

Insect Management in Sorghum – 2020

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NOTE: The label is the law. Be sure to read the label before making any pesticide applications and observe all label restrictions including but not limited to days from last application to harvest.

Chlorpyrifos might not be legal in your state, check with your state's Department of Agriculture for registration status of chlorpyrifos products. Corteva will not be manufacturing Lorsban after 2020; other generic formulations may still be available after 2020. Combo chlorpyrifos products are available but not listed below.

Sugarcane Aphids

The most common aphids in sorghum before August include yellow sugarcane aphid (*Sipha flava*) and the corn leaf aphid (*Rhopalosiphum maidis*). These aphids are rarely a concern in sorghum, but they provide fodder for beneficial insects.

The white sugarcane aphid (*Melanaphis sacchari*) is a new species that was first detected in Virginia in 2015 and first reported on the Delmarva Peninsula in 2017. It can cause severe yield loss if large populations develop prior to the hard dough stage. In 2018, very few aphids were found in sorghum, but in 2019, very large populations developed. Aphids in 2019 were first found during the first week of August. This species reproduces extremely quickly, and populations can double in a short period of time. While sorghum is still in the susceptible stages, it is recommended to scout twice weekly when white sugarcane aphid populations are increasing.

White sugarcane aphids feed on the underside of leaves and secrete large amounts of honeydew, making the upper surface of leaves below a colony shiny and slick. Sooty mold will grow on the honeydew, giving covered leaves a black coating. Butterflies, flies, and bees may be attracted to the honeydew as well, and the buzzing of insects feeding on the honeydew is a sure sign of large sugarcane aphid populations present.

Pyrethroids are NOT effective against white sugarcane aphid, and organophosphates only suppress them for short periods of time before populations rebound.

Thresholds for sugarcane aphid have been developed in southern states.

Sorghum Growth Stage	Threshold
Pre-boot to Boot	20% infested plants with localized areas of honeydew and established aphid colonies
Flowering – Dough	30% infested plants with localized area of honeydew and established aphid colonies

Thresholds in this table are from Sugarcane Aphid Now Present in NC-2016 <https://entomology.ces.ncsu.edu/2016/07/sugarcane-aphid-now-present-in-nc-2016/> by Dr. Dominic Reisig, Asc. Prof. of Entomology, NCSU

Tolerant and resistant sorghum varieties have been identified in southern states, and a list of these varieties identified as of 2017 can be found on sorghum checkoff's website at <https://www.sorghumcheckoff.com/news-and-media/newsroom/2017/02/27/2017-sugarcane-aphid-tolerant-hybrids/>. Aphid number per leaf thresholds for susceptible varieties are estimated to be between 40 – 100 aphids per leaf. Thresholds are double for tolerant or resistant varieties.

Insecticides Recommended for Control of Sugarcane Aphid					
Insecticide (Formulation)	Mode of Action Group	Amount active ingredient per acre	Amount product per acre	PHI (days)	Remarks
flupyradifurone (Sivanto 200 SL)	4D	0.09 to 0.137 lb.	4.0 fl. oz.	21	GENERAL USE CAUTION
sulfoxaflor (Transform WG)	4C	0.023 to 0.047 lb.	0.75 to 1.5 fl. oz.	7	RESTRICTED USE WARNING

Corn Earworm, True Armyworm, Fall Armyworm, and Sorghum Webworm

Several species of worm may be present in sorghum fields beginning at the flowering stages. The most common is the corn earworm. Most small larvae (less than ¼ inch) die before molting into later stages, and these should not be considered in determining a threshold.

An excellent threshold calculator for corn earworm can be found at <https://extensionentomology.tamu.edu/sorghum-headworm-calculator/>. Sorghum should be scouted for soon after flowering. Moths are attracted to flowering sorghum for egg laying. Sample sorghum using a 'beat-bucket'. Shake sorghum heads hard into a 2.5 to 5-gallon bucket and count caterpillars. Open headed sorghum varieties tend to sustain less damage than closed-headed types. In general, pyrethroids offer only 50 – 75% control. If a pyrethroid is used, use the highest label rate, and do not target anything larger than a medium sized worm. Sorghum webworm thresholds are approximately double those of the other headworms. Webworms can be common in Virginia, but may be less common in Delaware. If targeting sorghum webworm, lower pyrethroid rates than those listed in the below table can be used.

Fall armyworm, and to a lesser extent corn earworm, frequently infest whorls prior to boot stage and head emergence. However, treatment is only justified when more than 75% of whorls are infested.

Insecticides Labeled for Control of Corn Earworm, True Armyworm, and Sorghum Webworm					
Insecticide (Formulation)	Mode of Action Group	Amount active ingredient per acre	Amount product per acre	PHI (days)	Remarks
carbaryl (Sevin XLR Plus)	1A	1 to 2 lb.	1 to 2 qt.	21	GENERAL USE CAUTION
methomyl (Lannate LV)	1A	0.23 to 0.45 lb.	0.75 to 1.5 pt.	14	RESTRICTED USE DANGER
chlorpyrifos (Lorsban 4E)	1B	1 lb. (0.5 lb)	2 pt. (1 pt. sorghum webworm)	60	RESTRICTED USE WARNING
beta-cyfluthrin (Baythroid XL)	3	0.022 lb.	2.8 fl. oz.	14	RESTRICTED USE WARNING
cyfluthrin (Tombstone)	3	0.044 lb.	2.8 fl. oz.	14	RESTRICTED USE DANGER
esfenvalerate (Asana XL)	3	0.05 lb.	9.6 fl. oz.	21	RESTRICTED USE WARNING
lambda-cyhalothrin + chlorantraniliprole (Besiege)	3 + 28	0.39 to 0.65 lb.	6.0 to 10.0 fl. oz.	30	RESTRICTED USE WARNING
zeta-cypermethrin	3	0.025 lb.	4.0 fl. oz.	14	RESTRICTED

(Mustang Maxx)					USE WARNING
spinosad (Blackhawk)	5	0.038 to 0.074 lb.	1.7 to 3.3 fl. oz.	21	GENERAL USE CAUTION
chlorantraniliprole (Coragen 1.67 SC) (Prevathon)	28	0.045 to 0.098 lb. 0.047 to 0.067 lb.	3.5 to 7.5 fl. oz. 14.0 to 20.0 fl. oz.	1	GENERAL USE CAUTION

Stink Bugs

Stink bugs move into sorghum soon after flowering and insert their sucking mouthparts into the seed, causing shriveling and reduced size and quality. Sorghum is most susceptible during the milk to soft dough stage. Sample for stink bugs using the beat-bucket technique described for headworms above. Treat if stink bugs exceed 2-4 bugs per head during milk stage and 4-8 bugs per head during the soft dough stage.

Insecticides Labeled for Control of Stink Bugs					
Insecticide (Formulation)	Mode of Action Group	Amount active ingredient per acre	Amount product per acre	PHI (days)	Remarks
beta-cyfluthrin (Baythroid XL)	3	0.010 to 0.022 lb.	1.3 to 2.8 fl. oz.	21	RESTRICTED USE WARNING
cyfluthrin (Tombstone)	3	0.020 to 0.044 lb.	1.3 to 2.8 fl. oz.	14	RESTRICTED USE DANGER
lambda-cyhalothrin (Warrior II)	3	0.02 to 0.03 lb.	1.28 to 1.92 fl. oz.	30	RESTRICTED USE WARNING
zeta-cypermethrin (Mustang Maxx)	3	0.011 to 0.025 lb.	1.75 to 4.0 fl. oz.	14	RESTRICTED USE WARNING
lambda-cyhalothrin + chlorantraniliprole (Besiege)	3 + 28	0.39 to 0.65 lb.	6.0 to 10.0 fl. oz.	30	RESTRICTED USE WARNING