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# Crop Management Newsletter

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

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(found on page 2)

## Current Conditions

### Confirmation of Sugarcane Aphid in Lynn County

**Introduction.** The sugarcane aphid is a new pest of grain sorghum and forage sorghums, including Sudan grass, sorghum/Sudan hybrids and Johnsongrass, in the southern US. The sugarcane aphid originally fed only on sugarcane in the US. In 2013, this insect was found for the first time feeding on sorghum. This new sorghum-feeding biotype of the sugarcane aphid resulted from either 1) a genetic change in the existing US population or 2) a new introduction into the US. In 2013, the sugarcane aphids infesting sorghum, first found near Beaumont, TX, spread to the Rio Grande Valley and to north Texas, Oklahoma, Louisiana and Missouri. The sugarcane aphids survived the winter in south Texas. During the spring and summer of 2014, sugarcane aphids dispersed throughout much of Texas and 11 southeastern states. In 2015, the sugarcane aphid is expected to again disperse from south Texas into the sorghum producing areas of the state. This pest can be controlled but growers must frequently assess infestations of sugarcane aphids to properly time an insecticide, if needed, to prevent crop loss.

**Identification.** Sugarcane aphids are pale yellow, gray or tan. They have black cornicles or “tailpipes”, black feet and black antennae. The sugarcane aphid SCA feeds on the underside of sorghum leaves. Initial colonies consist of only a few aphids but can increase such that aphid colonies cover much of the lower leaf surface. Once the sorghum head emerges, SCA can also feed in the grain head. Sugarcane aphids produce large amounts of honeydew which collects on leaves, leaving them sticky and shiny.

The greenbug is another common aphid that feeds on the underside of sorghum leaves. It has a dark green stripe down its back, unlike the sugarcane aphid. The corn leaf aphid is also found in sorghum but it is a dark green color, feeds in the whorl of the sorghum plant and is rarely a pest. Finally, the sugarcane aphid should not be confused with the yellow sugarcane aphid, which is bright yellow with black spots and does not have prominent cornicles. A guide to recognizing sugarcane aphid is available at <http://txscan.blogspot.com/2015/02/recognizing-sugarcane-aphid.html>

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The Texas A&M University System, U.S. Department of Agriculture and the County Commissioners Courts of Texas cooperating.

**Life Cycle.** All SCA are females and give birth to live young. Immature aphids mature to adults in about five days and live for about 4 weeks. Aphid number can increase very rapidly during the summer. At Corpus Christi, an infestation of 50 per leaf increased to 500 per leaf in 2 weeks. For this reason, fields need to be monitored at least weekly to detect infestations before they result in crop loss. SCA infestations die out where winter cold kills sorghum and Johnsongrass plants which are necessary to maintain populations.

**Host Plants.** Sugarcane aphids are known to feed on grain and forage sorghum (sudan grass, haygrazer, etc) and Johnsongrass. All of these hosts are in the genus *Sorghum*. Laboratory tests show that SCA does not feed on wheat, oats, or on seedling foxtail millet or proso millet. There is no evidence to date that SCA reproduces on any other crop in Texas.

**Damage.** Sugarcane aphids feed by sucking plant sap. Feeding causes leaves to turn yellow, purple and finally brown as leaf tissue dies. Infestations on pre-boot sorghum can result in significant grain loss. The sticky leaves and stalks can clog combines at harvest and reduce separation of the grain from the plants. Combines may require service time to wash off the honeydew and remove stalks and grain heads. Infestations in forage sorghums also kill leaves, slow growth and reduce forage yields. Honeydew contaminating leaves and stems can also gum up cutter bars and machinery at harvest. Honeydew is composed primarily of plant sugars and water and eventually dries to a harmless residue. A black sooty mold often grows on the aphid honeydew on leaves. This black mold may interfere with normal leaf function and the uptake of sunlight, insecticides and herbicides.

**Managing SCA Infestations.** Sugarcane aphids need living sorghum or Johnsongrass plants to persist. Thus, SCA are expected to die out during the winter where cold kills sorghum and Johnsongrass. However, SCA can survive the winter in the lower Gulf Coast of Texas and in the spring is carried by wind north and west into

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Texas. In 2014, SCA were first detected in early June in northcentral TX (Hill County), but this timing may vary by year. Sorghum fields should be scouted for SCA weekly. Look for small colonies on the underside of leaves. Also look for honeydew which can indicate a SCA colony on the leaf above. Once SCA colonies are found on lower leaves, begin scouting the field twice a week to monitor infestations as aphid numbers can very rapidly increase.

A suggested sampling plan is to look for SCA on one lower leaf and one upper leaf from each of 10-20 plants in a location and record the number of aphids on each leaf. Repeat this in 2-4 locations in the field and determine the average number of aphids per leaf for the field. Based on current research, an insecticide treatment should be considered in grain sorghum fields when the average number of SCA aphids is 50-125 per leaf.

Treatment thresholds for SCA infesting forage sorghums and Johnsongrass meadows have not been determined. Like grain sorghum fields, forage sorghum fields should be monitored at least weekly for SCA and treated with an insecticide if aphid numbers and leaf damage increase. Control of SCA with insecticides requires good coverage of the entire canopy, including lower leaves, which is difficult to achieve in forage sorghum due to the dense canopy and especially if the crop is tall. For this reason, early harvest or grazing may be the best option if good insecticide coverage cannot be achieved. Once the field is harvested or grazed, the sugarcane aphids will likely persist on the remaining leaves and then infest the regrowth. If a second cutting is desired, an insecticide application may be considered as the crop begins to regrow as good canopy coverage should be possible due to the short stature of the crop at that time. While the insecticide treatment can temporarily protect the regrowth, the sugarcane aphid population may again increase to damaging levels and require an additional insecticide treatment or an early harvest to protect the crop. Monitoring the aphid population and plant damage is necessary to determine if an insecticide treatment is needed following harvest. Early planting of forage sorghums may help escape SCA infestations in

north Texas where this pest is expected to occur later in the season than in more southern areas.

**Insecticides.** The insecticide Transform WG (DowAgroSciences) is labeled under a Section 18 Emergency Exemption for control of sugarcane in sorghum in 2015 (registration expires Oct 31, 2015). Transform insecticide was widely used for control of SCA in 2014. The insecticide Sivanto (Bayer) is also labeled for control of sugarcane aphid in sorghum. Both insecticides can be applied to grain and all types of forage sorghums and Johnsongrass (all in the genus *Sorghum*). Good coverage is necessary for effective control. A second treatment may be required. Read and follow label directions.

Insecticide	Rate oz/A	Minimum number of days after application	
		Harvest for grain or straw	Grazing, or forage, fodder, or hay harvest
Transform WG	0.75-1.5	14	7
Sivanto	see label	14	7

Chlorpyrifos (Nufos®), dimethoate and malathion are also labeled for aphid control in sorghum. University trials demonstrate that these products are less effective than Transform or Sivanto for sugarcane aphid control.

**Seed Treatments.** Insecticide seed treatments provide control of aphids, including SCA, and some other early season insects for about 4-5 weeks after planting. However, their value for control of SCA will depend on how soon after planting the SCA infests the field.

**Beneficial Insects.** Lady beetles and other beneficial insects feed on SCA but in most cases cannot increase rapidly enough to help control SCA infestations. Later in the season, beneficial insect populations may increase to levels that can suppress SCA once the initial infestation has been reduced by an insecticide treatment.

**Managing Sugarcane Aphids Prior to Harvest.**

Although sugarcane aphid infestation present after head emergence may have less impact on yield, these infestations can continue to produce large quantities of honeydew which can interfere with harvest. Rain can help wash honeydew from leaves. Harvest aid chemicals such as glyphosate and sodium chlorate have been used to kill sorghum leaves and therefor reduce SCA aphid infestations prior to harvest. Again, read and follow label directions for these products.

**Sorghum Hybrids Resistant to SCA.** Breeding lines of sorghum with resistance to SCA have been identified, but several years will be necessary to move this genetic resistance into commercial hybrids. In 2014, SCA infestations in some sorghum hybrids were observed to develop more slowly than on other hybrids, suggesting these hybrids had some genetic resistance to SCA. However, later in the season SCA infestations often reached the treatment threshold in these potentially resistant hybrids. Additional evaluations are needed to characterize this genetic resistance.

**Managing Sorghum Midge and Headworms.**

Pyrethroid insecticides are commonly used to control sorghum midge, headworms and stinkbugs in sorghum but their use may be followed by an increase in SCA infestations. This increase may result due to the reduction in beneficial insect populations that feed on SCA or may be a physiological response of the SCA that results in greater reproduction. Closely monitor SCA if fields are treated with a pyrethroid insecticide or consider using an alternative class of insecticide for control of these other sorghum pests.

**Expectations for 2015.** The sugarcane aphid has been found overwintering in south Texas in February, 2015, and winged aphids are again expected to be carried by winds into north and west Texas during the 2015 growing season. Grain and forage sorghum fields should be closely monitored to detect infestations early. Once SCA are present on lower leaves, monitor fields twice a week and consider an insecticide treatment if infestations increase to an average of 50-125 aphids per leaf. Continue to monitor grain

sorghum until harvest to determine if an insecticide treatment is needed to protect yield or prevent the accumulation of honeydew at harvest. If forage sorghums are too tall to achieve good coverage with an insecticide, consider early harvest and then apply an insecticide to protect the regrowth if a second cutting is planned.

(The information provided came from the SCA Management Guide, authored by Dr. Allen Knutson and Dr. Pat Porter)