Sugarcane Aphid Attacking Sorghum

- University entomologists are warning farmers to be on the lookout for the arrival of this new pest that can negatively affect sorghum yield potential.
- Sugarcane aphid (Melanaphis sacchari) is a new pest in sorghum that is spreading across the sorghum producing states.
- Several sorghum products have demonstrated high tolerance to sugarcane aphid; farmers should contact their local seed representative or extension specialist for more information.

New Insect Pest in Sorghum
Because this aphid (Melanaphis sacchari) was first discovered in the United States in sugarcane, it is known as the sugarcane aphid.

Sugarcane aphid has been found on different host plants, including Johnsongrass, shattercane, sorghum-sudangrass, sudangrass, forage sorghum and grain sorghum. It was first discovered in Florida (1977) and Louisiana (1999) in sugarcane and in sorghum in Texas, Louisiana, Oklahoma, and Mississippi in 2013. Sugarcane aphid infestations were limited to one-year events, because the insects were not able to overwinter. They have apparently now adapted to the more temperate North American environment, allowing them to survive through the winter as far north as central Texas. This insect pest is spreading rapidly across a wider geographic range. Further expansion into other sorghum growing states is a possibility. Entomologists in sorghum producing areas encourage farmers to scout fields carefully to identify and potentially treat infestations of sugarcane aphids before they can cause significant damage.

Sugarcane aphid has caused significant damage in 2015 to sorghum growing regions including Alabama, Mississippi, Louisiana, Texas, Oklahoma, Kansas, and New Mexico. Yield losses have been more than 50% in some areas.

Sugarcane Aphid Identification
There are several aphid species that feed on sorghum; however, sugarcane aphid looks different and can cause more damage. Generally, it has a white to light-yellow colored body, and has dark, paired tailpipe-like structures called cornicles at the rear. Legs are light colored but their tarsi (feet) are dark (Figure 1).

Other aphids that attack sorghum look distinctly different. Greenbugs have a distinctive darker green stripe down the back (Figure 2), which is absent in sugarcane aphid.

Feeding Damage
Sugarcane aphids suck sap from sorghum plant tissue and deposit a sticky honeydew. Aphids feed primarily on the underside of leaves and the stem then move to the upper leaves, before moving to the grain sorghum head. Leaves infested with aphids turn yellow to red or brown on both sides. Early infestation with heavy populations of sugarcane aphids can kill young sorghum plants. Later infestations result in loss of plant sap that takes away nutrients from the plant that could otherwise be used for plant health and grain yield. Plant stress caused by sugarcane aphids can also lead to uneven and lack of head emergence, poor grain set, and will likely contribute to an increase in lodging.
The honeydew can hamper plant transpiration and may support the growth of a black, sooty mold fungus. During harvest, honeydew coated plants may stick to the inner parts of combines, causing clogs and preventing efficient movement of chaff through the combine. When honeydew prevents separation of grain from stalks and leaves, significant grain can be lost on the ground.

Management

Product selection. Third-party research in Oklahoma has confirmed that several sorghum products exhibit some level of tolerance to the sugarcane aphid. These products combined with continued scouting and an effective spray program as needed, provide the best opportunity to limit sugarcane aphid damage to sorghum.

Insecticide application. When sugarcane aphid populations are increasing rapidly, insecticides may be warranted to prevent yield losses and honeydew buildup before harvest. Threshold levels vary among regions and by the time in the growing season that aphids infest sorghum. Growers should check with local experts to determine regional thresholds and scouting procedures.

In general, ground application of insecticides works better than air application. Since insecticide coverage is critical for sugarcane aphid control, growers should use spray nozzles and a spray pressure that maximizes coverage. Increasing the water volume above the minimum requirements listed on the insecticide labels is recommended. Some insecticide seed treatments may protect sorghum from potential early-season infestations.

Entomologists caution farmers to avoid using pyrethroids for midge or headworm control because pyrethroids kill beneficial insects and sugarcane aphid populations have been shown to flare following a pyrethroid application. Farmers should contact their local seed representative or extension specialist for the latest insecticide and other control recommendations.

Summary

Yield potential can be negatively affected by sugarcane aphid feeding because:

- Aphids feeding on young sorghum plants can thin out the stand.
- During the reproductive stages, aphids infest the panicles, resulting in decreased grain weight and yield loss.
- The secreted honeydew clogs harvest equipment making the mature plants difficult to harvest and preventing an efficient harvest.

Sources

4 News of Agribusiness. 2015. EPA grants emergency use exemptions for Transform insecticide for sugarcane aphid control. Southwest Farm Press.
7 20th Annual Rio Grande Valley Cotton and Grain Pre-Plant Conference Edcouch.


Figure 5. Sugarcane aphids have spread through most of the U.S. sorghum producing states since their first appearance in 2013. Source: Robert Bowling, Texas A&M University.