivated plants. Overwintering adults become active in the spring. Stink bug eggs are characteristically laid in a mass of 20-100. Eggs hatch in 6-7 days during the summer. Nymphs tend to remain aggregated until the third or fourth instar. All species pass through five immature (nymphal) life stages, which require 23-25 days at optimal temperature. Adults may live several weeks or months. Several generations per year occur in Tennessee.

Brown stink bug

Stink bug nymphs

Pest Status and Injury

Stink bugs have become a common pest problem in cotton. Bt cotton and boll weevil eradication efforts have reduced the overall number of insecticide applications made to cotton. Because stink bugs are generally susceptible to many insecticides, this reduction in insecticide use has provided an opportunity for stink bugs to establish in cotton fields. Plant-feeding species of


Boll injury from stink bug feeding

stink bugs are typically seed feeders, and thus, injury to cotton bolls is the primary concern. Economic damage in pre-flowering cotton is very rare. Stink bugs target the seed inside developing bolls, preferring bolls between 7-21 days in age. External signs of feeding injury include the appearance of circular black lesions on the surface of bolls (i.e., "catfacing"). These sunken lesions are typically about 1/16th of an inch in diameter. The lint of bolls may be stained, seed may be destroyed and feeding warts may be observed on the internal surface of the boll wall. Damaged bolls may rot due to secondary infection by plant pathogens, or lint production may be reduced in one or more locks. Other true bugs, such as the clouded plant bug and tarnished plant bug, may cause similar injury. External feeding signs on bolls are not always associated with internal damage.

Management Considerations and Thresholds

Adult stink bugs are strong fliers and typically migrate into cotton from alternate hosts outside the field, including adjacent fields of maturing corn and soybeans. Stink bugs are difficult to scout. Adults tend to aggregate, and the distribution of stink bugs within a field may be highly concentrated, particularly along borders. Despite being relatively large insects, they can be difficult to see. Stink bugs can be scouted for visually, but most thresholds are based on drop cloth samples or the occurrence of internal symptoms of feeding damage to bolls.

Current UT thresholds call for a treatment when one or more stink bugs are found per drop cloth sample (6 row feet) or when 20 percent or more of thumb-sized bolls show internal evidence of stink bug feeding, including feeding warts or stained lint. Insecticide options are listed in the Tennessee Cotton Insect Control Guide (Extension PB 387). Brown stink bugs are relatively tolerant of pyrethroid insecticides. Thus, organophosphate insecticides such as Bidrin, Orthene or methyl parathion are typically preferred for stink bug control. However, pyrethroid insecticides are effective on green or southern green stink bugs.

For information about the management of the major field crops grown in Tennessee, visit www.utcrops.com

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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