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Soybean 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 attack soybeans.

The green stink bug (*Acrosternum hilare*) is the most common species that feeds on soybean in Tennessee. The brown stink bug (*Euschistus servus*) is another common component of the stink bug complex. Other plant feeding species that may be present include the red-shouldered stink bug (*Thyanta custator*) and the dusky-brown stink bug (*Euschistus tristigmus*). Another species, the southern green stink bug (*Nezara viridula*),



Adult green stink bug



Adult brown stink bug



Immature green stink bug

is less common in Tennessee and is often confined to the southernmost counties. Predatory (beneficial) stink bugs such as the spined soldier bug (*Podisus maculaventris*) may also be found in soybean and are sometimes mistaken for brown or dusky-brown stink bugs.

Hosts, Life History and Distribution: Both green and brown stink bugs are found throughout the state. Stink bugs have a wide host range that includes many cultivated crops such as corn and cotton, 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 barrel-shaped eggs. Eggs hatch in 6-7 days during the summer. Nymphs tend to remain clustered until the third or fourth instar. Most species pass through five immature (nymphal) life stages, requiring 23-25 days at optimal temperature. Adults live several weeks or longer. Several generations occur each year in Tennessee.



Pest Status and Injury:

Stink bugs are probably the most common pest problem in soybean. Although stink bugs may feed on many parts of the plant, they typically target developing seed inside the pods. Thus, injury to soybean seed is the primary problem associated with stink bug infestations. Brown or blackish spots may occur where their mouthparts penetrate the plant tissue, but little external signs of feeding injury may be present. Feeding may cause deformation, shriveling or abortion of small seed. Larger seed may only be partly discolored by feeding injury, but this can affect seed quality. High levels of seed abortion may cause the “green bean effect” where foliage is retained and plant maturity is delayed. Economic damage in pre-flowering soybean has not been documented.



Eggs of green stink bug



Hatching green stink bugs



Immature southern green stink bug



Immature brown stink bug



Immature southern green stink bugs

Management Considerations

and Thresholds: Adult stink bugs are strong fliers and typically migrate into fields from hosts outside the field, including adjacent fields of maturing corn, soybean or cotton. Stink bug adults tend to aggregate, and early infestations within a field may be concentrated

along borders. Stink bug populations are often higher in later-maturing fields such as soybeans following wheat. However, the first-planted soybean fields in an area may attract large numbers of stink bugs once they begin developing pods. Indeed, planting a small percentage of soybean acres early, or with an early-maturing variety, is sometimes recommended as a method of “trapping” stink bugs. These fields can be monitored and treated with insecticides as needed to help prevent subsequent infestations in late-maturing fields.

Stink bugs can be scouted visually, but most treatment thresholds are based on sweep net or drop cloth sampling. The sweep net is generally preferred because most soybean fields are planted with narrow row spacings (< 36 inches). With the exception of predatory species, all stink bugs should be counted when making a sample. Current UT thresholds vary, depending upon plant development. For example, treatment from first flower to mid podfill is recommended when an average of 12 or more stink bugs are found per 100 sweeps. From mid podfill until near maturity, treatment is not recommended unless 36 or more stink bugs are found per 100 sweeps. Corresponding drop cloth thresholds and insecticide options are listed in the *Tennessee Insect Control Recommendations for Field Crops (PB 1768)*. Pyrethroid insecticides are commonly used for control and are very effective on most stink bugs. Brown stink bugs are relatively tolerant of pyrethroid insecticides. Thus, organophosphate insecticides such as acephate or methyl parathion are typically recommended if brown stink bugs compose a significant percentage of the stink bug population.

Reference:

Handbook of Soybean Insect Pests, L. G. Higley and D. J. Boethel (eds.), Entomological Society of America, 1994.

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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