

Grain Sorghum Insect Control

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Introduction

Grain sorghum is an important minor rotational crop in Tennessee. Sorghum is more drought-tolerant than either corn or soybeans, and provides another non-host crop for managing soybean cyst nematode populations. Grain sorghum can be used in a double-crop system following wheat or as a late-planted grain crop. With better markets, improved varieties and weed control chemicals, the acreage of grain sorghum will probably increase to some degree.

Several insect pests may reduce yields. By planting grain sorghum on the recommended dates, some insect problems can be reduced or avoided. Infestations of the sorghum midge, corn earworm, fall armyworm and sorghum webworm will cause more damage to late-planted sorghum. Fortunately, there are many insecticides that will control economically damaging populations of sorghum insect pests.

Insects Sucking Juices from Leaves

Different types of aphids may be found on grain sorghum early in the season. These insects are found on top and underneath the leaves and whorls of sorghum plants, where they cause damage by sucking juices from the plant. The most common aphids found in grain sorghum are the greenbug (Illustration 1) and the corn leaf aphid (Illustration 2). The greenbug injects plant tissue with toxic saliva and both types of aphids can transmit viral diseases like Maize Dwarf Mosaic Virus.

Insects Feeding on Grain Heads and Seed Kernels

The sorghum midge (Illustration 3) and sorghum webworm (Illustration 4) feed on the ripening grain kernels. Sorghum webworms feed on the ripening kernels by devouring the inside and leaving the hollow kernel shell. Corn earworms and fall armyworms usually consume the entire kernel as they feed.

Insects Feeding on Leaf Tissue

Corn earworms (Illustration 5) and fall armyworms (Illustration 6) feed in the whorls of young grain sorghum plants. Severe feeding injury to the growing point or intercalary meristem may destroy the emerging grain head.

Beneficial Insects in Grain Sorghum

Several beneficial insects reproduce in grain sorghum fields. The most important species is the minute pirate bug, also known as the flower bug. This small insect is widely distributed over the United States and is commonly found on flowers. The adult is black, while the upper half of the wings is yellowish-white, with a large, blackish, triangular spot at the tip. The membranous portion of the wing is milky white. This insect is approximately 1/10 inch long.

Minute pirate bugs prey on worm eggs, newly hatched larvae, nymphs, spider mites and other small insects. They are most numerous in areas near sorghum fields.

Other beneficial insects commonly found in sorghum fields are the lady bird beetles, damsel bugs, big-eyed bugs and ambush bugs. All of these species aid in reducing insect pest populations in the field.

Recommended Planting Dates

Grain sorghum should be planted from May 1 to June 1 for highest yields. Planting before mid May will avoid some insect damage from the midge, fall armyworm, sorghum webworm and corn earworm.

Economic Threshold Levels and Scouting Procedures for Sorghum Insects

Greenbug: Early-planted sorghum is more susceptible to attack from greenbug. Look on the undersides of leaves for these small green aphids. Treat when one or two greenbugs are on a majority of the plants in the seedling stage and leaves are showing damage. The greenbug has a toxic substance in its saliva that causes red spots on leaves where it has fed. In larger plants, treat when one or two leaves per plant are dying.

Corn Leaf Aphid: Check primarily in the whorls of sorghum plants for this insect. The corn leaf aphid does not inject a toxic saliva into the leaves, as do the greenbugs, but can transmit viral diseases if johnsongrass is present in the field. Sorghum plants can tolerate a large number of these insects, so treatments are usually unnecessary.

Sorghum Midge: Check grain heads from emergence through bloom stage twice a week. Place a clear plastic bag over the head and shake, allowing the bag to remain over the head. Observe any midges that may light on the insides of the bag walls. Treat when an average of one midge per grain head is found.

Sorghum Webworm: Check inside grain heads for tiny ½-inch worms and on leaves under grain head for white fecal droppings from these insects. Close examination is necessary. Treat when an average of five larvae per grain head are found.

Corn Earworm: Check in the whorls of young plants and inside the grain heads of older plants. Treat when an average of two larvae per grain head are found.

Fall Armyworm: Check in the whorls of late-planted sorghum of young plants and inside the grain heads of more mature plants. Treat when an average of two larvae per grain head are found.



Illustration 1. **Greenbug:** A small, light green aphid with a dark green stripe down the back. It is approximately 1/16 inch long. Reproductive potential is very high compared to other aphids.



Illustration 2: **Corn Leaf Aphid:** The cornicles (tail-pieces at the end of the abdomen), legs and antennae are black. Bluish-green body color; about 1/16 inch long. Aphids are usually found feeding in the whorl of the sorghum plant.



Illustration 3. **Sorghum Midge:** This is a small, gnat-like insect, reddish-orange and about 1/10 inch long. Female sorghum midges lay eggs in the spikelets and seed husks during the bloom stage of sorghum. The larvae feed on the developing seeds, causing them to dry up and die.



Illustration 4. **Sorghum Webworm:** This is a small, hairy caterpillar with four reddish-brown stripes down its back. Full-grown larvae are about 1/2 inch long. They are usually associated with a sticky webbing in the area of their feeding.



Illustration 5. **Corn Earworm:** This larva has alternating light and dark stripes down its body. The skin is set with tiny spines and the color varies from green to pink. The head capsule is a creamy-yellow. Full grown larvae are about 1 1/2 inches long. Corn earworms feed in the whorls of young plants, and can devour entire grain kernels.



Illustration 6. **Fall Armyworm:** This larvae has a dark head capsule and a more prominent inverted Y on the front of the head. The body color is greenish to brownish, with brownish to black stripes on the sides of the body.

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Recommended Chemical Controls for Sorghum Insects

WARNING: This manual serves as a guide – not as a replacement for the label.

Insect Pest	Insecticide	Rate/A	Preharvest Days* (Grain)	Restrictions
Aphid** (Greenbug)	Dimethoate	See label	See label	See label.
	Di-Syston 15G	6-8 oz/1000 row ft	30	See label.
	Lorsban 4E	½-2 pt	30-60	See label.
	Furadan 4F	½-1 pt	---	Apply before head emerges. 75-day preharvest for forage.
Sorghum Midge	Dimethoate	See label	See label	See label.
	Lannate LV	3/4-1 ½ pt	14	See label for
	Lannate SP	1/4 - ½ lb	14	precautions.
	Lorsban 4E	½ pt	30	See label for
	Fury	1.4 - 4.3 oz	14	precautions.
	Warrior T	1.92 - 2.56 oz	30	
	Baythroid	0.9 - 1.3 oz	14	
Corn Earworms & Sorghum Webworm	Sevin XLR	1-2 qt	21	
	Sevin (80S)	1 1/4 - 2 ½ lb	21	
	Lannate SP	½ lb	14	Read label.
	Lannate LV	1 ½ pt	14	Read label.
	Lorsban 4E	1-2 pt ***	30-60	
	Baythroid	1.3 - 2.8 oz	14	
	Fury	1.9 - 4.3 oz	14	
	Warrior T	2.56 - 3.84 oz	30	
Tracer	1.5 - 3.0 oz	7		
Fall Armyworm	Sevin XLR	1-2 qt	21	
	Sevin (80S)	1 1/4 to 2 ½ lb	21	
	Lannate LV	3/4-1 ½ pt	14	Read label.
	Lannate SP	1/4 - ½ lb	14	Read label.
	Lorsban 4E	1-2 pt	30-60	
	Baythroid	1.3 - 2.8 oz	14	
	Fury	1.9 - 4.3 oz	14	
	Warrior T	2.56 - 3.84 oz	30	
Tracer	1.5 - 3.0 oz	7		
Stinkbugs	Sevin (80S)	1 ¼-2 ½ lb	21	
	Sevin XLR	1-2 qt	21	
	Fury	1.9 - 4.3 oz	14	
	Warrior T	2.56 - 3.84 oz	30	
	Baythroid	1.3 - 2.8 oz	14	

* Waiting period from insecticide application until grain harvest.

** Controls usually unnecessary for corn leaf aphids in most cases.

*** Use higher rate for control of corn earworm

CAUTION: Read pesticide labels for all directions. Improper use can cause severe damage to life and property.

Honeybees may be killed if insecticides are used while plants are blooming. The University of Tennessee will no longer recommend any insecticide that has been canceled by the Environmental Protection Agency.