



# Pest e-alerts



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## Late Season Pecan Pests

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I wanted to take a few lines to introduce myself. My name is Dr. Jackie Lee, and I am the new OSU extension entomologist for pecans and fruit in the state of OK. My website can be found at <http://entopl.okstate.edu/profiles/profiles/lee.html> where you can find useful information and links for pest management in pecans. This first communication, I would like to provide some considerations for late season pecan pests and how their management may be related.

Monitoring for pecan weevil is necessary to determine presence and emergence for making management decisions. We must know if we have the pest and we must know when the adults are active for our insecticide sprays to be effective. We may see some later emergence this year due to a dry period in August through mid-September. With the rains we received August 15th & 16th, I would expect to see some weevil emergence so keep your eye out for this pest until shuck split.

What you choose to control pecan weevil can dictate what pests you may be controlling later in the season. If you spray a pyrethroid for pecan weevil control, you will also control other

insects that may be present including stink bug, but also, all the beneficial insects that generally keep our aphid populations in check: Lacewings, predatory mites, lady beetles, and lacewings. This can cause aphids or mites to flare late season. After a pyrethroid application for weevil, I would recommend scouting for aphids weekly by checking all compound leaves on ten



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terminals for ten trees from different locations in the orchard. If you use carbaryl for weevil control, you will not get added control of stink bug, but will have less chance of flaring aphids and mites. Pick the best option for the pests present in your orchard.

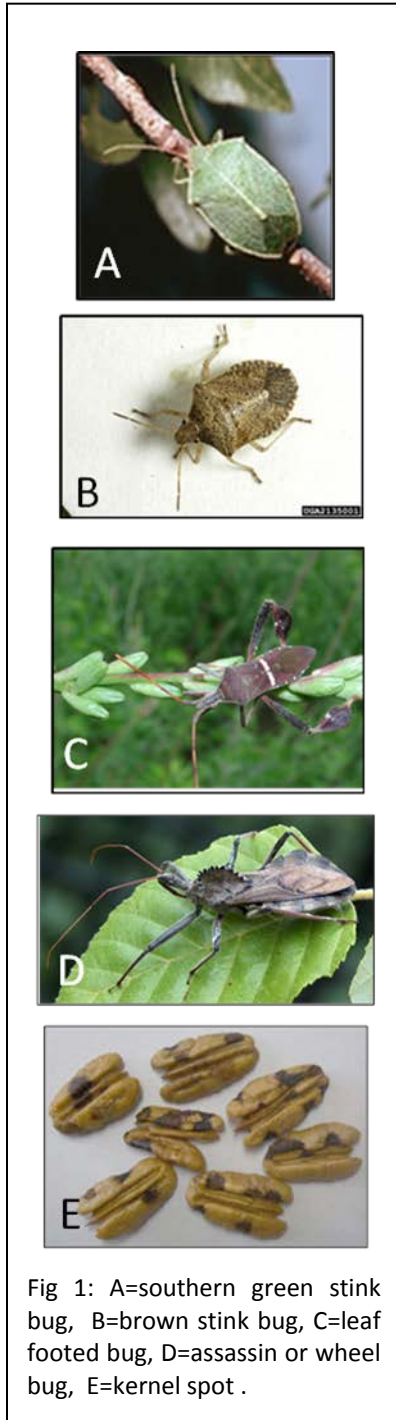


Fig 1: A=southern green stink bug, B=brown stink bug, C=leaf footed bug, D=assassin or wheel bug, E=kernel spot .

Stink bugs are in the order Hemiptera and are commonly called true bugs by entomologists. Pest species have long slender mouthparts that are used to suck plant juices. There are three stink bug species that are common pests of pecans in Oklahoma, southern green stink bug, leaf footed bug, and brown stink bug (Fig. 1: A, B, & C). There are a few species that are beneficial and serve as predators, feeding on common pests of pecans. One of the most common beneficials in this group is the assassin or wheel bug (Fig. 1: D). Stink bugs will feed throughout the season and can cause black pit before shell hardening, which can cause drop. Later in the season, their feeding will result in kernel spot that can occur after shell hardening, which causes discoloration (Fig 1: E)

If you find aphids during scouting, your primary considerations should be what type of aphid do I have and are they above threshold levels? There are 3 types of aphids commonly found in pecans: yellow pecan aphid, black-margined aphid, and the black aphid (Fig. 2: A, B, & C). Sometimes the yellow and black-margined aphid will be collectively referred to as yellow aphids. Greater numbers of yellow aphids (yellow & black margined) are required to cause economic loss when compared to the black aphid. The threshold number is the number of aphids required per compound leaf which warrants a treatment to minimize economic loss. For the yellow aphids (yellow and black-margined collectively) threshold has been determined at 25 aphids per compound leaf. The black aphid threshold is 3 aphids per compound leaf.

The magnitude of damage from these aphids differs, which is why thresholds differ significantly. The black aphid can cause significantly more damage in a shorter amount of time. The aphid injects its needle like mouthparts into the leaf in between veins and feeds on the sap. While feeding, this aphid injects a toxin that causes yellowing of the leaf (Fig. 2: D). This feeding can cause leaves to shed prematurely and lead to defoliation. All aphids produce honeydew which is a waste product that coats the leaves in a shiny sticky fluid. The honeydew residue can promote growth of a black sooty mold. This sooty mold can cause a decrease in the amount of photosynthesis reducing the amount of nutrients being produced for the tree to use for nut production and

growth. Not only will this affect nut production for the current year, but can also decrease the amount of budding for the next year.

There are many labeled insecticides for aphids. Many people choose an imidacloprid (neonicotinoid) product, which works well. There have been reports of resistance in our neighboring state of TX. If you suspect that resistance has developed in your orchard please contact me. A new insecticide has entered the market this year with the active ingredient sulfoxaflor, marketed as Closer. This product is also very effective at controlling aphids and has a great residual. It is specific to sap feeding insect pests and is listed by IRAC as a separate subcategory from neonicotinoids. This product can be used as a rotational partner to combat resistance. I would not recommend spraying a pyrethroid.



**Fig. 2:** A=yellow aphid winged adult and nymphs, B= black margined aphid nymph and winged adult, C=black aphid adult, D=black aphid damage to pecan leaf.

\*Pictures courtesy of Louis Tedders, USDA Agricultural Research Service, Bugwood.org

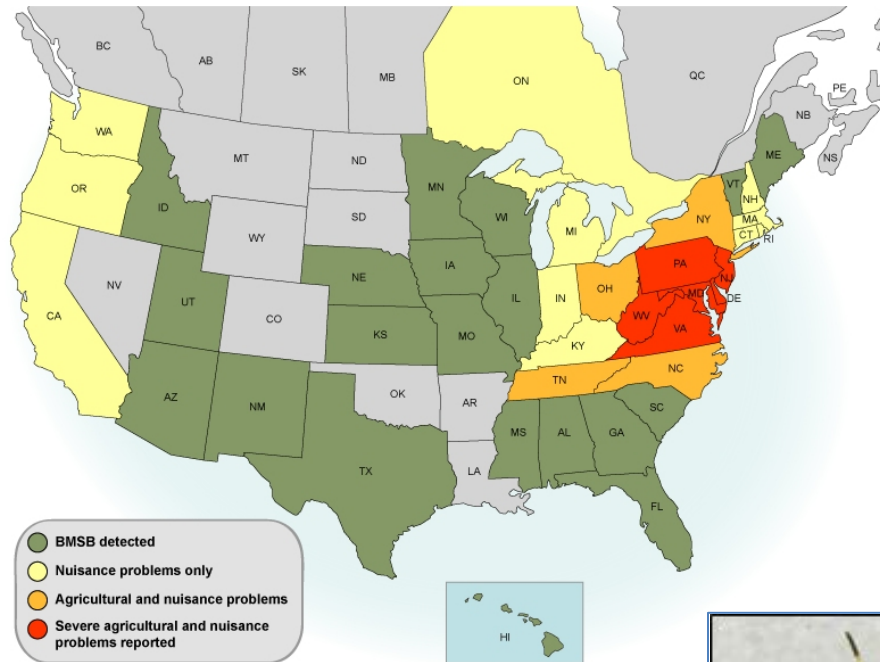
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## **Insect Spotlight: Brown Marmorated Stink Bug (BSMB)**

Jackie Lee, Extension Entomologist

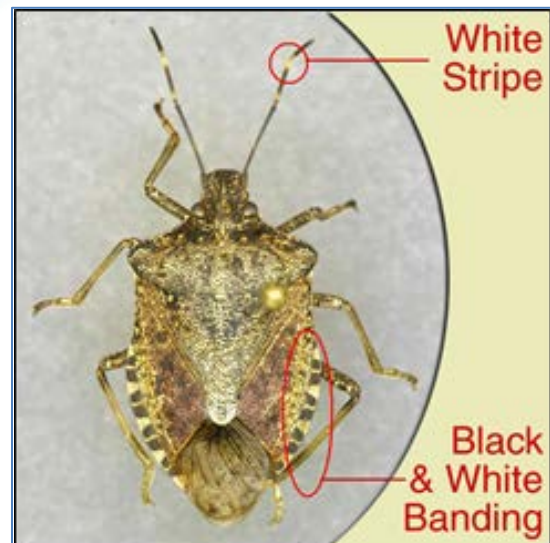
The brown marmorated stink bug is an invasive species that has not yet been found in Oklahoma but has been found in neighboring states (Fig. 1). If you see this insect, please collect it and/or photograph it and get the specimens to your local extension educator as soon as possible for identification. Adults are about 17 mm long and brown. They are the typical shield

shape of other stink bugs. Identifying characteristics of the brown marmorated stink bug include: white bands on the antennae and black and white banding along the edges of the wings (Fig. 2). The common brown stink bug does not have these white bands. BSMB is a nuisance pest indoors and has become a serious pest of fruit, vegetables, and row crops in the mid-Atlantic region. There is a high probability that if established in pecan growing regions the adults would be a pest of pecans. Please keep your eye out for this bug! For more information see: <http://www.stopbmsb.org/>



**Fig. 1.** Brown marmorated stink bug distribution in the US.

**Fig 2.** Brown marmorated stink bug (BMSB) with identifying characters \*Picture from Rutgers-New Jersey Agricultural Experiment Station.



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