Three Insect Species Established In 2012

MISSISSIPPI STATE, MISS.

As if Mississippi did not already have enough bugs, three new insect pests became established in the state in 2012.

Blake Layton, entomologist with the Mississippi State University Extension Service, said the newest insect residents are two flies and one bug: the spotted wing drosophila, the Bermudagrass stem maggot and the kudzu bug.

"All three pests came from Asia and are here to stay," Layton said. "They are expected to cause significant economic losses in the crops they affect."

Spotted wing drosophila ...

Spotted wing drosophila was first spotted in the state in 2010, but it did not begin to cause significant damage until last year.

"This tiny fly is closely related to the common fruit flies that occur around bananas and other overripe fruit," Layton said. "The difference is that the females of this species have saw-like ovipositors that allow them to lay their eggs in sound fruit that is just beginning to ripen."

When the eggs hatch, small, white maggots begin to develop in fruit that is still on the bush, resulting in yield losses, harvest problems and lower quality. This fly attacks blueberries, blackberries, strawberries, peaches, plums, pears, apples, persimmons, grapes, figs and other fruit. Soft-skinned berries are especially susceptible to attack.

"Spotted wing drosophila can be controlled with timely insecticide sprays, but these sprays have to be applied just before and during harvest, forcing commercial producers to juggle spray schedules, preharvest intervals and harvest times," Layton said. "It also forces backyard fruit producers to spray crops that in the past have required little or no insecticide use."

Eric Stafne, Extension fruit crops specialist, said this fly has the potential to be a very significant pest for Mississippi's fruit industry.

"Blueberries and muscadines are the most commercial fruit crops in the state, and blueberries already have been affected by this pest," Stafne said. "Muscadines probably will not be affected very much as the skin on the berries is so thick."

Growers will have to improve monitoring to prevent problems with this insect.

"Spotted wing drosophila can cause complete loss of a crop if not controlled, so producers must be on top of the situation and employ proper control strategies," Stafne said.

Bermudagrass stem maggot ...

Bermudagrass stem maggot is a small fly that lays its eggs in the tips of the shoots in forage-type Bermudagrass. Larvae bore into the shoot and feed on the immature blades of grass.

"This causes death of the last two or three leaves growing out of the end of the shoot," Layton said. "The dead, yellow leaves are easy to spot."

The small, legless, white maggots are difficult to find in the damaged stems, but adults are easier to find. They are about one-third the size of houseflies and have yellow abdomens with four dark spots on the upper part.

"Although the flies are small, they are usually present in high numbers in infested fields," Layton said. "The flies seem especially attracted to grass that has been recently disturbed."

These flies were first detected in Georgia in 2010. Although the flies were seen in Mississippi in 2012, several forage producers observed their symptoms in 2011. The pest appears to have spread throughout the state.

The flies are not expected to become a problem on Bermudagrass in lawns. The damage from these flies looks significant, but research indicates actual forage yield losses will be relatively low, even on heavily infested fields.

Kudzu bug ...

The final newly introduced, nonnative pest is the kudzu bug, also known as a bean plataspid, lablab bug or globular stinkbug.

"Although they are similar to stinkbugs in many ways, including their strong odor, these insects belong to a different insect family," Layton said.

The insects were first observed in Georgia in 2009 and have spread to Mississippi and six other Southeastern states. They spread quickly as unintended passengers on transport trucks. To date in Mississippi, they have been found only on kudzu near large truck stops in Vicksburg and Winona, but experts suspect there are as-yet-undetected infestations elsewhere in the state.

Layton said adult kudzu bugs are easy to identify because of their unique body shape. From above, they appear roughly square and are about one-quarter of an inch long and wide. Their bodies are a dark brown mottled with a light tan that is covered in tiny pits.

"At first it might seem like a good thing to have an insect that eats kudzu, but kudzu bugs also feed on soybeans, and yield losses of 17 percent or higher have been reported from soybean research trials," Layton said. "They also feed on legume vegetable crops like green beans and butter beans, as well as ornamental legumes such as wisteria."

In addition to appetites that can damage crops, these bugs can become a household pest in the fall. They migrate in large numbers and accumulate on the sides and interiors of buildings and vehicles looking for overwintering sites. Houses located near large areas of kudzu are most prone to these late-fall invasions.

"Complaints from people whose homes are being invaded by these bugs in the fall are one way we learn of other areas where this pest occurs in Mississippi," Layton said. Δ

Kudzu bugs have a unique square shape and a strong odor. They feed on soybeans and legume crops in addition to kudzu and can become household pests when they swarm in the fall.
Photo by MSU Extension Service/Blake Layton

Bermudagrass stem maggots feed on the immature blades of grass, leaving dead yellow leaves that are easy to spot. They are not expected to become a problem in lawns, and research indicates forage yield losses will be relatively low.
Photo by MSU Extension Service/Blake Layton

The spotted wing drosophila has been in the state since 2010 but began causing significant damage in 2012. This fly attacks the state's fruit crops.
Photo by MSU Extension Service/Blake Layton