

IPM Strategies for Managing Sugarcane Aphid in Alabama Sorghum

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Sugarcane aphid, *Melanaphis sacchari*, was first seen as a pest of sorghum in Alabama in 2014. Sorghum producers lost a lot of money due to the cost of aphid control as well as to yield losses in spite of control. Feeding by sugarcane aphid drastically reduces yields and causes leaves to turn yellow, purple, and eventually brown.

The insect also excretes excess sugar (honeydew) which accumulates on the leaves and heads and is colonized by sooty molds. Sticky leaves and stalks clog grain combines and reduce harvesting efficiency.

The sugarcane aphid has already been found this spring on Johnsongrass in Alabama. The pest has been collected from Baldwin, Marengo, Dallas, Montgomery, and Autauga Counties as of 15 May. We expect that it will exceed



Sugarcane aphid damage on sorghum in the Wiregrass region in 2014. Image courtesy William Birdsong.

economic injury levels on most Alabama fields planted to *Sorghum* species in 2015.

Be prepared to scout your fields for sugarcane aphid and apply 1-2 applications of a foliar insecticide if you plan on growing any kind of sorghum, including grain sorghum, sweet sorghum, sorghum/sudan hybrids and Johnsongrass for forage. Growers should also scout millet, since it can be a host for sugarcane aphid.

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This information sheet provides tips for managing sugarcane aphid. This is a new pest. Entomologists, Extension agents and specialists are still trying to come up with the best way to monitor for the aphid, as well as to determine the most effective action threshold for timing foliar insecticide applications. Growers and crop scouts are encouraged to familiarize themselves with publications and videos on sugarcane aphid that have been produced at other land grant universities. Links to some of these resources are provided at the end of this publication.



Sugarcane aphid on Johnsongrass in Marengo County in May 2015. Grain sorghum is just emerging in the field in the background. Image courtesy Rudy Yates.

***Sorghum* growers can stay ahead of the problem in 2015 by using the following tactics:**

1. Check to see if your seed has been treated with a neonicotinoid insecticide. If it has not, your seed supplier may be able to treat the seed, or you may be able to apply a planter box treatment. Look for seed treated with clothianidin (Poncho 600 @ 5.1-6.4 fl. oz. per hundred pounds of seed or generic equivalent), imidacloprid (Gaucho 600 @ 6.4 fl. oz. per hundred pounds of seed or generic equivalent), or thiamethoxam (Cruiser 5 FS @ 5.1-7.6 fl. oz. per hundred pounds of seed, or generic equivalent). Check the insecticide label carefully since not all products can be used as a planter box treatment. The insecticide seed treatment should give you approximately 30 days of protection from the sugarcane aphid.
2. Choose a resistant variety or hybrid. This is such a new pest there is limited information on which varieties are resistant to sugarcane aphid. Texas A&M has developed a short list of varieties that looked somewhat resistant last year in various field or greenhouse tests: Sorghum Partners (Chromatin) SP6929, KS310, NK5418, and K73-J6; Monsanto: DKS37-07 and Pulsar, and TX2783. Other resistant varieties may be available. It took longer for aphid populations to exceed the action threshold for treatment on these varieties than on the more susceptible varieties, however, *these varieties will still need to be scouted for the aphid*. For more information see <http://bit.ly/1e1MqaK>.
3. Plant as early as you can.
4. Use a high seeding rate to promote a thick stand.

5. Have your soil tested and use only the recommended amount of fertilizer for your crop. Over fertilization may lead to increased problems with sugarcane aphid.

6. Know how to recognize sugarcane aphid.

Sugarcane aphids are usually found on the undersides of leaves. They are pale yellow, white, gray, tan, or even slightly peach colored. Their tailpipes (siphunculi), feet (tarsi) and antennae are black. Other aphids that may be found are spotted, have stripes down



their backs, and/or have dark legs. This publication from LSU has pictures of the various aphids commonly found on *Sorghum*: <http://bit.ly/1bPAoQb>.

7. Understand that sugarcane aphid populations increase rapidly, since the aphid can reproduce at 5 days of age, and live for about 4 weeks. This potential for rapid increase makes frequent scouting necessary.



Johnsongrass growing on the edge of a grain sorghum field in May 2015. Sugarcane aphids are already present on the Johnsongrass. Image courtesy Rudy Yates.

8. Scout nearby Johnsongrass weekly until the sorghum has emerged. At that point you can redirect your scouting efforts to the crop. Keep an eye on how many aphids are on the Johnsongrass.

Also note whether

there are any winged aphids or aphids that look like they have shoulder pads. The ones with shoulder pads will, on the next molt, emerge as winged adults. The aphids that infest your sorghum may come from nearby Johnsongrass. However, it is also possible that winged aphids may migrate long distances.

9. Scout the sorghum weekly starting as soon as the crop emerges. Examine the underside of both upper and lower leaves. A stick or sweep net handle may come in handy to turn the plants/leaves over to see the undersides of the leaves. Walk about 25 feet into the field

and look at 15-20 plants along a 50 foot stretch of row. Repeat the sampling in other parts of the field until you have examined at least 60-80 plants per field. Check each side of the field and also look near Johnsongrass and tall plants in the field.

10. When aphids are found, start scouting twice a week. Several scouting methods and action thresholds have been proposed (see details in the links below). They will result in taking action at more or less the same time. As the season advances and we learn more about the pest, these thresholds may change. In summary these scouting methods and thresholds are:

- Depending on growth stage, treat when 20 to 30 sorghum plants out of 100 have aphids and you can find areas of the field with numerous aphids and heavy deposits of aphid honeydew ([Mississippi](#)).
- Treat when 50 aphids per leaf are colonizing 20 percent of the plants (before or during boot milk stage) ([Louisiana](#)).
- Treat when 25% or the plants are infested with 50 or more sugarcane aphids per leaf ([Arkansas](#)).
- Walk 25 feet into the field and examine a lower leaf and the uppermost leaf from 5 plants. Estimate the number of sugarcane aphids found on each leaf. Scout plants in other locations of the field until you have examined at least 40 leaves per field. Apply an insecticide within 4 days if the field average is 50 - 125 aphids per leaf ([Texas A&M AgriLife Extension](#)).

11. Evaluate the level of control 3-4 days after treatment. If sufficient control is achieved, go back to scouting weekly until aphids are found again. Otherwise, continue scouting twice a week.

12. In Alabama, three insecticides are available for controlling sugarcane aphid on sorghum throughout the season. Use a different insecticide each time you spray. It is important to rotate chemistries to avoid development of insecticide resistance. The three insecticides available are:

- sulfoxaflor ([Transform WG](#) at the rate of 0.75-1.5 oz./A). Do not apply within 14 days of harvest or 7 days of grazing or forage, fodder or hay harvest). Do not make more than two applications or apply more than 3 oz of Transform WG per acre per year. Cost of this material, not including application costs, is around \$5-10 per acre. For use on grain, forage, and sweet sorghum and Johnsongrass.
- flupyradifurone ([Sivanto 200 SL](#) at the rate of 4-7 fl. oz./A). Do not apply within 21 days of harvest or 7 days of grazing or forage, fodder or hay harvest). Do not apply

more than 28 fl. oz. of Sivanto 200 SL acre per year. For use on grain, forage, and sweet sorghum and Johnsongrass. Cost of this material is about \$9-16 per acre.

- chlorpyrifos ([Lorsban Advanced](#) at the rate of 2 pints per acre, or generic equivalent). This treatment will cost around \$12 per acre and has a 60 day harvest and grazing restriction. It should not be used when sugarcane aphid populations are very high. For use on grain sorghum only.
13. Use a sufficient volume of water when you apply the insecticide. Use a minimum of 5 gallons per acre (gpa) by air, or 10 gpa by ground. 15-20 gpa is preferred for ground applications.
 14. More information on using insecticides to control sugarcane aphid can be found in this video from Texas A&M AgriLife Extension: <http://bit.ly/1A09YXj>.
 15. Keep scouting, because sugarcane aphids continue to cause yield losses through the dough stage. At black layer or after, they are a concern if they build up in the heads and interfere with harvest.
 16. If aphids build up in the heads, you may need to apply an insecticide along with your harvest aid. Choose your insecticide carefully because some have very long post-harvest intervals. One option is to use a labeled rate of malathion because it has a shorter PHI (7 days). This is the only time using malathion is recommended.
 17. When sugarcane aphids are present, you will see many natural enemies such as ladybugs, lacewings, and syrphid flies. While these biological control agents have not been able to control the aphid on their own, the problem is much worse if the natural enemies are eliminated. For that reason, avoid using broad spectrum insecticides on *Sorghum*. See 18 and 19 below.
 18. If you have to spray for armyworms or headworms do not use a pyrethroid. Choose a diamide such as Belt or Prevathon, or spinosad (e.g. Tracer).
 19. If you have to spray for sorghum midge on grain sorghum do not use a pyrethroid. Consider using chlorpyrifos or spinosad.
 20. If you are growing any *Sorghum* species or hybrid (including Johnsongrass) for hay or silage, use the same thresholds as for grain sorghum. If populations get high enough for treatment, you may want to consider cutting the forage a bit early instead. Then scout the regrowth and treat with an insecticide if necessary.
 21. Download the Alabamacrops app (for Android or iPhone/iPad), which makes it easy for you to contact your regional agent or submit a photo or question.
 22. Subscribe to the Alabama IPM Newsletter by visiting www.aces.edu/IPMCommunicator.

For more information, see:

- [Sugarcane Aphids, An Emerging Pest of Grain Sorghum, LSU AGCenter](#)
- [Management Guidelines for Sugarcane Aphids in MS Grain Sorghum](#)
- [Sugarcane Aphid, a New Pest of Grain Sorghum in Arkansas](#)
- [Texas Sugarcane Aphid News](#)