

July 1, 2015 - Volume XXIII - Number 6

# Crop Management Newsletter

News about Crop Management for producers in Dawson and Lynn Counties.

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(found on page 2)

## **Sugarcane aphid and whorl stage sorghum on the Southern High Plains**

Tommy Doederlein, Pat Porter, Blayne Reed and Kerry Siders

Sugarcane aphid arrived early in south Texas this year but its northward expansion was apparently slowed by the record rainfall. However, in the last two weeks it has made a rapid advance and was found in Lubbock County on June 29th. This is two months earlier than the August 27th, 2014 first detection by Blayne Reed in Floyd County. Last year's late arrival allowed us to avoid making insecticide applications. While it is still too early to guess how severe the problem might be this year, we would like to provide some information on management practices prior to boot stage.

When on whorl stage sorghum, economic populations of sugarcane aphids can result in near total yield loss because it destroys leaf cells that provide nutrition to keep the plant growing, exert the panicle and fill the grain. The worst case is a heavy sugarcane aphid infestation on whorl stage plants. Later infestations on headed sorghum are somewhat less of a problem and may only result in minor yield losses and harvest difficulties due to honeydew accumulation.

Early detection is the key to successful sugarcane aphid management. All fields should be scouted weekly from shortly after emergence until one week before harvest. If sugarcane aphids are not found in a field then the weekly scouting should continue. If light populations of sugarcane aphids are found then the scouting should occur twice per week. The doubling of the scouting interval is because of the rapid reproduction of the aphid. As Angus Catchot, Entomologist at Mississippi State University, put it, "This is the first pest I have seen that can go from 'barely there' to 'Oh my God' in five days.

Sugarcane aphids are easy to differentiate from the other aphid pests of sorghum and there is a recognition guide posted here:

<http://txscan.blogspot.com/2015/02/recognizing-sugarcane-aphid.html>.

The treatment threshold is an average of 50 - 125 aphids per leaf on whorl stage plants. Research in Texas has shown that an average of 250 aphids per leaf is around the break point where yield declines equal the cost of control, but this many aphids can cause a honeydew and sooty mold problem. The goal is to apply the insecticide soon enough to keep the aphid numbers below 250 per leaf. Quick action is needed when fields

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reach the economic threshold, so don't delay in pulling the trigger. The treatment threshold is the same for susceptible sorghum and the "resistant" or "tolerant" sorghum hybrids; once threshold is reached then insecticides should be applied as soon as possible. Blayne Reed, Extension Agent in Hale, Swisher and Floyd counties, with support from all our regional IPM specialists, is leading our 2015 research on how the "resistant" hybrids withstand sugarcane aphid. It is far too early to say anything other than, from a management perspective in 2015, expect resistant hybrids to perform in line with susceptible hybrids. The so-called resistant hybrids should be scouted like susceptible hybrids and sprayed like susceptible hybrids with the hope there will be fewer aphids or better performance from the "resistant" lines.

There are two good insecticides available; Sivanto and Transform. Expect each product to provide around 10 days of control. Be sure to visit the field 3 - 4 days after the application to make sure the insecticide is working. If a follow-up application is needed after 10 days then rotate to the other insecticide. Insecticide rotation is critical for resistance management; aphids are extremely dangerous as far as resistance because they are genetic clones (no sexual reproduction and mixing of resistance and susceptibility alleles). If the mother has resistance alleles then the offspring will have the same resistance alleles; if the mother survives the dose then the progeny will survive the dose, and so will all of their progeny and their progeny across generations and growing seasons. The only way to kill these resistant insects is with the other insecticide. Insecticide rotation is the key to preventing resistance, and aphids are exceptionally adept at becoming resistant.

It is important to preserve beneficial insects - they won't prevent sugarcane aphid from reaching threshold on the High Plains (yet), but they will slow the aphid down. There is evidence from the Gulf Coast that, after three seasons of the aphid and the beneficial insects coexisting, the beneficial insects are starting the

season in high enough numbers to exert a significant amount of control on the aphids. This is not the case in the High Plains; our beneficial insects have not had the chance to arm up against the aphids and we don't have enough of them to keep aphid populations under control. But we do have enough of them to slow the aphids down and perhaps avoid an additional insecticide spray later in the season. The best way to help the beneficials is to avoid pyrethroid and organophosphate insecticide applications; use Sivanto or Transform and let the beneficials live. We have a new publication called Insecticide Selection for Sorghum at Risk to

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Sugarcane Aphid Infestations, 2015.

([http://lubbock.tamu.edu/files/2015/06/Insecticide\\_Selection\\_Sugarcane\\_Aphid\\_2015.pdf](http://lubbock.tamu.edu/files/2015/06/Insecticide_Selection_Sugarcane_Aphid_2015.pdf) ).

This publication discusses insecticide choice for sugarcane aphid control and insecticides to use on other pests in fields that have sugarcane aphids in them. Other sugarcane aphid resources are available at <http://www.texasinsects.org/sorghum.html>. We have established a statewide sugarcane aphid news website at <http://txscan.blogspot.com>.

We don't know what to expect in 2015 as far as sugarcane aphid. All we know for sure is that it has arrived two months earlier than last year and is now threatening whorl stage plants. We encourage weekly field scouting until the aphids are found and then twice-weekly scouting thereafter. Apply insecticides when there are 50 - 125 aphids per leaf and use either Transform or Sivanto. Check to make sure the insecticide worked and, if an additional application is needed later, be sure to rotate insecticides in order to prevent resistance.