



Current Report

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Management of Insect and Mite Pests in Sorghum

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Sorghum pests, if not controlled when thresholds are exceeded, will reduce yield and quality of grain and forage. Pesticides should not be used as a substitute for good agronomic practices or as “preventative insurance” because it is rarely economically or environmentally justifiable. Many sorghum pest problems can be avoided by developing an Integrated Pest Management (IPM) plan that includes preventive pest management practices, such as planting high-quality, vigorous, Oklahoma-proven hybrid seed; planting it at the proper time for optimal health and yield, providing proper fertilization and weed control; and, when possible, keeping sorghum fields as far away as possible from wheat.

The information herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

Pesticide recommendations in this publication were correct as of the “Modified Date” but always check the label that came with the purchased insecticide for the most current rates and restrictions.

The first name listed is the trade name of a product registered for use in corn for the listed pest. The name in

(parentheses) listed below the trade name is the name of the active ingredient. The active ingredient name is provided because in many cases, there are other registered products containing the same active ingredient that may cost less, so producers should compare prices.

The number [in brackets] following a product is its Mode of Action number [MOA]. The more frequently insecticides with the same MOA are used, the more likely resistance will occur. This number provides an easy way to select different modes of action to avoid selecting for pests that are resistant to a certain mode of action.

Refer to the following Extension publications for additional information.

- CR2162 Grain Sorghum Performance Trials in Oklahoma, 2015
- EPP-7157 Field Key to Larvae in Sorghums
- EPP-7196 Grasshopper Management in Rangeland, Pastures, and Crops
- PSS-2113 Grain Sorghum Production Calendar
- PSS-2166 Use of Glyphosate as a Harvest Aid in Early Planted Grain Sorghum
- PT-2005-2010 Grain Sorghum Performance Trials in Oklahoma.

Management of Insect and Mite Pests in Sorghum

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|--|--|--|---|
| Chinch bug Adults are 1/8 inch long, black with white wings that are folded over the back into an “hour glass” shape. Nymphs are reddish to brown, with a white stripe across their “shoulders.” Damage: Feed at base of plants, in between leaf sheath and stem. Chinch bugs often migrate from small grains to sorghum. | Planting Time Gaucho 600 [4A] (imidacloprid) | 6.4 fl oz/cwt seed (0.25 lb ai/cwt seed) | Seed treatments will generally provide 3 weeks of suppression. Use seed treatment if sorghum has suffered regular losses from chinch bug infestations. Do not feed leftover treated seed to livestock. Check table on last page for grazing and harvest restrictions for seed treatments. Best control is obtained when insecticide is applied by ground, with nozzles directed at the base of the plants using a minimum of 20-30 gallons of water. |
| | Cruiser 5FS [4A] (thiamethoxam) | 5.1 to 7.6 fl oz/cwt seed (0.2 to 0.3 lb ai/A) | |
| | Poncho 600 [4A] (clothianidin) | 5.1 to 6.4 fl oz/cwt seed (0.20 to 0.25 lb ai/A) | |
| | Post-Plant Asana XL [3] (esfenvalerate) | 5.8 to 9.6 fl oz (0.03 to 0.05 lb ai/A) | Do not apply more than 0.15 lb ai/season. 21 day wait for grazing or harvest. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|---|--|---|---|
| Chinch bug (cont'd) Feeding may kill small seedlings. | Baythroid XL [3] (beta-cyfluthrin) | 2.0 to 2.8 fl oz (0.019 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| Threshold: 2-3 bugs per plant on seedlings. Treat if large numbers are moving in to sorghum from grain. A border spray 30-60 feet wide on the margins of the field may be of value if chinch bug numbers are high in an adjacent wheat field. | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 13 to 38 fl oz | 30 day wait for applications of 26 fl oz/A or less, 60 day wait for applications over 26 fl oz/Acre. |
| | Delta Gold [3] (deltamethrin) | 1.3 to 1.9 fl oz (0.015 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| | Fastac EC [3] (alpha-cyhalothrin) | 3.2 to 3.9 fl oz (0.020 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 day wait for forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 1.92 fl oz (0.03 lb ai/A) | 30 day wait for harvest or grazing. |
| | Lorsban 4E [1B] (chlorpyrifos) | 1 to 2 pt (0.5 to 1 lb ai/A) | 30 to 60 day wait for grazing or harvest. |
| | Mustang MAXX EC [3] (zeta-cypermethrin) | 3.2 to 4.0 fl oz (0.02 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 3.84 fl oz (0.015 lb ai/A) | 30 day wait for grazing or harvest. |
| | Sevin XLR [1A] (carbaryl) | 1 to 2 qt (1 to 2 lb ai/A) | Sevin may cause spidermite buildup. 21 day wait for forage, 14 days for harvest or grazing. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| Corn earworm (Headworm) Up to 1 inch. Color varies from green, to brown to yellow and pink. | | | Check labels, some state that product is only effective on very small (1st and 2nd instars) caterpillars. |
| Damage: Feed in whorl and ripening seed in head. Yield loss from whorl feeding is negligible. Are capable of causing damage to seed in head until grain reaches soft dough stage. | Asana XL [3] (esfenvalerate) | 5.8 to 9.6 fl oz (0.03 to 0.05 lb ai/A) | Do not apply more than 0.15 lb ai/season. 21-day wait for grazing or harvest. |
| | Baythroid XL [3] (beta-cyfluthrin) | 1.3 to 2.8 fl oz (0.010 to 0.022 lb ai/A) | 1st and 2nd instar only; 14-day wait for grazing or harvest. |
| | Belt [28] (flubendiamide) | 2.0 to 4.0 fl oz (0.0625 to 0.125 lb ai/A) | 3-day wait for grazing, 14 days for harvest. |
| Threshold: Two or more larvae per head before hard dough. | Besiege[28,3] (chlorantraniliprole + lambda-cyhalothrin) | 6.0 to 10.0 fl oz | 30-day wait for harvest. |
| A dynamic threshold that is based on plant population and crop value and control costs can be determined by accessing the sorghum headworm calculator http://entopl.okstate.edu/shwweb/index.htm | Blackhawk [5] (spinosad) | 1.5 to 3.3 fl oz (0.034 to 0.094 lb ai/A) | 14-day wait for grazing, 7 days for harvest. |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 19 to 38 fl oz | 30-day wait for applications of 26 fl oz/A or less, 60-day wait for applications over 26 fl oz/Acre. |
| | Concero [5,3] (spinosad + gamma-cyhalothrin) | 2 to 2.85 fl oz/Acre (64 to 45 acres per gallon) | 30-day wait for harvest or grazing. |
| | Delta Gold [3] (deltamethrin) | 1.0 to 1.5 fl oz (0.012 to 0.018 lb ai/A) | 14 day wait for grazing or harvest. |
| | Diamond 0.8 EC [15] (novaluron) | 9 to 12 fl oz | 7-day wait for grazing, 14 days for grain; reapplication may be needed. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|--|--|--|---|
| Corn earworm (Headworm) (cont'd) | Fastac EC [3] (alpha-cypermethrin) | 1.8 to 3.8 fl oz (0.012 to 0.025 lb ai/A) | 14-day PHI for harvest, 45-day wait for forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A) | 30 day wait for grazing or harvest. |
| | Lorsban 4E [1B] (chlorpyrifos) | 2 pt (1 lb ai/A) | 30 to 60-day wait for grazing or harvest. |
| | Lannate LV [1A] (methomyl) | 0.75 to 1.5 pt (0.225 to 0.45 lb ai/A) | 14-day wait for grazing or harvest. |
| | Mustang MAXX [3] (zeta-cypermethrin) | 1.76 to 4.0 fl oz (0.011 to 0.025 lb ai/A) | 14-day wait for harvest, 45 days for grazing. |
| | Prevathon [28] (chlorantraniliprole) | 14 to 20 fl oz (0.047 to 0.067 lb ai/A) | 1-day wait for harvest or grazing. |
| | Proaxisr 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30-day wait for grazing or harvest. |
| | Sevin XLR [1A] (carbaryl) | 1 to 2 qt (1 to 2 lb ai/A) | No wait for grazing, 21 days for harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| Corn leaf aphid Bluish-green, soft bodied aphid with black legs, antennae and cornicles. Typically found in whorl. Damage: Feed in whorl and may cause some delay of whorl emergence if numbers are high. Can mechanically transmit Maize Dwarf Mosaic virus disease. Threshold: Corn leaf aphids rarely cause significant yield loss, so no thresholds have been established. | Planting Time Gaucho 600 [4A] (imidacloprid) Cruiser 5FS [4A] (thiamethoxam) Poncho 600 [4A] (clothianidin) Post-Plant Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) Dimethoate 4E [1B] (dimethoate) Fastac EC [3] (alpha-cypermethrin) Lorsban 4E [1B] (chlorpyrifos) Sivanto 200 SL [4D] (flupyradifurone) Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 6.4 fl oz/cwt seed (0.25 lb ai/cwt seed) 5.1 to 7.6 fl oz/cwt seed (0.2 to 0.3 lb ai/A) 5.1 to 6.4 fl oz/cwt seed (0.20 to 0.25 lb ai/A) 7 to 13 fl oz 0.5 to 1 pt (0.25 to 0.5 lb ai/A) 3.2 to 3.8 fl oz (0.02 to 0.025 lb ai/A) 0.5 to 1 pt (0.25 to 0.5 lb ai/acre) 7.0 to 10.5 fl oz (0.09 to 0.137 lb ai/A) 9.25 to 11.75 oz | Do not feed leftover treated seed to livestock. Check table on last page for grazing and harvest restrictions for seed treatments. Research indicates that yield losses occur only where corn leaf aphids cause stand loss on seedling plants. Chemical treatments, including seed treatments, are not likely to reduce potential for infection by Maize Dwarf Mosaic Virus because it can be transmitted within 30 seconds after an aphid begins feeding. Texas research suggests that corn leaf aphids serve as a food source for lady beetles which can help prevent greenbug outbreaks. 28 day PHI. 14-day PHI for harvest, 45 PHI for grazing or forage. 30 day wait for grazing or harvest. 7 day wait for grazing, 21 days for harvest. 30 day wait for harvest, 45 days for forage. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|--|--|--|---|
| Cutworms Robust caterpillars that "roll" up when disturbed, and prefer to live underground. Damage: Cutworms generally feed at night, and live under the soil during the day. Plants will be cut at or slightly above the soil level. Threshold: Scout fields at seedling emergence. Treat when worms are less than ½ inch long, and skips are noticed. | Asana XL [3] (esfenvalerate) | 5.8 to 9.6 fl oz (0.03 to 0.05 lb ai/A) | Do not apply more than 0.15 lb ai/season. 21 day wait for grazing or harvest. |
| | Baythroid XL [3] (beta-cyfluthrin) | 1.0 to 1.3 fl oz (0.008 to 0.010 lb ai/A) | 14 day wait for grazing or harvest. |
| | Belt [28] (flubendiamide) | 2.0 to 4.0 fl oz (0.0625 to 0.125 lb ai/A) | 3 day wait for grazing, 14 days for harvest. |
| | Besiege[28,3] (chlorantraniliprole + lambda-cyhalothrin) | 5.0 to 6.0 fl oz | 30 day wait for harvest. |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 13 to 38 fl oz | 30 day wait for applications of 26 fl oz/A or less, 60 day wait for applications over 26 fl oz/Acre. |
| | Delta Gold [3] (deltamethrin) | 1.0 to 1.5 fl oz (0.012 to 0.018 lb ai/A) | 14 day wait for grazing or harvest. |
| | Diamond 0.8 EC [15] (novaluron) | 9 to 12 fl oz | 7 day wait for forage, 14 days for grain, reapplication may be needed. |
| | Fastac EC [3] (alpha-cypermethrin) | 1.3 to 3.8 fl oz (0.008 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 PHI for grazing or forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 0.96 to 1.28 fl oz (0.015 to 0.02 lb ai/A) | 30 day wait for grazing or harvest. |
| | Lorsban 4E [1B] (chlorpyrifos) | 1 to 2 pt (0.5 to 1 lb ai/A) | 30 to 60 day wait for grazing or harvest. |
| | Mustang MAXX EC [3] (zeta-cypermethrin) | 1.28 to 4.0 fl oz (0.008 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 1.92 to 2.56 fl oz (0.0075 to 0.01 lb ai/A) | 30 day wait for grazing or harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 3.75 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| Fall armyworm (Headworm) Large, striped, non-bristled caterpillar up to 1.5 inches. Has a light-colored inverted "Y" on head. Damage: Feed in whorl, and ripening seed in head. Yield loss from whorl feeding is negligible. Can damage seed in head until grain reaches soft dough stage. Threshold: Two or more larvae per head before hard dough. Open-headed varieties are less susceptible to attack than tight-headed varieties. A dynamic threshold that is based on plant population and crop value and control costs can be determined by accessing the sorghum headworm calculator | Baythroid XL [3] (beta-cyfluthrin) | 1.3 to 2.8 fl oz (0.010 to 0.022 lb ai/A) | Check labels, some state that product is only effective on very small (1st and 2nd instars) caterpillars. 1st and 2nd instar only; 14 day wait for grazing or harvest. |
| | Blackhawk [5] (spinosad) | 1.5 to 3.3 fl oz (0.034 to 0.094 lb ai/A) | 14 day wait for grazing, 7 days for harvest. |
| | Belt [28] (flubendiamide) | 2.0 to 4.0 fl oz | 3 day wait for grazing, 14 days for harvest. |
| | Besiege [28,3] (chlorantraniliprole + lambda cyhalothrin) | 6.0 to 10.0 fl oz | 30 day wait for harvest. |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 13 to 38 fl oz | 30 day wait for applications of 26 fl oz/A or less, 60 day wait for applications over 26 fl oz/Acre. |
| | Concero [5,3] (spinosad + gamma-cyhalothrin) | 2.85 fl oz/Acre (45 acres per gallon) | 30 day wait for harvest or grazing. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|---|--|---|--|
| Fall armyworm (Headworm) (cont'd) http://entoplp.okstate.edu/shwweb/index.htm | | | |
| | Delta Gold [3] (deltamethrin) | 1.3 to 1.9 fl oz (0.015 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| | Diamond 0.8 EC [15] (novaluron) | 9 to 12 fl oz | 7 day wait for grazing, 14 days for grain reapplication may be needed. |
| | Fastac EC [3] (alpha-cypermethrin) | 1.8 to 3.8 fl oz 0.012 to 0.025 lb ai/A | 14 day PHI for harvest, 45 days for grazing or forage. |
| | Intrepid 2F [18] (methoxyfenozide) | 8 to 10 fl oz (0.12 to 0.16 lb ai/A) | 21 day PIH for grain or stover harvest, 3 days for forage. |
| | Karate with Zeon [3] (lambda-cypermethrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A) | 30 day wait for grazing or harvest. |
| | Lorsban 4E [1B] (chlorpyrifos) | 1 to 2 pt (0.5 to 1 lb ai/A) | 30 to 60 day wait for grazing or harvest. |
| | Lannate LV[1A] (methomyl) | 0.75 to 1.5 pt (0.225 to 0.45 lb ai/A) | 14 day wait for grazing or harvest. |
| | Mustang MAXX [3] (zeta-cypermethrin) | 1.76 to 4.0 fl oz (0.011 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Prevathon [28] (chlorantraniliprole) | 14 to 20 fl oz (0.047 to 0.067 lb ai/A) | 1-day wait for harvest or grazing. |
| | Proaxisr 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30 day wait for grazing or harvest. |
| | Sevin XLR [1A] (carbaryl) | 1 to 2 qt (1 to 2 lb ai/A) | No wait for grazing, 21 days for harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| False chinch bug Adults 1/8 inch long, dirty gray, with brown or black markings and piercing mouthparts. Damage: Feed in groups. Large numbers may cause wilting of heads or small plants. Threshold: 140 or more per head. | | | |
| | Baythroid XL [3] (cyfluthrin) | 1.3 to 2.8 fl oz (0.010 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| | Diamond 0.8 EC [15] (novaluron) | 9 to 12 fl oz | 7 day wait for grazing, 14 days for grain reapplication may be needed. |
| | Fastac EC [3] (alpha-cyhalothrin) | 3.2 to 3.9 fl oz (0.02 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 days for grazing or forage. |
| | Mustang MAXX EC [3] (zeta-cypermethrin) | 3.2 to 4.0 fl oz (0.02 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 fl oz | 30 day wait for harvest, 45 days for forage. |
| Grasshopper 1-2 inches, outer wings leathery, inner wings clear or colored. Enlarged hind legs designed for jumping. Damage: Chew leaves, leaving ragged edges or completely chew leaf blade. Damage | | | |
| | Baythroid XL [3] (beta-cyfluthrin) | 2 to 2.8 fl oz (0.019 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 7 to 13 fl oz | 30 day wait for applications of 26 fl oz/A or less, 60 day wait for applications over 26 fl oz/Acre. |
| | Delta Gold [3] (deltamethrin) | 1.0 to 1.5 fl oz (0.012 to 0.018 lb ai/A) | 14 day wait for grazing or harvest. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> | |
|---|--|---|--|--|
| <p>Grasshopper (cont'd) emerging seed heads causing yield loss.</p> <p>Threshold: 15-20 per square yard. If nymph populations exceed threshold field borders (25-40 per square yard), treat before they move into sorghum.</p> <p>These products are for application in sorghum; See EPP-7196: Grasshopper Management in Rangeland, Pastures, and Crops for treating non-crop areas.</p> | Dimethoate 4E [1B] (dimethoate) | 1 pt (0.5 lb ai/A) | Only one post-plant application per season. | |
| | Fastac EC [3] (alpha-cyhalothrin) | 3.2 to 3.9 fl oz (0.02 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 days for grazing or forage. | |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A) | 30 day wait for grazing or harvest. | |
| | Lorsban 4E [1B] (chlorpyrifos) | 0.5 to 1 pt (0.25 to 0.5 lb ai/A) | 30 day wait for grazing or harvest. | |
| | Mustang MAXX EC [3] (zeta-cypermethrin) | 3.2 to 4.0 fl oz (0.02 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. | |
| | Prevathon [28] (chlorantraniliprole) | 8 to 20 fl oz (0.027 to 0.067 lb ai/A) | 1-day wait for harvest or grazing. | |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30 day wait for grazing or harvest. | |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 oz | 30 day wait for harvest, 45 days for forage. | |
| <p>Greenbug Lime-green, soft bodied aphid with darker green stripe down back. Tips of legs, cornicles, and most of antennae are black.</p> <p>Damage: Injury can occur anytime from seedling emergence through soft dough stage. Greenbug feeding causes reddening of leaves which die as populations increase.</p> <p>Threshold: See Thresholds listed at end of publication. Need to treat is dependent upon greenbug numbers, plant size, variety, growing conditions, and the presence of predators and parasites. It is better to base treatment decision on presence of plant damage than on greenbug numbers alone.</p> | Seed Treatment | | Do not feed leftover treated seed to livestock. Check table on last page for grazing and harvest restrictions for seed treatments. | |
| | Attendant 600 [4A] (imidacloprid) | 6.4 fl oz/cwt seed (0.25 lb ai/cwt seed) | | |
| | Cruiser 5FS [4A] (thiamethoxam) | 5.1 to 7.6 fl oz/cwt seed (0.2 to 0.3 lb ai/A) | | |
| | Poncho 600 [4A] (clothianidin) | 5.1 to 6.4 fl oz/cwt seed (0.20 to 0.25 lb ai/A) | | |
| | Planting Time | | | |
| | Counter 15G [1B] | "Lock 'n Load" or "Smartbox" applicator needed. | Do not place granules in contact with seed. 50-day wait for grazing, 100 days for harvest. | |
| | Post-Plant | | | |
| | Dimethoate 4E [1B] (dimethoate) | 0.5 to 1 pt (0.25 to 0.5 lb ai/A) | 28 day wait for harvest or grazing. | |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 13 to 38 fl oz | 30-day wait for applications of 26 fl oz/A or less, 60-day wait for applications over 26 fl oz/Acre. See additional instructions on label. | |
| | Fastac EC [3] (alpha-cyhalothrin) | 3.2 to 3.9 fl oz (0.02 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 days for grazing or forage. | |
| | Lorsban 4E [1B] (chlorpyrifos) | 0.5 to 2 pt (0.25 to 1 lb ai/A) | 30 to 60 day wait for grazing or harvest. | |
| | Malathion 5E [1B] (malathion) | 1.5 pt (0.93 lb ai/A) | 7 day PHI for grain. Do not feed or graze forage, hay or straw to livestock. | |
| | Sivanto 200 SL [4D] (flupyradifurone) | 7.0 to 10.5 fl oz (0.09 to 0.137 lb ai/A) | 7 day wait for forage, 21 days for harvest. | |
| Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 oz | 30 day wait for harvest, 45 days for forage. | | |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|--|--|--|--|
| Lesser cornstalk borer | | | |
| Caterpillar ¼ inch long when mature. Slender, blue-green with brown bands around each body segment. Make silken tunnels at feeding site. | Concero [5,3] (spinosad + gamma-cyhalothrin) | 2 to 2.85 fl oz/Acre (64 to 45 acres per gallon) | 30 day wait for harvest or grazing. |
| | Delta Gold [3] (deltamethrin) | 1.3 to 1.9 fl oz (0.015 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| Damage. Tunnels in roots and stems. Occurs in May through June. | Karate with Zeon [3] (lambda-cyhalothrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A) | 30 day wait for grazing or harvest. |
| | Fastac EC [3] (alpha-cyhalothrin) | 3.2 to 3.9 fl oz (0.02 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 days for grazing or forage. |
| Threshold. Treat before larva bore into stalk. | Lorsban 4E [1B] (chlorpyrifos) | 1 to 2 pt (0.5 to 1 lb ai/A) | 30 to 60 day wait for grazing or harvest. |
| | Mustang MAXX EC [3] (zeta-cypermethrin) | 3.2 to 4.0 fl oz (0.02 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30 day wait for grazing or harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 9.25 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| Panicle feeding bugs | | | |
| Include stink bugs and leaf-footed bugs. Stink bugs: shield shaped bugs ranging from ½ to ¾ inch long. | Baythroid XL [3] (beta-cyfluthrin) | 1.3 to 2.8 fl oz (0.010 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| Leaf-footed bug: Brown, oblong about ¾ inch long with each hindleg leaf-like. | Besiege[28,3] (chlorantraniliprole + lambda cyhalothrin) | 6.0 to 10.0 fl oz | 30 day wait for harvest. |
| Damage: Feed on seed, causing blasted heads, shrunken damaged seed. Most damage occurs before seed reaches hard dough stage. | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 19 to 38 fl oz | 30 to 60-day wait depending on amount of application. |
| | Concero [5,3] (spinosad + gamma-cyhalothrin) | 2 to 2.85 fl oz/Acre (64 to 45 acres per gallon) | 30-day wait for harvest or grazing. |
| | Delta Gold [3] (deltamethrin) | 1.5 to 1.9 fl oz (0.018 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| Thresholds: Milk stage: 5 bugs /head. Soft Dough: 9 bugs/head. | Fastac EC [3] (alpha-cyhalothrin) | 1.8 to 3.8 fl oz (0.018 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 days for grazing or forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A) | 30 day wait for grazing or harvest. |
| | Mustang MAXX [3] (zeta-cypermethrin) | 1.76 to 4.0 fl oz (0.011 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30 day wait for grazing or harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 5.0 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|---|--|---|---|
| Sorghum midge | | | |
| Tiny, fragile orange-bodied fly that is active in early to mid-morning. | | | Check labels. May need to apply a second treatment 3-5 days after first. Uniform planting date is an option for management. |
| Damage: Damaged heads appear to be “blasted” or “blighted” from high temperatures, infertility or drought. Damage from sorghum midge generally restricted to sorghum that blooms after August 15. | Asana XL [3] (esfenvalerate) | 2.9 to 5.8 fl oz (0.015 to 0.03 lb ai/A) | Do not apply more than 0.15 lb ai/season. 21 day wait for grazing or harvest. |
| | Baythroid XL [3] (beta-cyfluthrin) | 1.0 to 1.3 fl oz (0.008 to 0.010 lb ai/A) | 14 day wait for grazing or harvest. |
| | Blackhawk [5] (spinosad) | 1.5 to 3.3 fl oz (0.034 to 0.094 lb ai/A) | 14-day wait for grazing, 7 days for harvest. |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 7 to 13 fl oz | 30-day wait for applications of 26 fl oz/A or less, 60-day wait for applications over 26 fl oz/Acre. |
| Threshold: Check fields before 11 am, when flies are most active Treat when 25-30% of heads have begun bloom and adults average one or more per head. | Delta Gold [3] (deltamethrin) | 1.3 to 1.9 fl oz (0.015 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| | Diamond 0.8 EC [15] (novaluron) | 9 to 12 fl oz | 7 day wait for grazing, 14 days for grain reapplication may be needed. |
| | Fastac EC [3] (alpha-cypermethrin) | 1.3 to 1.8 fl oz (0.008 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing or forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 0.96 to 1.28 fl oz (0.015 to 0.02 lb ai/A) | 30 day wait for grazing or harvest. |
| | Lorsban 4E [1B] (chlorpyrifos) | 0.5 pt (0.25 lb ai/A) | 30 day wait for grazing or harvest. |
| | Lannate LV [1A] (methomyl) | 0.75 to 1.5 pt (0.225 to 0.45 lb ai/A) | 14 day wait for grazing or harvest. |
| | Mustang MAXX [3] (zeta-cypermethrin) | 1.28 to 4.0 fl oz (0.008 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 1.92 to 2.56 fl oz (0.0075 to 0.01 lb ai/A) | 30 day wait for grazing or harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 3.75 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| Sorghum webworm | | | |
| Fuzzy, reddish to brown worms in head. | Baythroid XL [3] (beta-cyfluthrin) | 1.3 to 2.8 fl oz (0.010 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| Damage: Caterpillars feed on the seed, and hollow it out. Open-headed varieties are less susceptible than tight-headed varieties to attack. | Belt [28] (flubendiamide) | 2.0 to 4.0 fl oz (0.0625 to 0.125 lb ai/A) | 3 day wait for grazing, 14 days for harvest. |
| | Besiege[28,3] (chlorantraniliprole + lambda cyhalothrin) | 6.0 to 10.0 fl oz | 30 day wait for harvest. |
| Threshold: 5 or more larvae per head before hard dough stage. | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 19 to 38 fl oz | 30 day wait for applications of 26 fl oz/A or less, 60 day wait for applications over 26 fl oz/Acre. |
| | Delta Gold [3] (deltamethrin) | 1 to 1.5 fl oz (0.012 to 0.018 lb ai/A) | 14 day wait for grazing or harvest. |
| | Diamond 0.8 EC [15] (novaluron) | 9 to 12 fl oz | 7 day wait for grazing, 14 days for grain reapplication may be needed. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|--|--|--|--|
| Sorghum webworm (cont'd) | | | |
| | Fastac EC [3] (alpha-cypermethrin) | 1.8 to 3.8 fl oz (0.012 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 day for grazing or forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/a) | 30 day wait for grazing or harvest. |
| | Lorsban 4E [1B] (chlorpyrifos) | 1 pt (0.5 lb ai/A) | 30 day wait for grazing or harvest. |
| | Mustang MAXX EC [3] (zeta-cypermethrin) | 1.76 to 4.0 fl oz (0.011 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Prevathon [28] (chlorantraniliprole) | 14.0 to 20.0 fl oz (0.047 to 0.067 lb ai/A) | 1-day wait for harvest or grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30 day wait for grazing or harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 5.0 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |
| | Blackhawk [5] (spinosad) | 1.5 to 3.3 fl oz (0.034 to 0.094 lb ai/A) | 14 day wait for grazing, 7 days for harvest. |
| Southwestern corn borer | | | |
| Full grown caterpillars are white with prominent dark spots on body. | Baythroid XL [3] (cyfluthrin) | 1.3 to 2.8 fl oz (0.010 to 0.022 lb ai/A) | 14 day wait for grazing or harvest. |
| | Belt [28] (flubendiamide) | 2.0 to 4.0 fl oz | 3 day wait for grazing, 14 days for harvest. |
| Damage: Tunnels throughout stalk. May girdle mature stalks. | Besiege [28,3] (chlorantraniliprole + lambda cyhalothrin) | 6.0 to 10.0 fl oz | 30 day wait for harvest. |
| Threshold: Chemical control usually not warranted. | Blackhawk [5] (spinosad) | 1.5 to 3.3 fl oz (0.034 to 0.094 lb ai/A) | 14 day wait for grazing, 7 days for harvest. |
| | Cobalt [1B,3] (chlorpyrifos + gamma-cyhalothrin) | 19 to 38 fl oz | 30 day wait for applications of 26 fl oz/A or less, 60 day wait for applications over 26 fl oz/Acre. |
| | Concero [5,3] (spinosad + gamma-cyhalothrin) | 2 to 2.85 fl oz | 30 day wait for harvest or grazing. |
| | Fastac EC[3] (alpha-cypermethrin) | 1.8 to 3.8 fl oz (0.012 to 0.025 lb ai/A) | 14 day PHI for harvest, 45 days for grazing or forage. |
| | Intrepid 2F [18] (methoxyfenozide) | 8 to 10 fl oz (0.12 to 0.16 lb ai/A) | 21 day PIH for grain or stover harvest, 3 days for forage. |
| | Karate with Zeon [3] (lambda-cyhalothrin) | 1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/a) | 30-day wait for grazing or harvest. |
| | Lorsban 4E [1B] (chlorpyrifos) | 1.5 to 2 pt (0.75 to 1 lb ai/A) | 60 day wait for grazing or harvest. |
| | Mustang MAXX [3] (zeta-cypermethrin) | 1.76 to 4.0 fl oz (0.011 to 0.025 lb ai/A) | 14 day wait for harvest, 45 days for grazing. |
| | Proaxis 0.5 CS [3] (gamma-cyhalothrin) | 2.56 to 3.84 fl oz (0.01 to 0.015 lb ai/A) | 30 day wait for grazing or harvest. |
| | Sevin XLR [1A] (carbaryl) | 1.5 quarts (1.5 lb ai/A) | No wait for grazing, 21 days for harvest. |
| | Stallion [1B, 3] (chlorpyrifos + zeta-cypermethrin) | 5.0 to 11.75 oz | 30 day wait for harvest, 45 days for forage. |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|--|--|--|---|
| Spidermites | | | |
| <p>Small, less than 1/100 inch long. Cause brown stippling of leaves.</p> <p>Damage: Causes stippling of leaves; severe infestations can kill leaves.</p> <p>Threshold: No threshold established. Treat if majority of plants are infested with large, increasing mite infestations. Control is not be justified after head reaches hard dough stage.</p> | Post-Plant | | |
| | Comite II [14] (propargite) | 24 to 36 fl oz (1.125 to 1.6875 lb ai/A) | 30-day wait for grazing, 60 days for harvest. |
| | Dimethoate 4E [1B] (dimethoate) | 1 pt (0.5 lb ai/A) | Only one post-plant application per season. |
| | Onager [10A] (hexythiazox) | 10 to 24 fl oz (0.078 to 0.1875 lb ai/A) | 30-day waiting period for harvest, do not graze. |
| | Supracide 2E [1B] (methidathion) | 2 pt (0.5 lb ai/A) | 30-day wait for grazing or harvest (24c label, OK050003). |
| Sugarcane aphid | | | |
| <p>Whitish to light yellow, soft bodied aphid. Tips of legs, cornicles, and most of antennae are black. Colonies occur on underside of leaves, starting from the lower leaves.</p> <p>Damage: Injury can occur anytime from seedling emergence through harvest, but is more likely to occur from boot through soft dough. Heavy feeding causes early leaf senescence and reduces seed fill. Aphids produce large amounts of honeydew, which can affect harvest operations.</p> <p>Threshold: Economic injury levels have not yet been determined, so suggested treatment threshold is 30 to 40 percent of plants are infested. Arkansas suggests threshold of 25% of plants with 50 aphids per leaf.</p> | Planting Time | | |
| | Cruiser 5FS [4A] (thiamethoxam) | 5.1 to 7.6 fl oz/cwt seed (0.2 to 0.3 lb ai/A) | Check table on last page for grazing and harvest restrictions for seed treatments. |
| | Post-Plant | | |
| | *Dimethoate 4E [1B] (dimethoate) | 0.5 to 1 pint (0.25 to 0.5 lb ai/A) | *moderately effective, 28 day waiting period. |
| | *Lorsban 4E [1B] (chlorpyrifos) | 0.5 to 2 pt (0.25 to 1 lb ai/A) | *moderately effective, 30 to 60-day wait for grazing or harvest. |
| | Sivanto 200 SL [4D] (flupyradifurone) | 4.0 to 7.0 fl oz (0.05 to 0.09 lb ai/A) | 7-day wait for grazing, 21 days for harvest. |
| | Transform WD [4C] (sulfoxaflor) | 0.75 to 1.5 oz (0.023 to 0.047 lb ai/A) | 7 day waiting for grazing, 14 days for harvest. Do not spray less than 3 days before bloom, or until seed set. (Section 18 emergency use registration, expires 04/08/2017). |
| White grub | | | |
| Large, "C" shaped grub with a white body and a brown head. | NA | NA | No insecticide is currently registered for white grub control. Re-planting may be the best option. |
| <p>Damage: Grubs feed on roots of seedling plants. Damage potential is dependent on planting date and speed of growth of the plant.</p> <p>Threshold: No treatment is available. An average of one grub per square foot may cause stand loss.</p> | | | |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|---|--|---|--|
| <p>Wireworm Hard-shelled, smooth, cylindrical, yellowish to brown worms. 2-6 year life cycle. More common in sorghum planted into a sod or grass pasture.</p> <p>Damage: Feed on seed, seedling. Cause stunting and stand loss.</p> <p>Threshold: Seed treatments are available. Treat if field history indicates a problem.</p> | Seed Treatment | | |
| | Gaucho 600 [4A] (imidacloprid) | 6.4 fl oz/cwt seed (0.25 lb ai/cwt seed) | Do not feed leftover treated seed to livestock. Check table on last page for grazing and harvest restrictions for seed treatments. |
| | Cruiser 5FS [4A] (thiamethoxam) | 5.1 to 7.6 fl oz/cwt seed (0.2 to 0.3 lb ai/A) | |
| | Poncho 600 [4A] (clothianidin) | 5.1 to 6.4 fl oz/cwt seed (0.20 to 0.25 lb ai/A) | |
| | Planting Time | | * Counter 15 G can be used as a planting time treatment except in the Panhandle, but it requires a "Smartbox" or "Lock 'n Load" applicator, and has the potential to damage plants, and interact with several ALS-inhibiting herbicides. Check label for restrictions. |
| | *Counter 15G [1B] | Apply per label. | |

| <i>Pest, Damage and Treatment Threshold</i> | <i>Insecticide, Formulation, [MOA Group] & (Active Ingredient)</i> | <i>Rate of Product (or AI) per Acre</i> | <i>Comments</i> |
|---|--|---|-----------------|
|---|--|---|-----------------|

Pre-harvest Intervals and grazing restrictions

| | | | |
|----------------------|--|---|--|
| Asana XL | | 21-day PHI. | |
| Batallion/Delta Gold | | 14-day wait for grazing or harvest. | |
| Baythroidr XL | | 14-day PHI, 14 days grazing. | |
| Belt | | 3-day PHI for grazing, 14 days for grain harvest. | |
| Besiege | | 30-day PHI for harvest. | |
| Blackhawk | | 7-day PHI for harvest, 14 days for grazing. | |
| Cobalt | | 30-day wait for applications of 26 fl oz/A or less, 60-day wait for applications over 26 fl oz/Acre | |
| Comite II | | 30-day PHI for silage, 60 days for grain harvest. | |
| Concero | | 30-day PHI. | |
| Counterr 15G | | 100-day PHI for grain, 50 days for grazing. | |
| Cruiserr 5FS | | no grazing restriction. | |
| Diamond 0.8 EC | | 7-day wait for grazing, 14 days for grain. | |
| Dimethoate | | 28-day PHI for grain or grazing, do not apply after heading. | |
| Fastac | | 14-day PHI for harvest, 45-day PHI for forage/grazing. | |
| Karate with Zeon | | 30-day PHI for harvest or grazing. | |
| Lannate | | 14-day PHI for harvest or grazing. | |
| Lorsban 4E | | 30-60 day PHI for harvest or grazing, depending on rate applied. | |
| Malathion | | 7-day PHI for grain. Do not feed or graze forage, hay or straw to livestock. | |
| Mustang MAXX EC | | 14-day PHI for harvest, 45 days for grazing. | |
| Onager | | 30-day PHI for harvest, do not graze. | |
| Poncho | | No grazing restriction. | |
| Prevathon | | 1-day PHI for harvest or grazing. | |
| Proaxis | | 30-Day PHI for harvest or grazing. | |
| Sevin XLR | | 21-day PHI for harvest, 0 days for forage. | |
| Sivanto | | 21-day PHI for harvest, 7 days for forage. | |
| Stallion | | 30-day wait for harvest, 45 days for forage. | |
| Transform WD | | 14 day PHI for harvest, 7 days for forage. | |

* MOA group numbers in brackets [#] following the insecticide name are used to designate the mode of action of the insecticide according to the classification system developed by the Insecticide Resistance Action Committee, (IRAC) in 2011. It is intended to help in the selection of insecticides for preventative resistance management. If you make multiple applications for a specific pest during a growing season, simply select a registered insecticide with a different number for each application. To further delay resistance from developing, integrate other control methods into your pest management programs.

Treatment Thresholds * For Greenbugs On Sorghum

| <i>Plant Size</i> | <i>When to Treat</i> | |
|----------------------------|---|----------------------------------|
| | <i>Texas thresholds</i> | <i>Kansas thresholds</i> |
| 0 to 1 leaf stage | 20% of plants visibly damaged | 25 to 50 greenbugs per plant |
| 3 leaf stage | 20% of plants visibly damaged | 50 to 100 greenbugs per plant |
| 5 leaf stage | Visible damage on leaves, (red spots, yellow leaves) but before any entire leaves are killed on 20% of plants | 150 to 300 greenbugs per plant |
| Mid-whorl stage | Visible damage on leaves (red spots yellow leaves), but before any entire leaves are killed on 20% of plants | 300 to 600 greenbugs per plant |
| Boot to heading | Death of one functional leaf | 700 to 1,000 greenbugs per plant |
| Heading through soft dough | Death of two functional leaves | 700 to 1,000 greenbugs per plant |

The pesticide information presented in this publication was current with federal and state regulations at the time of revision. READ and FOLLOW all LABEL directions.

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