

FIELD CORN INSECTICIDE PERFORMANCE RATING, 2019

| | Chemistry | Restricted Entry Interval (hours) | Restricted Use (R) | Chinch Bug | Fall Armyworm | Corn Rootworm | Cutworm | European Corn Borer | Flea Beetle | Grasshopper | Seed Corn Maggot | Southwestern Corn Borer | Green and Southern Green Stink Bug | Brown Stink Bug | Wireworm | Fire Ant |
|--|-----------|-----------------------------------|--------------------|------------|---------------|---------------|---------|---------------------|-------------|-------------|------------------|-------------------------|------------------------------------|-----------------|----------|----------|
| Axcess/Senator/Concur | NEO | 12 | | 8 | | 6 | 1 | | | | 8 | | | | 5 | 5 |
| Cruiser | NEO | 12 | | 8 | | 6 | 1 | | | | 8 | | | | 5 | 5 |
| Fortenza | DM | 12 | | | | | | | | | | | | | | |
| Poncho | NEO | | X | 8 | | 6 | 3 | | | | 8 | | | | 5 | 5 |
| Ambush | SyP | 12 | X | 7 | 5 | | 8 | 6 | | 7 | | 5 | 7 | 4 | | |
| Asana XL/Adjourn | SyP | 12 | X | 7 | 5 | | 9 | 6 | | 7 | | 7 | 8 | 5 | | |
| Aztec/Defcon | SyP + OP | 48 | X | 8 | | 6 | 4 | | | | 8 | | | | | |
| Baythroid XL | SyP | 12 | X | 7 | 5 | | 9 | 6 | 6 | 8 | | 7 | 8 | 5 | | |
| Belt* | DM | 12 | | | 8 | | | 8 | | | | 8 | | | | |
| Besiege | DM + SyP | 24 | X | 7 | 9 | | 9 | 9 | 6 | 8 | | 9 | 8 | 4 | | |
| Blackhawk | SP | 4 | | 0 | 7 | | 7 | 7 | | 1 | | 8 | | | | |
| Cobalt Advanced | SyP + OP | 24 | X | 7 | 5 | | 8 | 7 | 6 | 8 | | 7 | 9 | 8 | | |
| Counter | OP | 48 | X | 8 | | 6 | 0 | | 6 | | 8 | | | | 6 | |
| Bifenthrin/Discipline/Fanfare/Brigade | SyP | 12 | X | 7 | 5 | | 9 | 7 | 6 | 8 | | 7 | 9 | 8 | | |
| Force/Force EVO | SyP | 0 | X | 6 | | 6 | 5 | | | | 5 | | | | | |
| Hero | SyP | 12 | X | 7 | 5 | | 9 | 7 | 6 | 8 | | 7 | 9 | 8 | | |
| Intrepid/Troubadour/Invertid/Turnstyle | IGR | 4 | | | | | 7 | 8 | | | | 8 | | | | |
| Intrepid Edge | IGR + SP | 4 | | | 7 | | 9 | 9 | | | | 9 | | | | |
| Lambda Cy/Silencer/Warrior | SyP | 24 | X | 7 | 5 | | 9 | 6 | 6 | 8 | | 6 | 8 | 4 | | |
| Lannate | Car | 48 | X | 3 | 8 | | 5 | 6 | | 4 | | 7 | | | | |
| Lorsban/Chlorpyrifos/Nufos | OP | 24 | X | 8 | 4 | 6 | 7 | 5 | | 6 | 8 | 5 | 7 | 7 | | 8 |
| Mustang Maxx/Respect | SyP | 12 | X | 7 | 5 | | 9 | 6 | 6 | 8 | | 7 | 8 | 4 | | |
| Pounce/Perm-UP | SyP | 12 | X | 7 | 5 | | 8 | 6 | 6 | 8 | | 6 | 6 | | | |
| Prevathon | DM | 4 | | | 9 | | 9 | 9 | | | | 9 | | | | |
| Proaxis/Declare | SyP | 24 | X | 7 | 4 | | 9 | 6 | 6 | 8 | | 6 | 8 | 4 | | |
| Sevin/Carbaryl | Car | 12 | X | 8 | 6 | | 5 | 6 | 8 | 5 | | 7 | | | | |
| Thimet/Phorate | OP | 48 | X | | | 5 | 0 | | | | 1 | | | | | |

Rating Scale: 0 = no control, 10 = excellent

*No longer labeled. Use of existing supplies is allowed.

The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control.

Shaded boxes indicate products recommended for specific pests in this guide.

QUICK VIEW THRESHOLD GUIDE

| Insect | Threshold | Scouting Procedure |
|----------------------------|--|--|
| Fall armyworm/Corn earworm | 3-6 larvae per whorl | Examine 25-50 plants |
| Chinch bugs | when stand is threatened | |
| European corn borer | 50% of plants showing damage | |
| Southwestern corn borer | Pheromone Traps: First generation – 50 per week; Second generation – 100 per week. Field Scouting: 10% of plants showing damage | |
| Stink bugs | 10% of plants infested (< 2 feet tall) 25% of plants during early ear formation | Examine 25-50 plants (stink bugs tend to infest field borders first) |

When planting into a cover crop, consider using a high seed treatment rate of 500 or above.

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|------------------------------|--|--|-------------------|---------------------|---|--|--|
| Corn Rootworm | chlorpyrifos (R) Lorsban 15 G | 8 oz/1,000 ft of row | 1 | | Apply in 7-inch band or in furrow. | 21 | 24 |
| | clothianidin Poncho 600 | 0.25-1.25 mg ai/seed | | | Seed treatment – commercially available. | | 12 |
| | cyfluthrin + phostebupirim (R) Aztec or Defcon 2.1 G | 6.7 oz/1,000 ft of row | 0.12 | | Apply Aztec/Defcon in 7-inch band or in furrow. | 30 | 48 |
| | imidacloprid Senator/Axcess 5 FS Concur | 1.34 mg ai/kernel 1.5 oz/42 lb seed | | | Seed treatment | | 12 |
| | phorate (R) Thimet/Phorate 20 G | 6 oz/1,000 ft of row | 1 | | Apply in 7-inch band behind the planter shoe directly in front of the press wheel. DO NOT apply Thimet or Phorate directly in furrow. | 30 | 48 |
| | tefluthrin (R) Force 3 G Force EVO | 4-5 oz/1,000 ft of row 0.46-0.57 fl oz/1,000 ft | 0.1-0.24 | | Apply in 7-inch band or in furrow. Apply in 7-inch T-band and incorporate or in furrow. | | 48 |
| | terbufos (R) Counter 15 G | 8 oz/1,000 ft of row | 1 | | Apply in furrow or in 7-inch band behind planter shoe in front of the press wheel. | | 48 |
| | thiamethoxam Cruiser 5 FS | 1.25 mg ai/kernel | | | Seed treatment. | | 12 |
| Seed Corn Maggot | Maggot damage can be reduced by early spring plowing that reduces plant residue prior to planting. | | | | | | |
| | chlorpyrifos (R) Lorsban 15 G | 8 oz/1,000 ft of row | 1.0 | | Apply in 7-inch band or in furrow. | 21 | 24 |
| | clothianidin Poncho 600 | 0.25-0.5 mg ai/kernel | | | Seed treatment. | | 12 |
| | cyfluthrin + phostebupirim (R) Aztec or Defcon 2.1 G | 6.7 oz/1,000 ft of row | 0.12 | | Apply in 7-inch band or in furrow. | 30 | 48 |
| | imidacloprid Senator/Axcess 5 FS Concur | 0.16-0.6 mg/ai kernel 1.8 oz/50 lb seed | | | Seed treatment. | | 12 |
| | terbufos (R) Counter 15 G | 8 oz/1,000 ft of row | 1.0 | | Apply in furrow or in 7-inch band behind planter shoe in front of the press wheel. | | 48 |
| | tefluthrin (R) Force 3 G Force EVO | 4-5 oz/1,000 ft of row 0.46-0.57 fl oz/1,000 ft | 0.1-0.16 | | Apply in 7-inch band or in furrow. Apply in 7-inch T-band and incorporate in furrow. | | 48 |
| thiamethoxam Cruiser 5 FS | 0.25-0.8 mg ai/kernel | | | Seed treatment. | | 12 | |

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|---|---------------|--------------------|--|---|---------------------------------------|
| Wireworm, White Grub | terbufos (R) Counter 15 G | 8 oz/1,000 ft of row | 1.0 | | Apply in furrow or in 7-inch band behind planter shoe in front of the press wheel. | | 48 |
| | thiamethoxam Cruiser 5 FS | 0.25-0.8 mg ai/kernel | | | Seed treatment. | | 12 |
| | clothianidin Poncho 600 | 0.25-0.5 mg ai/kernel | | | Seed treatment. | | 12 |
| | cyantraniliprole Fortenza 5 FS | 0.125-0.25 mg ai/kernal | | | Seed treatment. | | 12 |
| | imidacloprid (Axxess/Senator) 5 FS Concur | 0.16-0.72 mg ai/kernel 1.8 oz/50 lb seed | | | Seed treatment. | | 12 |
| Fire Ants | chlorpyrifos (R) Lorsban 15 G | 8 oz/1,000 ft of row | | | Apply in a "T" band application for best results. | 21 | 24 |
| Cutworm Cutworm pressure is higher when planting into a cover crop. Consider increasing seed treatment rates when planting directly into a cover crop. | beta-cyfluthrin (R) Baythroid XL 1 EC | 0.8-1.6 oz | 0.007-0.013 | 80-160 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | chlorpyrifos (R) Lorsban Adv. 3.755 E <i>(See Generic Insecticides)</i> | 1-2 pt | 0.5-1.0 | 4-8 | Apply at planting in a 6- to 7-inch band. Direct sprays to base of plant. On 6-inch or smaller plants, band sprays over top. | 21 | 24 |
| | Lorsban 15 G | 8 oz/1,000 ft of row | | | | | |
| | chlorpyrifos + lambda-cyhalothrin (R) Cobalt Advanced | 11-26 oz | 0.23-0.52 | 4.9-11.6 | | 21 | 24 |
| | cyantraniliprole Fortenza 5 FS | 0.125-0.25 mg ai/ kernal | | | Seed treatment. | | 12 |
| | cyfluthrin (R) Tombstone 2 EC | 0.8-1.6 oz | 0.013-0.025 | 80-160 | | 21 | 12 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 3.2-9.6 oz | 0.016-0.05 | 13-40 | Direct spray to lower portion of plants and to soil around base of plant. | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.20 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-166 | | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 0.96-1.6 oz | 0.015-0.025 | 80-133 | | 21 | 24 |
| | permethrin (R) Ambush 2 EC Pounce 25 WP | 6.4-12.8 oz 6.4-9.6 oz | 0.1-0.2 | 10-20 | | prior to brown silk | 12 |
| | zeta-cypermethrin 0.8 EC (R) (Mustang Maxx, Respect) | 1.28-3.2 oz | 0.008-0.02 | 40-100 | | 30 | 12 |

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|---|-------------------------|-------------------------|---------------------|--|--|--|
| Chinch Bug Treat when seedlings are dying to the point of reducing stand below an acceptable level and chinch bugs are found. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | carbaryl Sevin 80 S | 2 1/2 lb | 2 | | Direct spray to base of plant. Use a minimum of 20 gal final spray volume per acre. | 48 (grain) 14 (forage) | 12 |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC <i>(See Generic Insecticides)</i> | 1-2 pt | 0.47-0.94 | 4-8 | | 21 | 24 |
| | chlorpyrifos + lambda-cyhalothrin (R) Cobalt Advanced | 16-38 oz | 0.33-0.76 | 3.4-8.0 | | 21 | 24 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.84 oz 1.54 oz | 0.015 | 33 83 | | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 1.92 oz | 0.03 | 66.7 | | 21 | 24 |
| | terbufos (R) Counter 15 G | 8 oz/1,000 ft of row | Do not exceed 1.3 lb | | DO NOT use more than 8.7 lb of Counter per acre. Counter only controls early season, light to moderate populations of chinch bugs. | | 48 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4-10.3 oz | 0.04-0.1 | 12.4-32 | | 30 | 12 |

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|------------------------------|-------------------|---------------------|--|--|--|
| Green and Southern Stink Bug Treat when 10% of plants are infested and plants are less than 2 ft tall. During early ear formation, treat when 25% of plants are infested. Consider using a higher seed treatment rate when planting into a cover crop to reduce potential stink bug damage. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | gamma-cyhalothrin (R) Declare 1.25 CS Proaxis 0.5 CS | 1.02-1.54 oz 2.56-3.84 oz | 0.01-0.015 | 83-125.5 33-50 | | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 | 66.7-100 | | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) (Mustang Maxx, Respect) | 2.7-4.0 oz | 0.017-0.025 | 32-47 | | 30 | 12 |
| Brown Stink Bug Treat when 10% of plants are infested and plants are less than 2 ft tall. During early ear formation, treat when 25% of plants are infested. | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.25 EC | 4-10.3 oz | 0.04-0.1 | 12.4-32 | | 30 | 12 |
| Fall Armyworm Apply insecticide when 3-6 larvae are found per whorl. Use a high volume of water (15-20 gpa). | carbaryl Sevin 80 S Sevin XLR | 2 1/2 lb 2 qt | 2 | 2 | | 48 (grain) 14 (forage) | 12 |
| | chlorantraniliprole Prevathon 0.43 SC | 14-20 oz | 0.047-0.067 | 6.4-9.1 | DO NOT apply at intervals closer than 7 days apart. | 14 | 4 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.063-0.094 | 42.7-64 | DO NOT apply Belt more than 4 times per season. | 28 (grain) 1 (forage) | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 6-10 oz | 0.06-0.097 | 12.8-21 | | 21 | 24 |
| | methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.22-0.45 | 5.3-10.7 | | 21 (ears and fodder) 3 (forage) | 48 |
| | spinosad Blackhawk | 1.67-3.3 oz | 0.038-0.075 | | DO NOT apply more than 8.3 oz of Blackhawk per year. | 28 (grain) 7 (forage) | 4 |

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|------------------------------|-------------------|---------------------|---|--|--|
| Flea Beetle Spray young plants when beetles become abundant. Treat only if infestation is heavy. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | carbaryl Sevin 80 S Sevin XLR | 1 1/4-2 1/2 lb 1-2 qt | 1-2 | 2-4 | | 48 (grain) 14 (forage) | 12 |
| | terbufos (R) Counter 20 G | 6 oz/1,000 ft of row | | | | | 48 |
| | zeta-cypermethrin 0.8 EC (R) (Mustang Maxx, Respect) | 2.72-4.0 oz | 0.017-0.025 | 32-47 | | 30 | 12 |
| Grasshopper | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | chlorantraniliprole Prevathon 0.43 SC | 8-20 oz | 0.027-0.067 | 6.4-16 | DO NOT apply at intervals closer than 7 days apart. | 14 | 4 |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC <i>(See Generic Insecticides)</i> | 1 pt | 0.47 | 8 | | 21 | 24 |
| | chlorpyrifos + lambda-cyhalothrin (R) Cobalt Advanced | 6-13 oz | 0.12-0.26 | 9.8-21.3 | | 21 | 24 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125.5 | | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 1.28-1.92 oz | 0.02-0.03 | 66.7-100 | | 21 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 6-10 oz | 0.06-0.098 | 12.8-21.3 | | 21 | 12 |
| | zeta-cypermethrin 0.8 EC (R) (Mustang Maxx, Respect) | 2.72-4.0 oz | 0.017-0.025 | 32-47 | | 30 | 12 |

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|---|--|-------------|-------------------|---|---|---------------------------------------|
| European Corn Borer Early planting will help avoid problems with this insect. Treat in late whorl stage when 50% of plants have feeding damage (shotholes). | <i>Bt</i> corn hybrids | | | | Field corn expressing the Bt toxin has proven to be very effective. | | |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 |
| | chlorantraniliprole Prevathon 0.43 SC | 14-20 oz | 0.047-0.067 | 6.4-9.1 | DO NOT apply at intervals closer than 7 days apart. | 14 | 4 |
| | chlorpyrifos + lambda-cyhalothrin (R) Cobalt Advanced | 16-38 oz | 0.47-0.94 | 3.4-8 | | 21 | 24 |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC <i>(See Generic Insecticides)</i> | 1-2 pt | 0.47-0.94 | 4-8 | | 21 | 24 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 7.8-9.6 oz | 0.04-0.05 | 13-16 | | 21 | 12 |
| | flubendiamide Belt 4 SC | 2.0-3.0 oz | 0.063-0.094 | 42.7-64 | DO NOT apply Belt more than 4 times per season. | 28 (grain) 1 (forage) | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125.5 | Use of insecticides applied to foliage for management of second-generation corn borers in early July has reduced stalk tunneling and lodging. However, yield increases have not been common with early-planted field corn. | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 1.28-1.92 oz | 0.02-0.03 | 66.7-100 | | 21 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 6-10 oz | 0.06-0.098 | 12.8-21.3 | | 21 | 24 |
| | methoxyfenozide Intrepid 2 F, Troubadour 2 F | 4.0-16 oz | 0.06-0.12 | 8-32 | | 21 | 4 |
| | methoxyfenozide + spinetoram Intrepid Edge | 4-12 oz | 0.09-0.28 | 10.7-32 | | 28 | 4 |
| | permethrin (R) Ambush 2 EC Pounce 25 WP Pounce 1.5 G | 6.4-12.8 oz 6.4-9.6 oz 6.7-13.3 lb | 0.1-0.2 | 10-20 | Apply Ambush and Pounce prior to ear formation. Granules are best for first-generation larvae. Use foliar sprays on second-generation larvae. Apply granules by aircraft or by ground equipment directing granules into whorls. | prior to brown silk | 12 |
| | spinosad Blackhawk | 1.67-3.3 oz | 0.038-0.075 | | DO NOT apply more than 8.3 oz of Blackhawk per year. | 28 (grain) 7 (forage) | 4 |
| | zeta-cypermethrin 0.8 EC (R) (Mustang Maxx, Respect) | 2.72-4.0 oz | 0.017-0.025 | 32-47 | | 30 | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4-10.3 oz | 0.04-0.1 | 12.4-32 | | 30 | 12 |

FIELD CORN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--|---|--|-------------------|---------------------|--|--|--|----|
| Southwestern Corn Borer Apply when 10% of plants show shothole feeding in whorl. If using pheromone traps, make treatment at the following levels: 1st generation borers – 50 moths per week, 2nd generation borers – 100 moths per week. Plant early to avoid damage. | <i>Bt</i> corn hybrids | | | | Field corn expressing the Bt toxin has proven to be very effective. | | | |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | 12 | |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.1-6.4 oz | 0.033-0.1 | 20-61 | | 30 | 12 | |
| | carbaryl Sevin 80 S Sevin XLR | 2.5 lb 2 qt | 2 | | 2 | Apply high-volume coarse spray so that spray will run into whorls. | 48 (grain) 14 (forage) | 12 |
| | chlorantraniliprole Prevathon 0.43 SC | 14-20 oz | 0.047-0.067 | 6.4-9.1 | | Do not apply at intervals closer than 7 days apart. | 14 | 4 |
| | chlorpyrifos + lambda-cyhalothrin (R) Cobalt Advanced | 16-38 oz | 0.33-0.76 | 3.4-8 | | | 21 | 24 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | | 21 | 12 |
| | flubendiamide Belt 4 SC | 2.0-3.0 oz | 0.063-0.094 | 42.7-64 | | DO NOT apply Belt more than 4 times per season. | 28 (grain) 1 (forage) | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125.5 | | Use of insecticides applied to foliage for management of second-generation corn borers in early July has reduced stalk tunneling and lodging. However, yield increases have not been consistent with early-planted field corn. | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 1.28-1.92 oz | 0.02-0.03 | 66.7-100 | | | 21 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 6-10 oz | 0.06-0.098 | 12.8-21.3 | | | 21 | 24 |
| | methoxyfenozide Intrepid 2 F, Troubadour 2 F | 4-16 oz | 0.06-0.012 | 8-32 | | | 21 | 4 |
| | methoxyfenozide + spinetoram Intrepid Edge | 4-12 oz | 0.09-0.28 | 10.7-32 | | | 28 | 4 |
| | permethrin (R) Ambush 2 EC Pounce 25 WP Pounce 1.5 G | 6.4-12.8 oz 6.4-9.6 oz 6.7-13.3 lb | 0.1-0.2 | 10-20 | | Apply Ambush and Pounce prior to ear formation. Apply granules for first-generation larvae by aircraft or by ground equipment directing granules into whorls. Sprays should be used for second-generation larvae. | prior to brown silk | 12 |
| | spinosad Blackhawk | 2.2-3.3 oz | 0.05-0.075 | | | DO NOT apply more than 8.3 oz of Blackhawk per year. | 28 (grain) 7 (forage) | 4 |
| | zeta-cypermethrin 0.8 EC (R) <i>(Mustang Maxx, Respect)</i> | 2.7-4.0 oz | 0.017-0.025 | 32-47 | | | 30 | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4-10.3 oz | 0.04-0.1 | 12.4-32 | | | 30 | 12 |

COTTON INSECTICIDE PERFORMANCE RATING, 2019

| Rating Scale 0 = No control 10 = Excellent | Chemistry | Restricted Entry Interval (hours) | Restricted Use (R) | Thrips | Western Flower Thrips | Plant Bugs | Bollworm | Tobacco Budworm | Aphids** | Spider Mites** | Cutworm | Beet Armyworm | Fall Armyworm | Cabbage Looper | Soybean Looper | Saltmarsh Caterpillar | Green and Southern Green Stink Bug | Brown Stink Bug | Whitefly | Grasshopper |
|--|-----------|-----------------------------------|--------------------|--------|-----------------------|------------|----------|-----------------|----------|----------------|---------|---------------|---------------|----------------|----------------|-----------------------|------------------------------------|-----------------|----------|-------------|
| | | | | | | | | | | | | | | | | | | | | |
| Aeris | | | X | 8 | 6 | | | | | | 5 | | | | | | | | | |
| Cruiser | NEO | 12 | | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gaucho | NEO | 12 | | 6 | 4 | | | | | | 0 | | | | | | | | | 0 |
| Admire/Alias/Imidacloprid | NEO | 12 | | 7 | 1 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 |
| AgLogic | Car | 48 | X | 9 | 9 | | | | | | | | | | | | | | | |
| Ammo | SyP | 12 | X | 6 | 3 | 2 | 4 | 1 | 0 | 0 | 8 | 1 | 5 | 6 | 1 | 5 | 8 | 4 | 1 | 6 |
| Asana XL/Adjourn | SyP | 12 | X | 6 | 3 | 2 | 4 | 2 | 0 | 0 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 4 | 2 | 6 |
| <i>Bacillus thuringiensis</i> | B | 4 | | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 1 | 1 | 6 | 6 | 2 | 0 | 0 | 0 | 0 |
| Baythroid XL | SyP | 12 | X | 6 | 2 | 2 | 5 | 2 | | 0 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 4 | 4 | 7 |
| Belt | DM | 12 | | | | 3 | 8 | 9 | | | | | 8 | 9 | 9 | 7 | | | | |
| Belay | | | | | | 4 | | | | | | | | | | | | | | |
| Bidrin/Dicromax | OP | 144 | X | 7 | 5 | 7 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 9 | 3 | 7 |
| Bidrin XP II | OP+SyP | 144 | X | 7 | 5 | 8 | 5 | 2 | 6 | 7 | 8 | 2 | 5 | 7 | 2 | 5 | 9 | 9 | 3 | 7 |
| Blackhawk | SP | 4 | | 1 | 1 | 0 | 7 | 9 | 0 | 0 | 7 | 9 | 7 | 9 | 9 | 3 | 0 | 0 | 0 | 2 |
| Brigadier | NEO+SyP | 12 | X | 6 | 5 | 7 | 5 | 2 | 6 | 7 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 7 | 6 | 7 |
| Brigade/Discipline/Fanfare | SyP | 12 | X | 6 | 2 | 3 | 5 | 2 | | 7 | 6 | 2 | 5 | 7 | 2 | 5 | 8 | 7 | 6 | 8 |
| Carbine | FL | 12 | | 5 | 1 | 4 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 |
| Centric | NEO | 12 | | 4 | 4 | 4 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 8 | 2 |
| Comite | PRO | 144 | | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Confirm | IGR | 4 | | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 2 | 8 | 8 | 7 | 7 | 8 | 0 | 0 | 0 | 0 |
| Denim | AV | 12 | | 1 | 1 | 0 | 7 | 9 | 0 | 5 | 7 | 9 | 8 | 9 | 9 | 3 | 0 | 0 | 0 | 2 |
| Diamond | IGR | 12 | | 1 | 1 | 8 | 4 | 4 | | | 1 | | 8 | | | | 4* | 4* | | |
| Dicofol | OC | 12 | | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dimethoate/Dimate | OP | 48 | | 6 | 2 | 5 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 4 | 3 | 6 |
| Endigo | NEO+SyP | 24 | X | 5 | 4 | 6 | 5 | 2 | 8 | 0 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 7 | 8 | 7 |
| Intrepid | IGR | 4 | | 0 | 0 | 0 | 6 | 6 | 0 | 0 | 5 | 9 | 7 | 9 | 8 | 9 | 0 | 0 | 0 | 0 |
| Intrepid Edge | IGR+SP | 4 | | 6 | 7 | | 7 | 7 | | | | | 8 | 9 | 9 | 9 | | | | |
| Intruder/Strafer | NEO | 12 | | 6 | | 5 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 9 | 0 |
| Karate/Silencer/Lambda-Cy | SyP | 24 | X | 6 | 2 | 2 | 5 | 2 | 0 | 0 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 4 | 2 | 7 |
| Lannate | Car | 72 | X | 1 | 0 | 3 | 4 | 4 | 5 | 0 | 5 | 4 | 7 | 7 | 7 | 4 | 5 | 3 | 0 | 6 |
| Larvin | Car | 48 | X | 0 | 0 | 0 | 6 | 6 | 0 | 0 | 5 | 5 | 7 | 8 | 8 | 4 | 2 | 2 | 0 | 5 |
| Leverage 360 | NEO+SyP | 12 | X | 6 | 2 | 6 | 5 | 2 | 5 | 0 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 6 | 5 | 7 |
| Mustang Maxx/Respect | SyP | 12 | X | 6 | 3 | 2 | 5 | 2 | 0 | 0 | 8 | 3 | 5 | 7 | 2 | 5 | 8 | 7 | 2 | 7 |
| Oberon | Misc | 12 | | | | | | | | 9 | | | | | | | | | | |
| Orthene/Acephate | OP | 24 | | 7 | 5 | 8 | 5 | 5 | 4 | 0 | 6 | 3 | 4 | 7 | 4 | 3 | 5 | 7 | 5 | 8 |
| Portal | Misc | 12 | | | | | | | | 9 | | | | | | | | | | |
| Prevathon | DM | 4 | | | | 2 | 8 | 9 | | | | | 9 | 9 | 7 | | | | | |
| Prolex/Declare | SyP | 24 | X | 6 | 2 | 2 | 3 | 2 | 0 | 0 | 8 | 2 | 5 | 7 | 2 | 5 | 8 | 4 | 2 | 7 |
| Radiant | SP | 4 | | 6 | 7 | | | | | | | | | | | | | | | |
| Steward | OX | 12 | | 0 | 0 | 4 | 7 | 9 | 0 | 0 | 5 | 9 | 8 | 9 | 9 | 5 | 3 | 3 | | 0 |
| Transform | | | | | | 9 | | | 8 | | | | | | | | | | | |
| Vydate C-LV | Car | 48 | X | 3 | 1 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 0 | 6 |
| Zeal | ET | 12 | | | | | | | | 9 | | | | | | | | | | |
| Zoro/Abba/Agri-Mek/Epi-Mek | AV | 12 | X | 0 | 0 | 0 | 0 | 8 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*Effective on nymphs only.

**Cotton aphids and spider mites can be flared by use of broad spectrum insecticides such as synthetic pyrethroids.

Shaded boxes indicate products recommended for specific pests in this guide. The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control.

QUICK VIEW THRESHOLD GUIDE

| Insect | Threshold | Scouting Procedure |
|---|--|--|
| Tarnished plant bug (TPB) | 3 TPB per 5 row feet or 2 TPB per 5 row feet (problem fields) or 8-12 per 100 sweeps from early squaring through cutout. After cutout (NAWF = 5), treat for 6 plant bugs per 5 row feet. | At least 2 drop cloth samples per area. |
| Bollworm (BW) and Tobacco budworm (TBW) | Non-Bt cotton: 1 BW or 1 TBW (< 0.25 inch) per 2 row feet Bollgard II/WideStrike/Twinlink: 25% eggs or 5% damaged fruit or 2-3 large (>0.25 inch) larva per 14 row feet. WideStrike III/Bollgard III/TwinLink Plus: 5% damaged fruit or 2-3 large (>0.25 inch) per larva 14 row feet. | At least 3.5 row feet whole-plant samples per area. |
| Thrips | 2-5 thrips per plant and damage present | At least 5 plants per area sampled with a cup or box. |
| Aphids | 50% of plants infested with actively growing colonies present, if no predators are present | General visual observation, noting predator populations. See comments in aphid section. |
| Fall armyworm (FAW) | 10-20 FAW per 100 plants | Examine as with BW and TBW, supplementing with drop cloth observations and counts in blooms. |
| Spider mites | 50% of plants infested with actively growing colonies present | General visual observation, noting symptoms of feeding injury to leaves. |
| Stink bugs | 1 stink bug per 6 row feet or 20% boll damage | At least 2 drop cloth samples per area or sample at least 25 quarter-sized bolls per area. |

INSECTICIDE TERMINATION GUIDE

Determine Date of Cutout using the earlier of Date of NAWF = 5 or Weather-restricted date (North AR: Aug. 8, Central AR: Aug. 14, South AR: Aug. 21)
Record daily heat units (DD60s) from Date of Cutout. (DD60s are calculated by subtracting 60 from the average daily temperature.)

| Insect | Termination Rules | |
|------------------------------|--------------------|---|
| Tarnished plant bug | Cutout + 250 DD60s | Crop termination recommendations are based on long-standing and ongoing COTMAN research conducted by University of Arkansas System Division of Agriculture scientists. Date of Cutout is the flowering date of the last economically significant boll population. If a field reaches physiological cutout [average number of nodes above white flower = 5 (NAWF = 5)] in late July or early August in Arkansas, then heat units are accumulated from the NAWF = 5 date. Otherwise, heat units are accumulated from a seasonal cutout date based on historical weather for that production region. Typically, a boll needs 850 DD60s to mature with acceptable size and quality. |
| Bollworm and Tobacco budworm | Cutout + 350 DD60s | |
| Stink bugs | Cutout + 450 DD60s | |
| Fall armyworm | Cutout + 500 DD60s | |
| | | The weather-restricted, seasonal cutout date is the calendar date on which there is a 50% probability that the crop will have the benefit of late season temperatures sufficient to develop a mature boll. Seasonal cutout dates range across the state from Aug. 8 in northernmost parts of Arkansas (Clay County) to Aug. 21 in the most southern portions of the state (Ashley County). |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--------|--|------------------|--------------|--------------|--|---|---------------------------------------|----|
| Thrips | In Furrow | | | | | | | |
| | acephate | | 0.75-1.0 | | Orthene-treated seed may require one or more foliar treatments for thrips control. | 21 | 24 | |
| | Treat with foliar sprays when 1st or 2nd true leaf emerges with noticeable damage from thrips. On larger seedlings, treat for an average of 5 thrips per plant and damage that may cause delayed growth or stunting of plants. | Acephate 90S IFS | 0.83-1.1 lb | | | | 21 | 24 |
| | | Orthene 97 IFS | 0.77-1.03 lb | | | 21 | 24 | |
| | | Orthene 90S IFS | 0.83-1.1 lb | | | 21 | 24 | |
| | | aldicarb | | 0.5-0.75 | | DO NOT feed forage to livestock. | | |
| | | AgLogic 15G | 3.5-5 lb | | | | 90 | 48 |
| | | imidacloprid | | | | Seed treatment. | | |
| | Gaucho 600 | 0.375 mg ai/seed | | | | | | |
| | imidacloprid + thiodicarb (R) | | | | Seed treatment. | | | |
| | Aeris | 0.75 mg ai/seed | | | | | | |
| | Avicta Elite Cotton | see label | | | Seed treatment. | | | |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|---|------------------------------|-----------------------------------|---------------|--|--|--|---|--|
| Thrips (cont.) Treat with foliar sprays when 1st or 2nd true leaf emerges with noticeable damage from thrips. On larger seedlings, treat for an average of 5 thrips per plant and damage that may cause delayed growth or stunting of plants. | Foliar Sprays | | | | | | | |
| | acephate | | 0.2 | | Avoid tank-mixing organophosphate insecticides (acephate, Bidrin, dimethoate) with certain herbicides (Staple, Warrant, Dual, Liberty) as foliar burn may occur. | 21 | 24 | |
| | Acephate 90 S | 0.22 lb | | | | 21 | 24 | |
| | | Orthene 97 | 0.21 lb | | | | | |
| | | <i>(See Generic Insecticides)</i> | | | | | | |
| | dicrotophos (R) | | 0.2 | | 40 | DO NOT apply more than 3.2 oz pre-bloom. | 30 | 144 |
| Bidrin/Dicromax 8 EC | 3.2 oz | | | | | | | |
| | dimethoate | | 0.2 | | 20 | 14 | 48 | |
| Dimethoate 4 EC | 6.4 oz | | | | | | | |
| | methoxyfenozide + spinetoram | | 0.07-0.14 | | 21.3-42.7 | 28 | 4 | |
| Intrepid Edge 3F | 3-6 oz | | | Intrepid Edge will also control cutworm. | | | | |
| | spinetoram | | 0.0117-0.0234 | | 42.7-85.3 | 28 | 4 | |
| Radiant 1 SC | 1.5-3.0 oz | | | DO NOT use without an adjuvant. | | | | |
| Western Flower Thrips Treat with foliar sprays when 1st or 2nd true leaf emerges with noticable damage from thrips. On larger seedlings, treat for an average of 5 thrips per plant and damage that may cause delayed growth or stunting of plants. | acephate | | 0.2 | | Avoid tank-mixing organophosphate insecticides with certain herbicides (Staple, Warrant, Dual, Liberty) as foliar burn may occur. | 21 | 24 | |
| | Acephate 90 S | 0.56 lb | | | | 21 | 24 | |
| | | Orthene 97 | 0.52 lb | | | | | |
| | | <i>(See Generic Insecticides)</i> | | | | | | |
| | methoxyfenozide + spinetoram | | 0.07-0.14 | | 21.3-42.7 | 28 | 4 | |
| Intrepid Edge 3F | 3-6 oz | | | Intrepid Edge will also control cutworm. | | | | |
| | spinetoram | | 0.0117-0.0234 | | 42.7-85.3 | 28 | 4 | |
| Radiant 1 SC | 1.5-3.0 oz | | | DO NOT use without an adjuvant. | | | | |
| Tarnished Plant Bug/Fleahopper Treat for 3 plant bugs per 5 row feet on normal fruiting fields. If small square set is less than 75%, treat for 2 plant bugs per 5 row feet. After last week of June in north Arkansas and the first week of July in south Arkansas, if small square set is less than 85%, treat for 2 plant bugs on 5 row feet. Treat for 8-12 per 100 sweeps when sampling with a sweep net. After cutout (NAWF=5), treat when 6 plant bugs per 5 row feet are found. | acephate | | 0.5-0.75 | | First two weeks of squaring, treat for plant bugs if square set is 75% or less and plant bugs are present. | 21 | 24 | |
| | Acephate 90 S | 0.56-0.83 lb | | | | 21 | 24 | |
| | | Orthene 97 | 0.31-0.77 lb | | | | | |
| | | <i>(See Generic Insecticides)</i> | | | | | | |
| | acetamiprid | | 0.13-0.15 | | 3.0-3.5 oz | 28 | 12 | |
| | Strafer 70 WSP | 3.0-3.5 oz | | | | | | DO NOT make more than 2 applications/season. |
| | clothianidin | | 0.05-0.1 | | | 21 | 12 | |
| | Belay 50WDG | 3-6 oz | | | DO NOT apply less than 7 days apart. | | | |
| | dicrotophos (R) | | 0.3-0.5 | | 16-26.7 | 30 | 144 | |
| | Bidrin/Dicromax 8 EC | 4.8-8.0 oz | | | | | | DO NOT apply more than 3.2 oz pre-bloom |
| | dimethoate | | 0.25 | | 16 | 14 | 48 | |
| Dimethoate 4 E | 8 oz | | | | | | | |
| | flonicamid | | 0.053-0.089 | | 1.7-2.85 oz | 30 | 12 | |
| Carbine 50 WG | 1.7-2.85 oz | | | | | | | |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|------------------------------|-------------------|---------------------|---|--|--|
| Tarnished Plant Bug/Fleahopper (cont.) Treat for 3 plant bugs per 5 row feet on normal fruiting fields. If small square set is less than 75%, treat for 2 plant bugs per 5 row feet. After last week of June in north Arkansas and the first week of July in south Arkansas, if small square set is less than 85%, treat for 2 plant bugs on 5 row feet. Treat for 8-12 per 100 sweeps when sampling with a sweep net. After cutout (NAWF=5), treat when 6 plant bugs per 5 row feet are found. | imidacloprid <i>(See Generic Insecticides)</i> | | | | | | |
| | Admire Pro 4.6 SC | 1.7 oz | 0.062 | 75 | | 14 | 12 |
| | Imidacloprid 4 F | 2 oz | 0.062 | 64 | | 14 | 12 |
| | Alias/Couraze 4 F | 2 oz | 0.062 | 64 | | 14 | 12 |
| | Couraze 2 F | 4 oz | 0.0625 | 32 | | 14 | 12 |
| | Couraze 1.6 F | 5 oz | 0.0625 | 25.6 | | 14 | 12 |
| | oxamyl (R) Vydate 3.77 CLV | 10.5-17 oz | 0.31-0.5 | 7.5-12.2 | DO NOT graze or feed plants to livestock. | 14 | 48 |
| | thiamethoxam Centric 40 WG | 1.75-2.5 oz | 0.044-0.0625 | | | 21 | 12 |
| | sulfoxaflor Transform 50 WG | 1.5-2.25 oz | 0.047-0.071 | | Pending Section 18 Approval Follow pollinator warnings on label. | 14 | 24 |
| | Tank Mix Insecticide novaluron Diamond 0.83 EC | 6-9 oz | 0.039-0.058 | 14.2-21.3 | | 30 | 12 |
| Bollworm Non-Bt cotton: 1 BW or 1 TBW (< 0.25 inch) per 2 row feet. Bollgard II/WideStrike/Twinlink: 25% eggs or 5% damaged fruit or 2-3 large (>0.25 inch) larva per 14 row feet. WideStrike III/Bollgard III/TwinLink Plus: 5% damaged fruit or 2-3 large (>0.25 inch) larvae per 14 row feet. | Pyrethroids beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.6 oz | 0.012-0.013 | 49-80 | | 0 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 2.56-6.4 oz | 0.04-0.1 | 20-50 | | 14 | 12 |
| | cyfluthrin (R) Tombstone 2 EC <i>(See Generic Insecticides)</i> | 1.6-2.6 oz | 0.025-0.041 | 49-80 | | 0 | 12 |
| | cypermethrin (R) Ammo 2.5 EC | 2-5 fl oz | 0.04-0.1 | 25-62.5 | | 14 | 12 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|------------------------------|-------------------|---|---|--|--|
| Bollworm (cont.) Non-Bt cotton: 1 BW or 1 TBW (< 0.25 inch) per 2 row feet. Bollgard II/WideStrike/Twinlink: 25% eggs or 5% damaged fruit or 2-3 large (>0.25 inch) larva per 14 row feet. WideStrike III/Bollgard III/TwinLink Plus: 5% damaged fruit or 2-3 large (>0.25 inch) larvae per 14 row feet. | Pyrethroids | | | | | | |
| | gamma-cyhalothrin 1.25 (R) | | 0.0125-0.02 | | | 14 | 24 |
| | Proaxis 0.5 CS | 3.2-5.12 oz | | 25-40 | | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62.5-100 | | | |
| | lambda-cyhalothrin (R) | | 0.025-0.04 | | | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | | 50-80 | | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) | | 0.0165-0.025 | | | | |
| | Mustang Maxx, Respect | 2.64-4.0 oz | | 32-48 | | 14 | 12 |
| | Carbamates | | | | | | |
| | methomyl (R) | | 0.45-0.675 | | | | |
| | Lannate 2.4 LV | 1.5-2.25 pt | | 3.6-5.3 | Lannate may redden cotton. If excessive, stop use or alternate with other insecticides. Use Lannate as an occasional spray in regular schedule but not more than every 10 days. | 15 | 48 |
| | Lannate 90 SP | 0.5-0.75 lb | | | | 15 | 48 |
| | thiodicarb (R) | | 0.7-0.9 | | | | |
| | Larvin 3.2 F | 1.75-2.25 pt | | 3.5-4.6 | | 28 | 48 |
| | Other Classes of Insecticides | | | | | | |
| chlordantraniliprole | | 0.045-0.088 | | | | | |
| Prevathon 0.43 SC | 14-27 oz | | 4.1-9.7 | Use higher rates with heavy infestations. | 21 | 4 | |
| emamectin benzoate | | 0.01-0.015 | | | | | |
| Denim 0.16 EC | 8-12 oz | | 10.7-16 | DO NOT apply Belt more than 3 times per season. | 21 | 12 | |
| flubendiamide | | 0.062-0.094 | | | | | |
| Belt 4 SC | 2-3 oz | | 42.7-64 | | 28 | 12 | |
| indoxacarb | | 0.09-0.11 | | | | | |
| Steward 1.25 SC | 9.2-11.3 fl oz | | 11-14 | | 14 | 12 | |
| lambda-cyhalothrin + chlordantraniliprole (R) | | 0.417-0.835 | | | | | |
| Besiege 1.25 SC | 6.5-12.5 oz | | 10-20 | Use higher rates with heavy infestations. | 21 | 24 | |
| methoxyfenozide + spinetoram | | 0.14-0.188 | | | | | |
| Intrepid Edge 3 F | 6-8 oz | | 16-21.3 | DO NOT apply at closer than 4-day intervals. | 28 | 4 | |
| spinosad | | 0.054-0.07 | | | | | |
| Blackhawk | 2.4-3.2 oz | | | DO NOT apply more than 20 oz per year. | 28 | 4 | |
| Tobacco Budworm | Bt Cotton | | | | Cotton varieties expressing the Bt (<i>Bacillus thuringiensis</i>) protein are very effective against the tobacco budworm. | | |
| <i>See notes on the following page.</i> | Bollgard II, WideStrike, WideStrike III, TwinLink, Bollgard III, TwinLink Plus | | | | | | |
| | Carbamates | | | | | | |
| | methomyl (R) | | 0.45-0.675 | | | | |
| | Lannate 2.4 LV | 1.5-2.25 pt | | 3.6-5.3 | Lannate may redden cotton. If excessive, stop use or alternate with other insecticides. Use Lannate as an occasional spray in regular schedule but not more than every 10 days. | 15 | 48 |
| | Lannate 90 SP | 0.5-0.75 lb | | | | 15 | 48 |
| thiodicarb (R) | | 0.7-0.9 | | | | | |
| Larvin 3.2 F | 1.75-2.25 pt | | 3.5-4.6 | | 28 | 48 | |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|-------------------------------------|--------------------|---------------------|--|--|--|
| Tobacco Budworm (cont.) | Other Classes of Insecticides | | | | | | |
| Time insecticide application to egg hatch. Under heavy pressure, do not reduce rates. Treat for 7,000 (1 per 2 row ft) small larvae (less than 1/4-inch) per acre. If larger larvae begin to develop in fields, treat for 3,500 (1 per 4 row ft) larvae per acre. Terminate sprays after NAWF=5 + 350 heat units or 350 heat units past the last effective boll date for your area. | chlorantraniliprole Prevathon 0.43 SC | 14-27 oz | 0.045-0.088 | 4.7-9.1 | Use higher rates with heavy infestations. | 21 | 4 |
| | emamectin benzoate Denim 0.16 EC | 8-12 oz | 0.01-0.015 | 10.7-16 | | 21 | 12 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.062-0.094 | 42.7-64 | DO NOT apply Belt more than 3 times per season. | 28 | 12 |
| | indoxacarb Steward 1.25 SC | 9.2-11.3 oz | 0.09-0.11 | 11-14 | | 14 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6.5-12.5 oz | 0.417-0.835 | 10-20 | Use higher rates with heavy infestations. | 21 | 24 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 6-8 oz | 0.14-0.188 | 16-21.3 | DO NOT apply at closer than 4-day intervals. | 28 | 4 |
| | spinosad Blackhawk | 2.4-3.2 oz | 0.054-0.07 | | DO NOT apply more than 20 oz per year. | 28 | 4 |
| | Aphid | Aphid Management and Control | | | | | |
| | Treatment for aphids alone seldom results in a yield increase. | | | | | | |
| | 1. Resistance to neonicotinoid insecticides (imidacloprid, Intruder, Centric) has developed. Avoid unnecessary/automatic applications of these insecticides when aphids are present. | | | | | | |
| | 2. Threshold: When populations are building and aphid colonies are present on approximately 50% of the plants: | | | | | | |
| | a. If there are less than 0.3 lady beetle adults AND less than 0.2 lady beetle larvae (per row-ft), <u>treat</u> . | | | | | | |
| | b. If there are at least 0.3 lady beetle adults OR 0.2 lady beetle larvae (per row-ft), <u>do not treat, but resample within 7 days</u> . | | | | | | |
| | i. If aphid population is still increasing after 7 days, <u>treat</u> , otherwise continue normal sampling interval. | | | | | | |
| | 3. The aphid fungus is very effective in reducing aphid populations in early to mid-July. Fields should be checked for fungus before treatments are applied. If confident the fungus is present in 15% of the aphid population, do not treat. | | | | | | |
| | acetamiprid Intruder/Strafer 70 WP | 0.8-1.1 oz | 0.035-0.05 | | | 28 | 12 |
| | flonicamid Carbine 50 WG | 1.41-2.02 oz | 0.044-0.063 | | | 30 | 12 |
| Spider Mites | abamectin (R) | | | | | | |
| Treat when 50% of plants are infested. Early-season spot treatments may be beneficial in preventing spread of mites across the field. | Agri-Mek 0.7 SS (See <i>Generic Insecticides</i>) | 1.3-2.6 fl oz | 0.0046- 0.00188 | 49-98 | Use lower rates early season when cotton is small. DO NOT apply more than 7 oz per season. Must be applied with a non-ionic surfactant in minimum of 5 gallons per acre. DO NOT graze. | 20 | 12 |
| | dicofol Dicofol 4 E | 1.5-3 pt | 0.75-1.5 | 2.66-5.3 | DO NOT apply more than 2 times per season. | 30 | 12 |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|---|-------------------|------------------|---|--|---|
| Spider Mites (cont.) | fenpyroximate Portal XLO 0.4EC | 0.75-2 pt | 0.0375-0.1 | 4-10.7 | DO NOT apply more than 2 pints per season. | 14 | 12 |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 3.8-6.4 oz | 0.06-0.1 | 20-33 | Avoid unnecessary use of pyrethroid insecticides as they can flare spider mite populations. | 14 | 12 |
| | etoxazole Zeal WDG Zeal 2.88 SC | 0.66-1.0 oz 1.33-2 oz | 0.03-0.045 | 64-96 | | 28 28 | 12 12 |
| | propargite Comite 6.55 | 1.5-2 pt | 1.23-1.64 | 4-5.3 | | 50 | 144 |
| | spiromesifan Oberon 2 SC | 8-16 oz | 0.125-0.25 | 8-16 | | 30 | 12 |
| | Cutworm Treat when stand is reduced below 2-3 plants per row ft. Stale seedbed/no-till fields with cover crops and/or heavy spring weed pressure should be considered high-risk fields. Consider preventative pyrethroid applications for cutworm in these situations if a burn down herbicide is not applied at least 3 weeks prior to planting. | acephate Acephate 90 S Orthene 97 (See Generic Insecticides) | 1.0 lb 0.93 lb | 0.9 | | Maintain 2-3 plants per row ft. Cutworm control is most effective when ground applications are made and sprays are directed (banded) to the base and lower portion of the plant. | 21 21 |
| beta-cyfluthrin (R) Baythroid XL 1 EC | | 0.8-1.6 oz | 0.007-0.013 | 80-160 | Stale seedbed/no-till fields, fields with cover crops and/or heavy spring weed pressure or fields with a history of cutworm problems should be considered high-risk fields. Consider preventative pyrethroid applications for cutworm in these situations utilizing a 1/3 band applicator behind the planter. | 0 | 12 |
| bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | | 2.56-6.4 oz | 0.04-0.1 | 20-50 | | 14 | 12 |
| cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | | 0.8-1.6 oz | 0.013-0.025 | 80-160 | | 0 | 12 |
| cypermethrin (R) Ammo 2.5 EC | | 1.3-5.0 oz | 0.025-0.1 | 25-100 | | 14 | 12 |
| esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |
| gamma-cyhalothrin 1.25 (R) Proaxis 0.5 CS Declare 1.25 CS | | 1.92-2.56 0.77-1.02 oz | 0.0675-0.01 | 25-40 125-166 | | 14 21 | 24 24 |
| lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | | 0.96-1.28 oz | 0.015-0.02 | 100-133 | | 21 | 24 |
| thiodicarb (R) Larvin 3.2 F | | 24 oz | 0.6 | 5.3 | | 28 | 48 |
| zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | | 1.28-1.92 oz | 0.008-0.012 | 67-100 | | 14 | 12 |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|----------------------------|-------------------|---------------------|---|--|--|
| Beet Armyworm Apply treatment when 3-5 or more "hits" of small larvae occur per 100 ft of row. | chlorantraniliprole Prevathon 0.43 SC | 14-27 oz | 0.045-0.09 | 4.1-9.7 | | 21 | 4 |
| | emamectin benzoate Denim 0.16 EC | 6-8 oz | 0.0075-0.01 | 4.7-9.1 | | 21 | 12 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.062-0.094 | 42.7-64 | DO NOT apply Belt more than 3 times per season. | 28 | 12 |
| | indoxacarb Steward 1.25 SC | 9.2-11.3 fl oz | 0.09-0.11 | 11-14 | | 14 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6.5-12.5 oz | 0.417-0.835 | 10-20 | | 21 | 24 |
| | methoxyfenozide Intrepid 2 F | 4-10 oz | 0.06-0.16 | 12.8-32 | | 14 | 4 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 6-8 oz | 0.14-0.188 | 16-21.3 | DO NOT apply at closer than 4-day intervals. | 28 | 4 |
| | spinosad Blackhawk | 2.4-3.2 oz | 0.054-0.07 | | DO NOT apply more than 20 oz of Blackhawk per year. | 28 | 4 |
| Fall Armyworm Treat for 10-20 fall armyworms per 100 plants. Terminate sprays after NAWF=5 + 500 heat units or 500 heat units past the last effective boll date for your area. | chlorantraniliprole Prevathon 0.43 SC | 14-27 oz | 0.045-0.088 | 4.7-9.1 | | 21 | 4 |
| | emamectin benzoate Denim 0.16 EC | 8-12 oz | 0.01-0.015 | 10.7-16 | | 21 | 12 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.062-0.094 | 42.7-64 | DO NOT apply Belt more than 3 times per season. | 28 | 12 |
| | indoxacarb Steward 1.25 SC | 9.2-11.3 oz | 0.09-0.11 | 11-14 | | 14 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6.5-12.5 oz | 0.417-0.835 | 10-20 | | 21 | 24 |
| | methomyl (R) Lannate 2.4 LV Lannate 90 SP | 1.5-2.25 pt 0.5-0.75 lb | 0.45-0.675 | 3.6-5.3 | Lannate may redden cotton. If excessive, stop use or alternate with other insecticides. Use Lannate as an occasional spray in regular schedule but not more than every 10 days. | 15 15 | 48 48 |
| | methoxyfenozide Intrepid 2 F | 4-10 oz | 0.06-0.16 | 12.8-32 | | 14 | 4 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 6-8 oz | 0.14-0.188 | 16-21.3 | DO NOT apply at closer than 4-day intervals. | 28 | 4 |
| novaluron Diamond 0.83 EC | 6-12 oz | 0.039-0.078 | 10.7-21.3 | | 30 | 12 | |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|--|--------------------|---------------------|---|--|--|
| Fall Armyworm (cont.) | spinosad Blackhawk | 2.4-3.2 oz | 0.054-0.07 | | DO NOT apply more than 20 oz per year. | 28 | 4 |
| | thiodicarb (R) Larvin 3.2 F | 1.75-2.25 pt | 0.7-0.9 | 3.5-4.6 | | 28 | 48 |
| Cabbage Looper Soybean Looper | <i>Bacillus thuringiensis</i> | Check label. | | | | | |
| Economic damage seldom occurs; treat when 25% defoliation occurs and bolls are still being developed. | chlorantraniliprole Prevathon 0.43 SC | 20-29 oz | 0.067-0.097 | 4.4-6.4 | | 21 | 4 |
| | emamectin benzoate Denim 0.16 EC | 8-12 oz | 0.01-0.015 | 10.7-16 | | 21 | 12 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.062-0.094 | 42.7-64 | DO NOT apply Belt more than 3 times per season. | 28 | 12 |
| | indoxacarb Steward 1.25 SC | 6.7-9.2 fl oz | 0.065-0.09 | 14-19 | | 14 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 10.5-12.5 oz | 0.1-0.12 | 10-12 | | 21 | 24 |
| | methoxyfenozide Intrepid 2 F | 4-10 oz | 0.06-0.16 | 12.8-32 | | 14 | 4 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 4-8 oz | 0.094-0.188 | 16-32 | DO NOT apply at closer than 4-day intervals. | 28 | 4 |
| | spinosad Blackhawk | 2.4-3.2 oz | 0.054-0.07 | | DO NOT apply more than 20 oz per year. | 28 | 4 |
| | thiodicarb (R) Larvin 3.2 F | 1.5-2.25 | 0.6-0.9 | 3.6-5.3 | | 28 | 48 |
| | Stink Bugs (Green and Southern Green) | acephate Acephate 90 Orthene 97 <i>(See Generic Insecticides)</i> | 0.83 lb 0.77 lb | 0.75 | | | 21 21 |
| Treat when stink bugs exceed 1 bug per 5 row feet or when 20% of medium bolls display internal signs of feeding and stink bugs are observed. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.6 oz | 0.013-0.021 | 48-80 | | 0 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 3.8-6.4 oz | 0.06-0.1 | 20-33 | | 14 | 12 |
| <i>(cont. next page)</i> | cyfluthrin (R) Tombstone 2 EC <i>(See Generic Insecticides)</i> | 1.6-2.6 oz | 0.025-0.041 | 49-80 | | 0 | 12 |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|---|----------------------------|-------------------|---------------------|---|--|--|
| Stink Bugs (Green and Southern Green) Terminate sprays after NAWF=5 + 450 heat units or 450 heat units past the last effective boll date for your area. | dicrotophos (R) Bidrin/Dicromax 8 EC | 4.8-8.0 oz | 0.3-0.5 | 16-26.7 | DO NOT apply more than 3.2 oz pre-bloom. | 30 | 144 |
| | esfenvalerate (R) Asana XL 0.66 EC <i>(See Generic Insecticides)</i> | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 1.6-2.56 oz | 0.025-0.04 | 50-80 | | 21 | 24 |
| | oxamyl (R) Vydate 3.77 CLV | 13.6 oz | 0.4 | 9.4 | DO NOT graze or feed plants to livestock. | 14 | 48 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 2.64-3.6 oz | 0.016-0.022 | 35.6-48.5 | | 14 | 12 |
| Brown Stink Bug Treat when stink bugs exceed 1 bug per 5 row feet or when 20% of medium bolls display internal signs of feeding and stink bugs are observed. Check at least 25-50 bolls per 40 acres. | acephate Acephate 90 S Orthene 97 <i>(See Generic Insecticides)</i> | 0.83 lb 0.77 lb | 0.75 | | | 21 21 | 24 24 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 3.8-6.4 oz | 0.06-0.1 | 20-33 | | 14 | 12 |
| | dicrotophos (R) Bidrin/Dicromax 8 EC | 8 oz | 0.5 | 16 | DO NOT apply more than 3.2 oz pre-bloom. | 30 | 144 |
| | | | | | | | |
| Whitefly Treat infested areas when 50% of the plants are infested. | acephate Acephate 90 S Orthene 97 <i>(See Generic Insecticides)</i> | 0.56-1.1 lb 0.52-1.1 lb | 0.5-1.0 | | | 21 21 | 24 24 |
| | acetamiprid Intruder/Strafer 70 WP | 1.7-2.3 oz | 0.75-0.1 | | | 28 | 12 |
| | bifenthrin (R) Brigade 2 EC <i>(See Generic Insecticides)</i> | 3.8-6.4 oz | 0.06-0.1 | 20-33 | | 14 | 12 |
| | thiamethoxam Centric 40 WG | 2 oz | 0.05 | | | 21 | 12 |
| | | | | | | | |

COTTON INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|---------------------------|-------------------|-----------------------|--|--|--|
| Multiple Pests For control of multiple pests exceeding thresholds. | acephate + bifenthrin (R) Acenthrin 80 S | 6-21 oz | 0.3-1.05 | | Plant bugs, Bollworm, Stink Bugs, Whitefly. | 21 | 24 |
| | bifenthrin (R) + avermectin Athena 0.87 E | 10-17 oz | 0.068-0.116 | 7.5-12.8 | Bollworm, Stink Bugs, Spider Mites. | 20 | 12 |
| | bifenthrin (R) + acetameprid Argyle 1.52 OD | 5-9 oz | 0.06-0.11 | 14-25.6 | Aphids, Plant bugs, Bollworm, Stink Bugs, Whitefly. | 28 | 12 |
| | chloryrifos + lambda-cyhalothrin (R) Cobalt Advanced 2.63 EC | 16-38 oz | 0.33-0.76 | 3.4-8 | Plant bugs, Bollworm, Stink Bugs, Whitefly. | 21 | 24 |
| | cyantraniliprole + abamectin Minecto Pro | 6-10 oz | | 12.8-21.3 | Bollworm, Armyworms, Saltmarsh Caterpillar, Spider Mites. | 20 | 12 |
| | dicrotophos (R) + bifenthrin Bidrin XP II | 8-12.8 oz | 0.31-0.5 | 10-16 | Plant bugs, Bollworm, Stink Bugs, Whitefly. | 30 | 144 |
| | gamma-cyhalothrin + spinosad (R) Consero 5.25 SC | 2.8-4 oz | 0.054-0.083 | 32-45 | Bollworm, Tobacco Budworm, Green Stink Bugs, Armyworms, Loopers. | 28 | 24 |
| | imidacloprid/beta-cyfluthrin (R) Leverage 360 SC | 2.8-3.2 oz | 0.067-0.075 | 40-45.7 | Plant bugs, Bollworm, Stink Bugs, Whitefly. | 14 | 12 |
| | imidacloprid/bifenthrin (R) Brigadier 2 SC Swagger 1 SC | 3.8-7.7 oz 7.6-15.4 oz | 0.06-0.12 | 16.6-33.7 8.3-16.8 | Plant bugs, Bollworm, Stink Bugs, Whitefly. Plant bugs, Bollworm, Stink Bugs, Whitefly. | 14 14 | 12 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6.5-12.5 oz | 0.417-0.835 | 10.24-19.7 | Bollworm, Tobacco Budworm, Green Stink Bugs. | 21 | 24 |
| | lambda-cyhalothrin + thiamethoxam (R) Endigo 2.06 ZC | 4.5-5.5 oz | 0.072-0.09 | 28.4-36.6 | Plant bugs, Bollworm, Stink Bugs, Whitefly. | 21 | 24 |
| | novaluron + acetameprid Cormoran 1.51 DC | 6-12 oz | 0.06-0.12 | 10.7-21.3 | Plant bugs, Fall Armyworm, Stink Bugs, Whitefly, Aphids. | 30 | 12 |
| | zeta-cypermethrin + bifenthrin + imidacloprid (R) Triple Crown 2.25 | 4.5-6.4 oz | 0.079-0.112 | 20-28.4 | Plant bugs, Bollworm, Stink Bugs, Whitefly. | 14 | 12 |

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Restricted Entry Interval (hours) | Minimum Days From Last Application to Harvest |
|---|---|------------------------------|-------------------|---------------------|---|--|--|
| ALFALFA | | | | | | | |
| Alfalfa Weevil (Usually 1 generation per year. Observed usually only on the first cutting.) | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.0125-0.022 | 45.5-80 | DO NOT apply more than once per cutting. | 12 | 7 alfalfa 0 pasture |
| | carbaryl Sevin 80 S | 1.875 lb | 1.5 | | DO NOT apply during bloom. | 12 | 7 alfalfa 14 pasture |
| Treat when 50% or more of tips show weevil feeding before full bud stage. | carbofuran Furadan 4 LFR | 1-2 pt | 0.5-1.0 | 4-8 | Highly toxic; use only once per cutting. Follow label directions carefully. DO NOT apply more than twice per season. Furadan is NOT LABELED for pastures. | 14 days | 14 (low rate) 28 (high rate) |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC Chlorpyrifos 4 EC | 1-2 pt 1-2 pt | 0.5-1.0 | 4-8 4-8 | DO NOT apply more than once per cutting. Lorsban and Chlorpyrifos are NOT LABELED for pastures. | 24 | 14 (low rate) 21 (high rate) |
| | dimethoate (R) Dimethoate 4 EC Dimethoate 2.67 EC | 1 pt 1.5 pt | 0.5 | 8 5.3 | DO NOT apply to alfalfa in the bloom period. Make 1 application per cutting. Dimethoate is NOT LABELED for pastures. | 48 | 10 |
| | gamma-cyhalothrin (R) Proaxis 0.5 EC Declare 1.25 EC | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125.5 | DO NOT apply more than 0.015 lb ai per acre per cutting. DO NOT apply more than 0.06 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (forage) pasture 7 (hay) |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 1.28-1.92 oz 2.56-3.84 oz | 0.02-0.03 | 66.7-100 33-50 | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (grazing) pasture 7 (hay) |
| | malathion Fyfanon/Malathion 5 EC | 1 qt | 1.25 | 4 | Very short residual; control for 3-7 days; can be applied by ground rig. | 12 | 5 alfalfa 0 pasture |
| | Methomyl (R) Lannate 90SP Lannate 2.4 LV | 1 lb 3 pt | 0.9 | 2.7 | Highly toxic. DO NOT apply to dormant or semidormant alfalfa when temperature is below 50 degrees F. | 48 | 7 |
| | permethrin (R) Permethrin 3.2 EC Ambush 2 EC Pounce 25 WP | 4-8 oz 6.4-12.8 oz | 0.1-0.2 | 16-32 10-20 | DO NOT apply more than 0.2 lb ai per acre per cutting. DO NOT apply when honeybees are actively foraging. Ambush and Pounce are NOT LABELED for pastures. | 12 | 14 alfalfa |
| | phosmet Imidan 70 WP | 1.33 lb | 1.0 | | DO NOT apply to alfalfa during the bloom period. DO NOT apply more than once per cutting. Imidan is NOT LABELED for pastures. | 5 days | 7 alfalfa |
| | zeta-cypermethrin (R) Mustang Maxx 0.8 EC Respect 0.8 EC | 2.24-4.0 oz 2.24-4.0 oz | 0.014-0.025 | 32-57 32-57 | | 12 | 7 alfalfa 0 grasses 3 non-grass pasture |

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Restricted Entry Interval (hours) | Minimum Days From Last Application to Harvest |
|--|---|------------------------------|-------------------|---------------------|---|--|--|
| Blister Beetle | carbaryl Sevin 4 F Sevin 80 S | 1-2 pt 0.67-1.25 lb | 0.5-1.0 | 4-8 | DO NOT apply during bloom. | 12 | 7 alfalfa 14 pasture |
| | gamma-cyhalothrin (R) Proaxis 0.5 EC Declare 1.25 EC | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125.5 | DO NOT apply more than 0.015 lb ai per acre per cutting. DO NOT apply more than 0.06 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (forage) pasture 7 (hay) |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 1.28-1.92 oz 2.56-3.84 oz | 0.02-0.03 | 66.7-100 33-50 | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (forage) pasture 7 (hay) |
| Fall Armyworm, Armyworm | beta-cyfluthrin (R) Baythroid XL 1EC | 2.6-2.8 oz | 0.02-0.022 | 45.7-49.2 | DO NOT apply more than 0.089 lb ai per acre per cutting. | 12 | 7 alfalfa 0 pasture |
| On seedling alfalfa, treat for 2 larvae per square foot. On established alfalfa, consider treatment when 10-15 large larvae are found per square foot. | carbaryl Sevin 4 F | 2-3 pt | 1.0-1.5 | 2.7-4.0 | DO NOT apply to alfalfa during bloom. | 12 | 7 alfalfa 14 pasture |
| | chlorantraniliprole Prevathon | 14-20 oz | 0.047-0.067 | 6-9 | DO NOT apply more than 0.2 lb ai per acre per crop. | 4 | 0 |
| | chlorantraniliprole + lambda-cyhalothrin (R) Besiege/Voliam Xpress | 6-9 oz | 0.059-0.088 | 14-21 | | 24 | 1 forage 7 hay |
| | flubendiamide Belt 4 SC | 2-4 oz | 0.0625-0.125 | 32-64 | DO NOT reapply within 14 days. Belt is NOT LABELED on pastures. | 12 | 0 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 1.28-1.92 oz 2.56-3.84 oz | 0.02-0.03 | 66.7-100 33-50 | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (forage) pasture 7 (hay) |
| | methoxyfenozide Intrepid 2 F | 4-8 oz | 0.06-0.12 | 16-32 | Livestock can graze on treated area immediately after application of Intrepid. | 4 | 7 (hay) 0 (grazing) |
| | zeta-cypermethrin (R) Mustang Maxx 0.8 EC Respect 0.8 EC | 2.8-4.0 oz 2.8-4.0 oz | 0.0175-0.025 | 32-45 32-45 | No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage. | 12 | 7 alfalfa 0 grasses 3 non-grass pasture |
| Potato Leafhopper | The treatment threshold for potato leafhoppers varies with the height of the alfalfa. For alfalfa 3 inches in height, the threshold is 4 per 20 sweeps; for 6-inch alfalfa, the threshold is 10 per 20 sweeps; and for 12-inch or greater alfalfa, the threshold is 40 per 20 sweeps. Before treating, consider yield potential and the age of the alfalfa stand. | | | | | | |
| | beta-cyfluthrin (R) Baythroid XL 1EC | 0.8-1.6 oz | 0.0065-0.0125 | 80-160 | DO NOT apply more than 0.089 lb ai per acre per cutting. | 12 | 7 alfalfa 0 pasture |
| | carbaryl Sevin 4 F Sevin 80 S | 1-2 pt 0.67-1.25 lb | 0.5-1.0 | 4-8 | DO NOT apply during bloom. | 12 | 7 alfalfa 14 pasture |

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Restricted Entry Interval (hours) | Minimum Days From Last Application to Harvest |
|-------------------------------------|---|--------------------------------------|---------------------|-------------------------------|---|--|---|
| ALFALFA | | | | | | | |
| Potato Leafhopper (cont.) | The treatment threshold for potato leafhoppers varies with the height of the alfalfa. For alfalfa 3 inches in height, the threshold is 4 per 20 sweeps; for 6-inch alfalfa, the threshold is 10 per 20 sweeps; and for 12-inch or greater alfalfa, the threshold is 40 per 20 sweeps. Before treating, consider yield potential and the age of the alfalfa stand. | | | | | | |
| | chlorantraniliprole + lambda-cyhalothrin (R) Besiege/Voliam Xpress | 5-8 oz | 0.049-0.078 | 16-25.6 | | 24 | 1 forage 7 hay |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC Chlorpyrifos 4 EC | 0.5-1 pt 1-2 pt | 0.25-0.5 0.5-1.0 | 8-16 4-8 | DO NOT apply more than once per cutting. Lorsban and Chlorpyrifos are NOT labeled for pastures. | 24 | 7 (0.5 pint rate) 14 (1.0 pint rate) 21 (2.0 pint rate) |
| | dimethoate (R) Dimethoate 4 EC Dimethoate 2.67 EC | 0.5-1.0 pt 0.75-1.5 pt | 0.25-0.5 | 8-16 5.3-10.6 | DO NOT apply to alfalfa in the bloom period. Make 1 application per cutting. Dimethoate is NOT LABELED for pastures. | 48 | 10 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 0.96-1.60 oz 2.92-3.20 oz | 0.015-0.025 | 80-133 40-44 | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (forage) pasture 7 (hay) |
| | permethrin (R) Permethrin 3.2 EC Ambush 2 EC Pounce 25 WP | 4-8 oz 3.2-12.8 oz 6.4-12.8 oz | 0.1-0.2 | 16-32 10-40 1.25-2.5/lb | DO NOT apply more than 0.2 lb ai per acre per cutting. DO NOT apply when honeybees are actively foraging. Ambush and Pounce are NOT LABELED for pastures. | 12 | 14 alfalfa |
| | zeta-cypermethrin (R) Mustang Maxx 0.8 EC Respect 0.8 EC | 2.24-4.0 oz 2.24-4.0 oz | 0.014-0.025 | 32-57 32-57 | | 12 | 7 alfalfa 0 grasses 3 non-grass pasture |
| Grasshopper | beta-cyfluthrin (R) Baythroid XL 1EC | 2.6-2.8 oz | 0.02-0.022 | 45.7-49.2 | DO NOT apply more than 0.089 lb ai per acre per cutting. | 12 | 7 alfalfa 0 pasture |
| | chlorantraniliprole Prevathon 0.43 SC | 8-20 oz | 0.027-0.067 | 6.4-16 | DO NOT apply more than 0.2 lb ai per acre per year. | 4 | 0 grazing 0 hay |
| | chlorantraniliprole + lambda-cyhalothrin (R) Besiege/Voliam Xpress | 6-10 oz | 0.059-0.097 | 14-21 | | 24 | 1 forage 7 hay |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 1.28-1.92 oz 2.56-3.84 oz | 0.02-0.03 | 66.7-100 33-50 | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season. | 24 | 1 (forage) alfalfa 0 (forage) pasture 7 (hay) |
| | zeta-cypermethrin (R) Mustang Maxx 0.8 EC Respect 0.8 EC | 2.8-4.0 oz 2.8-4.0 oz | 0.0175-0.025 | 32-45 32-45 | No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage. | 12 | 7 alfalfa 0 grasses 3 non-grass pasture |

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb/ai/Acre | Acres/Gallon | Applications/Comments | Restricted Entry Interval (hours) | Minimum Days From Last Application to Harvest |
|---|---|------------------------------|-------------------|--|---|-----------------------------------|---|
| PASTURE | | | | | | | |
| Fall Armyworm, Armyworm Control is usually needed when 2 or more worms per square foot or 1 worm per sweep with a 15-inch sweep net are found. | Anthranilic diamide chlorantraniliprole | | | | DO NOT apply more than 0.2 lb ai per acre per crop. *2(ee) recommendation rate for Prevathon. | 4 | 0 grazing 0 hay |
| | Prevathon 0.43 SC | 10-13 oz* | 0.034-0.044 | 9.8-12.8 | | | |
| | Coragen 1.67 SC | 3.5-5.0 oz | 0.045-0.065 | 25.6-36.6 | | | |
| Products containing anthranilic diamides, IGRs and the tank mix of diflubenzuron plus a pyrethroid exhibit longer residual activity than pyrethroids alone, spinosyns or the carbamate against armyworms. | Anthranilic diamide + pyrethroid chlorantraniliprole + lambda-cyhalothrin (R) | | 0.059-0.088 | | DO NOT apply more than 9 fl oz per acre per cutting. | 24 | 7 hay 0 grazing |
| | Besiege/Voliam Xpress | 6-9 oz | | 14-21 | | | |
| | Pyrethroids cyfluthrin (R) | | 0.025-0.03 | | DO NOT apply more than 0.044 lb ai per 5-day interval. | 12 | 0 grazing 0 hay |
| | Tombstone 2 EC | 1.6-1.9 oz | | 67.4-80 | | | |
| | lambda-cyhalothrin (R) | | 0.02-0.03 | | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.09 lb ai per acre per season. | 24 | 7 hay 0 grazing |
| | Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 1.28-1.92 oz 2.56-3.84 oz | | 66.7-100 33-50 | | | |
| | beta-cyfluthrin (R) | | 0.013-0.022 | | DO NOT apply more than 0.089 lb ai per acre per cutting. | 12 | 0 grazing 0 hay |
| | Baythroid XL 1EC | 1.6-2.8 oz | | 45.7-49.2 | | | |
| | zeta-cypermethrin (R) | | 0.0175-0.025 | | No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage. | 12 | 0 grasses 3 non-grass pasture |
| | Mustang Maxx 0.8 EC Respect 0.8 EC | 2.8-4.0 oz 2.8-4.0 oz | | 32-45 32-45 | | | |
| Insect Growth Regulator (IGR) methoxyfenozide (22.6%) | | 0.06-0.12 | | Livestock can graze on treated area immediately after application of Intrepid. | 4 | 7 hay 0 grazing | |
| Intrepid 2 F and generics - Troubadour 2F, WithStand, TurnStyle, Intervid 2F | 4-8 oz | | 16-32 | | | | |
| Spinosyn spinosad | | 0.033-0.066 | | No grazing restriction (spray should dry before cattle graze in treated areas). Entrust is OMRI listed for organic production. | 4 | 3 hay 0 grazing | |
| Blackhawk | 1.1-2.2 oz | | 7.3-14.6/lb | | | | |
| Tracer 4 SC | 1-2 oz | | 64-128 | | | | |
| Entrust 80 S Entrust 2 SC | 0.63-1.25 oz 2-4 oz | | 12-25/lb 32-64 | | | | |
| Carbamate carbaryl | | 1.0-1.5 | | Sevin does not kill armyworms quickly. Allow 2-3 days for control to become effective. Must remove cattle. DO NOT apply to alfalfa during bloom. | 12 | 14 | |
| Sevin 80 S Sevin XLR Plus | 1.25-1.8 lb 2-3 pt | | 2.7-4.0 | | | | |
| Tank mix Dimilin 2I or Unforgiven (22% diflubenzuron) plus one of the pyrethroids listed above. Ex. 1.0 CS lambda-cyhalothrin | 2 oz./acre | 0.062 | | Follow the more stringent grazing restriction of the pyrethroid. For example lambda-cyhalothrin has no grazing restriction for grazing and 7 days post-harvest restriction for hay. | | 7 hay 0 grazing | |
| | 2.56- 3.84 oz. | 0.02-0.03 | 33-50 | | | | |

Bermudagrass stem maggots – Because no currently available product is effective against bermudagrass stem maggot larvae occurring in the grass stem, bermudagrass stem maggot control is directed at the egg-laying adults. Timing of an insecticide application is crucial to obtain effective control of bermudagrass stem maggot adults. For maximum efficacy, insecticide application should be made seven to ten days following bermudagrass hay harvest. The seven to ten day interval allows for the emergence of adults that pupated at the time of cutting and for application before the grass canopy gets too thick to allow insecticide penetration of the canopy where the adults occur. Adults bermudagrass stem maggots are easily killed, so the low rate of a pyrethroid insecticide labeled for use against armyworms on pasture or hay is effective (ex. lambda-cyhalothrin). Control of bermudagrass stem maggots in moderately grazed bermudagrass is usually unnecessary. See pyrethroids listed in the armyworm/pasture section above for product options.

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb/ai/Acre | Acres/Gallon | Applications/Comments | Restricted Entry Interval (hours) | Minimum Days From Last Application to Harvest |
|----------------------------------|---|--------------------------------|-------------------|---------------------|---|--|--|
| PASTURE Grasshopper | 22% diflubenzuron (R) Dimilin 2L Unforgiven | 2 oz 2 oz | 0.031 | 64 64 | Apply when grasshoppers are small (1/2 inch). Once grasshoppers reach 4th instar nymphs, survival increases. Allow at least 1 day after treatment before cutting hay. DO NOT exceed a total of 2 fl oz Dimilin 2L or Unforgiven per acre per cutting DO NOT exceed a total of 6 fl oz Dimilin 2L or Unforgiven per acre per year. DO NOT apply more than 0.022 lb ai per 5-day interval. | 12 | 1 |
| | beta-cyfluthrin (R) Baythroid XL 1EC | 2.6-2.8 oz | 0.02-0.022 | 45.7-49.2 | | 12 | 0 grazing 0 hay |
| | chlorantraniliprole Prevathon 0.43 SC | 8-16 oz* | 0.027-0.054 | 8-16 | DO NOT apply more than 0.2 lb ai per acre per crop. *2(ee) recommendation rate for Prevathon. | 4 | 0 grazing 0 hay |
| | chlorantraniliprole + lambda-cyhalothrin (R) Besiege/Voliam Xpress | 6-9 oz | 0.059-0.088 | 14-21 | DO NOT apply more than 9 fl oz per acre per cutting. | 24 | 7 hay 0 grazing |
| | cyfluthrin (R) Tombstone 2 EC | 2.6-2.8 oz | 0.04-0.044 | 45.7-49.2 | DO NOT apply more than 0.044 lb ai per 5-day interval. | 12 | 0 grazing 0 hay |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS Other 1.0 CS formulations (See <i>Generic Insecticides</i>) | 1.28-1.92 oz 2.56-3.84 oz | 0.02-0.03 | 66.7-100 33-50 | DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.09 lb ai per acre per season. | 24 | 7 hay 0 grazing |
| | zeta-cypermethrin (R) Mustang Maxx 0.8 EC Respect 0.8 EC | 2.8-4.0 oz 2.8-4.0 oz | 0.0175-0.025 | 32-45 32-45 | No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage. | 12 | 0 grasses 3 non-grass pasture |
| Red Imported Fire Ant | hydramethylnon (Amdro Pro) | 2-5 Tbsp/mound 1.0-1.5 lb/A | | | Mound-to-mound treatment rate. Broadcast rate. | 12 | 7 hay 0 grazing |
| | hydramethylnon + methoprene (Extinguish Plus) | 3-5 Tbsp/mound 1.0-1.5 lb/A | | | Apply ALL FIRE ANT BAITS when ants are active and soil temperature is above 60 degrees F. DO NOT treat if rain is anticipated within 6 hours. DO NOT cut and bale hay treated with Amdro Pro or Extinguish Plus until 7 days after application. | 12 | 7 hay 0 grazing |
| | pyriproxyfen (Esteem) | 2-4 Tbsp/mound 1.5-2 lb/A | | | DO NOT harvest hay within 24 hours of treatment with Esteem. | 12 | 1 hay 0 grazing |
| | S-Methoprene (Extinguish) | 3-5 Tbsp/mound 1.0-1.5 lb/A | | | Mound-to-mound treatment rate. Broadcast rate. | 4 | 0 hay 0 grazing |

PEANUT INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (hours) |
|--|---|--|--------------------------|--------------------|---|---|-----------------------------------|
| Thrips Treat with foliar insecticides when 25% of newly emerged leaflets show damage from thrips. | acephate Orthene 97 | 6-12 oz | 0.375-0.75 | | DO NOT graze or feed vines treated with Acephate. | 14 | 24 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33.3-50 83-125 | | 14 14 | 24 24 |
| | imidacloprid Admire Pro 4.6 F (at planting) Admire Pro 4.6 F (foliar) | 7-10.5 fl oz 1.2 oz | 0.04-0.38 | 107 | Apply in-furrow at planting. Do not apply while bees are foraging. | 14 14 | 12 12 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 0.038-0.075 | 66.6-100 | DO NOT graze or feed vines treated with Warrior. | 14 | 24 |
| | phorate (R) Thimet 20 G | 5.5 oz/1,000 ft of row | | | DO NOT graze or feed vines to livestock. | 90 | 48 |
| | <hr/> | | | | | | |
| | Threecornered Alfalfa Hopper | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.8-2.4 oz | 0.014-0.019 | 53.3-71 | | 14 |
| bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT graze or feed vines to livestock. | 14 | 12 |
| carbaryl Sevin XLR or 4 F Sevin 80 S | | 1 qt 1.25 lb | 1 | 4 | DO NOT apply during bloom. DO NOT apply during bloom. | 14 14 | 12 12 |
| esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | | 2.9-5.8 oz | 0.015-0.03 | 22-44 | DO NOT graze or feed vines to livestock. | 21 | 12 |
| lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | | 0.96-1.6 oz | 0.01-0.026 | 80-133 | DO NOT graze or feed vines treated with Warrior. | 14 | 24 |
| <hr/> | | | | | | | |
| Potato Leaf Hopper | acephate Orthene 97 | 0.77 lb | 0.75 | | DO NOT graze or feed vines treated with Acephate. | 14 | 24 |
| | carbaryl Sevin XLR or 4 F Sevin 80 S | 1 qt 1.25 lb | 1 | 4 | DO NOT apply during bloom. DO NOT apply during bloom. | 14 14 | 12 12 |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 2.9-5.8 oz | 0.015-0.03 | 22-44 | DO NOT graze or feed vines to livestock. | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | | 14 14 | 24 24 |

PEANUT INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (hours) | |
|---|--|--|-------------------|---------------------|--|--|--|----|
| Potato Leaf Hopper (cont.) | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT graze or feed vines to livestock. | 14 | 24 | |
| | methomyl (R) Lannate 2.4 LV | 12 oz | 0.35 | 10.6 | DO NOT graze or feed vines to livestock. | 21 | 48 | |
| Cutworm | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.0-1.8 oz | 0.008-0.014 | 71-128 | | 14 | 12 | |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT graze or feed vines to livestock. | 14 | 12 | |
| | carbaryl Sevin 80 S Sevin XLR or 4 F | 2.5 lb 2 qt | 2.0 | 2 | DO NOT apply during bloom. DO NOT apply during bloom. | 14 14 | 12 12 | |
| | chlorantraniliprole Prevathon 0.43 SC | 20 oz | 0.067 | 6.4 | | 1 | 4 | |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | DO NOT graze or feed vines to livestock. | 21 | 12 | |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-166 | | 14 14 | 24 24 | |
| | indoxacarb Steward 1.25 SC | 9.2-11.3 oz | 0.09-0.11 | 11-14 | | 14 | 12 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz 2.1-6.4 oz | 0.015-0.025 | 80-133 | DO NOT graze or feed vines to livestock. | 14 | 24 | |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 1.28-4.0 oz | 0.008-0.025 | 32-100 | DO NOT graze or feed vines to livestock. | 7 | 12 | |
| | Corn Earworm Consider treatment when total worms exceed 4 per row foot and foliage loss exceeds 15%. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.8-2.4 oz | 0.014-0.019 | 53.3-71 | | 14 | 12 |
| | | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-60 | DO NOT graze or feed vines to livestock. | 14 | 12 |
| carbaryl Sevin 80 S Sevin XLR or 4 F | | 1.25-1.9 lb 2-3 pt | 1.0-1.5 | 2.7-4.0 | DO NOT apply during bloom. DO NOT apply during bloom. | 14 14 | 12 12 | |
| chlorantraniliprole Prevathon 0.43 SC | | 14-20 oz | 0.047-0.067 | 6.4-9 | | 1 | 4 | |
| esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | | 2.9-5.8 oz | 0.015-0.03 | 22-44 | DO NOT graze or feed vines to livestock. | 21 | 12 | |

PEANUT INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (hours) | |
|---|--|--|---------------------------|--------------|--|---|-----------------------------------|----|
| Corn Earworm | gamma-cyhalothrin (R) Proaxis 0.5 CS | 2.56-3.84 | 0.01-0.015 | 33.3-50 | | 14 | 24 | |
| | Declare 1.25 CS | 1.02-1.54 oz | | 83-125 | | 14 | 24 | |
| | indoxacarb Steward 1.25 SC | 9.2-11.3 oz | 0.09-0.11 | 11-14 | | 14 | 12 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 | 66.6-100 | DO NOT graze or feed vines to livestock. | 14 | 24 | |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6-10 oz | 0.06-0.1 | 13-21 | | 14 | 24 | |
| | methomyl (R) Lannate 2.4 LV | 0.75-3 pt | 0.22-0.9 | 2.6-10.6 | DO NOT graze or feed vines to livestock. | 21 | 48 | |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 4-8 oz | 0.0975-0.187 | 16-32 | DO NOT graze or feed vines to livestock. | 7 | 4 | |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT graze or feed vines to livestock. | 7 | 12 | |
| | Beet Armyworm | chlorantraniliprole Prevathon 0.43 SC | 14-20 oz | 0.047-0.067 | 6.4-9 | | 1 | 4 |
| Consider treatment when total worms exceed 4 per row foot and foliage loss exceeds 15%. | | indoxacarb Steward 1.25 SC | 9.2-11.3 oz | 0.09-0.11 | 11-14 | | 14 | 12 |
| | | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 10 oz | 0.1 | 13 | DO NOT graze or feed vines to livestock. | 14 | 24 |
| | | methomyl (R) Lannate 2.4 LV | 1.5-3.0 pt | 0.45-0.9 | 2.7-5.3 | DO NOT graze or feed vines to livestock. | 21 | 48 |
| | | methoxyfenozide Intrepid 2 F | 6-10 oz | 0.09-0.16 | 13-21.3 | | 7 | 4 |
| | | methoxyfenozide + spinetoram Intrepid Edge 3 F | 4-8 oz | 0.0975-0.187 | 16-32 | DO NOT graze or feed vines to livestock. | 7 | 4 |
| | | spinosad Blackhawk | 1.7-3.3 oz | 0.038-0.075 | | | 14 | 4 |
| Fall Armyworm | carbaryl Sevin XLR or 4 F Sevin 80 S | 1.0-1.5 qt 1.25-1.875 lb | 1.0-1.5 1.25-1.875 lbs | 2.7-4 | DO NOT apply during bloom. DO NOT apply during bloom. | 14 14 | 12 12 | |
| | chlorantraniliprole Prevathon 0.43 SC | 14-20 oz | 0.047-0.067 | 6.4-9 | | 1 | 4 | |

PEANUT INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (hours) |
|--|--|-----------------------------|-------------------|---------------------|--|--|--|
| Fall Armyworm (cont.) Consider treatment when total worms exceed 4 per row foot and foliage loss exceeds 15%. | indoxacarb Steward 1.25 SC | 9.2-11.3 oz | 0.09-0.11 | 11-14 | | 14 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6-10 oz | 0.06-0.1 | 13-21 | DO NOT graze or feed vines to livestock. | 14 | 24 |
| | methomyl (R) Lannate 2.4 LV | 0.75-3 pt | 0.22-0.9 | 2.6-10.6 | DO NOT graze or feed vines to livestock. | 21 | 48 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 4-8 oz | 0.0975-0.187 | 16-32 | DO NOT graze or feed vines to livestock. | 7 | 4 |
| | spinosad Blackhawk | 1.7-3.3 oz | 0.038-0.075 | | | 14 | 4 |
| Velvetbean Caterpillar Consider treatment when total foliage loss exceeds 15% and worms are present. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.0-1.8 oz | 0.008-0.014 | 71-128 | | 14 | 12 |
| | bifenthrin (R) Brigade 2 EC (See <i>Generic Insecticides</i>) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT graze or feed vines to livestock. | 14 | 12 |
| | carbaryl Sevin 80 S Sevin XLR or 4 F | 1.25 lb 2 pt | 1 | 4 | DO NOT apply during bloom. DO NOT apply during bloom. | 14 14 | 12 12 |
| | chlorantraniliprole Prevathon 0.43 SC | 14-20 oz | 0.047-0.067 | 6.4-9 | | 1 | 4 |
| | esfenvalerate (R) Asana XL 0.66 EC (See <i>Generic Insecticides</i>) | 2.9-5.8 oz | 0.015-0.03 | 22-44 | DO NOT graze or feed vines to livestock. | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-166 | | 14 14 | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See <i>Generic Insecticides</i>) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT graze or feed vines to livestock. | 14 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6-10 oz | 0.06-0.1 | 13-21 | DO NOT graze or feed vines to livestock. | 14 | 24 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 4-8 oz | 0.0975-0.187 | 16-32 | DO NOT graze or feed vines to livestock. | 7 | 4 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT graze or feed vines to livestock. | 7 | 12 |

PEANUT INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (hours) |
|--|--|---|---------------|--------------------|--|---|-----------------------------------|
| Red-Necked Peanut Worm Treat when 50% of plants are infested. | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT graze or feed vines to livestock. | 14 | 12 |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 2.9-5.8 oz | 0.015-0.03 | 22-44 | DO NOT graze or feed vines to livestock. | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-166 | | 14 14 | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT graze or feed vines to livestock. | 14 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 6-10 oz | 0.06-0.1 | 13-21 | DO NOT graze or feed vines to livestock. | 14 | 24 |
| | methoxyfenozide + spinetoram Intrepid Edge 3 F | 4-8 oz | 0.0975-0.187 | 16-32 | DO NOT graze or feed vines to livestock. | 7 | 4 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT graze or feed vines to livestock. | 7 | 12 |
| Lesser Cornstalk Borer, Southern Corn Rootworm | chlorpyrifos Lorsban 15 G at planting | 7.5-15 oz banded/ 1,000 row feet | 1-2 | | DO NOT graze or feed vines to livestock. | 21 | 24 |
| | Lorsban 15 G post planting | 7.5-15 oz/1,000 row feet in 10"-18" band over fruiting zone | | | DO NOT graze or feed vines to livestock. | 21 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.25 SC | 10 oz | 0.1 | 13 | DO NOT graze or feed vines to livestock. | 14 | 12 |
| Spider Mite | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 5.12-6.4 oz | 0.08-0.1 | 25-60 | DO NOT graze or feed vines to livestock. | 14 | 12 |
| | propargite Comite 6.55 EC Omite 30 W | 32 oz 5 lbs | 1.64 | 4 | DO NOT graze or feed vines to livestock. | 14 14 | 48 48 |

RICE INSECTICIDE PERFORMANCE RATING, 2019

| Insecticide | Chemistry | Restricted Entry Interval (hours) | Restricted Use (R) | Chinch Bug | Fall Armyworm | True Armyworm | Short Horned Grasshopper | Rice Stink Bug | Rice Water Weevil (adult) | Rice Water Weevil (egg) | Midge Larvae | Rice Stalk Borer | Aphids (Greenbug, Oat Bird, Cherry Aphid) | Grape Colaspis |
|------------------------|-----------|-----------------------------------|--------------------|------------|---------------|---------------|--------------------------|----------------|---------------------------|-------------------------|--------------|------------------|---|----------------|
| Cruiser | NEO | 12 | | 6 | | 2 | | | 6 | 7 | | | | 8 |
| Demacor X-100 | DM | 4 | X | 1 | 8 | 8 | | | 1 | 8 | | 8 | | 2 |
| NipsIt Inside | NEO | 12 | | 6 | | | | | 6 | 7 | | | | 8 |
| Belay | NEO | 12 | | 7 | | | | 7 | 7 | | | | 8 | 4 |
| Dimilin 2L | IGR | 12 | X | | | | | | 0 | 7 | | | 0 | |
| Karate Z/Warrior | SyP | 24 | X | 7 | 8 | 8 | 7 | 8 | 9 | | 6 | 5 | 8 | |
| Malathion | OP | 12 | | 1 | 2 | 5 | 6 | 8 | | | | | 4 | |
| Mustang Maxx | SyP | 12 | X | 7 | 8 | 8 | 7 | 8 | 9 | | | 5 | 8 | |
| Prolex/Proaxis/Declare | SyP | 24 | X | 7 | 8 | 8 | 7 | 7 | 9 | | | 5 | 8 | |
| Sevin | Car | 12 | | 6 | 6 | 5 | 6 | 8 | | | | | 1 | |
| Tenchu | NEO | 12 | | | | | | 8 | | | | | | |

Rating Scale: 0 = no control, 10 = excellent

The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control. Shaded boxes indicate products recommended for specific pests in this guide.

QUICK VIEW THRESHOLD GUIDE

| Insect | Threshold | | | | Scouting Procedure |
|------------------------------|---|---|---|---|--|
| Chinch Bug | Treat when bugs are causing plant injury and bugs are present. | | | | Check seedling rice, particularly fields bordering wheat. |
| Fall Armyworm, True Armyworm | Treat when 10 armyworms per 10 sweeps, or when considerable damage is detected early season. Late season treat when fall armyworms are damaging flag leaf. | | | | Early season watch rice bordering wheat for migration of true armyworms into field (damage can occur quickly when armyworms move in). |
| Grasshopper | Treat when damage is evident. | | | | Watch field borders, particularly near grassy areas. |
| Greenbug | 2 to 3 greenbugs per plant on 1- to 2-leaf stage rice. | | | | General visual observation. |
| Stink Bug | 5 stink bugs per 10 sweeps during first 2 weeks of panicle emergence. 10 stink bugs per 10 sweeps after first 2 weeks of panicle emergence. Terminate insecticide applications at 60% hard dough. For more information see MP192, <i>Rice Production Handbook</i> . | | | | Sample for stink bugs during the morning hours or late evening. Stink bug levels are difficult to estimate during high daytime temperatures. |
| Rice Water Weevil | Leaf Feeding Scar Method – Total Number Plants With Feeding Scars on New Leaves | | | | Inspect the youngest leaf on 40 rice plants at each stop for adult feeding scars. Avoid areas with thin stand. DO NOT count older leaves with scars. |
| | Stop No. | Don't Treat – Stop Scouting When Total Is Less Than | No Decision – Keep Scouting When Total Is | Treat – Stop Scouting When Total Is More Than | |
| | 1 | No decision | Between | 40 | |
| | 2 | 11 | Between | 56 | |
| | 3 | 28 | Between | 72 | |
| | 4 | 44 | Between | 89 | |
| | 5 | 61 | Between | 105 | |
| | 6 | 78 | Between | 122 | |
| | 7 | 94 | Between | 139 | |
| 8 | 111 | Between | 156 | | |

RICE INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|------------------|--------------|--------------|--|---|---|
| Chinch Bug Treat when chinch bugs are causing plant injury and bugs are present. Flooding prior to treatment will move chinch bugs up from the soil onto the plants and increase chances of control. Flooding alone may not control chinch bugs. | carbaryl | | 1.0-1.5 | | DO NOT use prior to or within 15 days after propanil. | 14 | 12 |
| | Sevin 80 S | 1.25-1.875 lb | | | | 14 | 12 |
| | Sevin XLR | 2-3 pt | | 2.7-4 | | | |
| | chlothianidin | | 0.075 | | | | |
| | Belay 2.13 F | 4.5 oz | | 28.4 | DO NOT apply after 3rd tillar initiaion. DO NOT apply to rice that has NipsIt Inside seed treatment. Hold water for 14 days after treatment. | | 12 |
| | gamma-cyhalothrin (R) | | 0.0125-0.02 | | | DO NOT release flood water within 7 days after application. | |
| | Proaxis 0.5 CS | 3.2-5.12 oz | | 25-40 | | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) | | 0.025-0.04 | | DO NOT release flood water within 7 days after application. | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | | 50-80 | | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) | | 0.0165-0.025 | | DO NOT release flood water within 7 days after application. | | |
| | Mustang Maxx, Respect | 2.64-4 oz | | 32-40 | | 14 | 12 |
| Fall Armyworm, True Armyworm Treat when 10 armyworms per 10 sweeps, or when considerable damage is detected. Later in the season, treat when fall armyworms are present and damaging the flag leaf. | gamma-cyhalothrin (R) | | 0.0125-0.02 | | DO NOT release flood water within 7 days after application. | | |
| | Proaxis 0.5 CS | 3.2-5.12 oz | | 25-40 | | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) | | 0.025-0.04 | | DO NOT release flood water within 7 days after application. | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | | 50-80 | | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) | | 0.02-0.025 | | DO NOT release flood water within 7 days after application. | | |
| | Mustang Maxx, Respect | 3.2-4.0 oz | | 32-40 | | 14 | 12 |
| Short-Horned Grasshopper | gamma-cyhalothrin (R) | | 0.0125-0.02 | | DO NOT release flood water within 7 days after application. | | |
| | Proaxis 0.5 CS | 3.2-5.12 oz | | 25-40 | | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) | | 0.025-0.04 | | | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | | 50-80 | | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) | | 0.02-0.025 | | | | |
| | Mustang Maxx, Respect | 3.2-4.0 oz | | 32-40 | | 14 | 12 |

RICE INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|------------------|--------------|---|--|--|---|
| Rice Stink Bug During first 2 weeks of panicle emergence treat for 5 stink bugs per 10 sweeps, treat for 10 stink bugs per 10 sweeps thereafter. Terminate insecticide applications at 60% hard dough. | carbaryl | | 1.0-1.5 | | DO NOT use prior to or within 15 days after propanil. | | |
| | Sevin 80 S | 1.25-1.875 lb | | | | 14 | 12 |
| | Sevin XLR | 2-3 pt | | 2.7-4.0 | | 14 | 12 |
| | dinotefuron | | 0.094-0.13 | | | | |
| | Tenchu 20 SG | 7.5-10.5 oz | | | | 7 | 12 |
| | malathion | | 0.625-0.94 | | | | |
| | Malathion 57% EC | 1-1.5 pt | | 5.3-8.0 | | 7 | 12 |
| Rice Water Weevil (Adults) Treat based on leaf scar treatment threshold. For drill seeded rice, make applications within 10 days after permanent flood. For water seeded rice apply within 7 days after permanent flood. | gamma-cyhalothrin (R) | | 0.0125-0.02 | | DO NOT release flood water within 7 days after application. | | |
| | Proaxis 0.5 CS | 3.2-5.12 oz | | 25-40 | | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) | | 0.025-0.04 | | | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | | 50-80 | | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) | | 0.0165-0.025 | | | | |
| | Mustang Maxx, Respect | 2.64-4.0 oz | | 32-48.5 | | 14 | 12 |
| Rice Water Weevil (Eggs) For drill seeded rice, make applications within 10 days after permanent flood. For water seeded rice apply within 7 days after permanent flood. | chlothianidin | | 0.075 | | DO NOT apply after 3rd tillar initiaion. DO NOT apply to rice that has Nipslt Inside seed treatment. Hold water for 14 days after treatment. | | |
| | Belay 2.13 F | 4.5 oz | | 28.4 | | | 12 |
| | gamma-cyhalothrin (R) | | 0.0125-0.02 | | DO NOT release flood water within 7 days after application. | | |
| | Proaxis 0.5 CS | 3.2-5.12 oz | | 25-40 | | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) | | 0.025-0.04 | | DO NOT release flood water within 7 days after application. | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | | 50-80 | | 21 | 24 |
| zeta-cypermethrin 0.8 EC (R) | | 0.0165-0.025 | | DO NOT release flood water within 7 days after application. | | | |
| Mustang Maxx, Respect | 2.64-4 oz | | 32-48.5 | | 14 | 12 | |
| Rice Water Weevil (Eggs) For drill seeded rice, make applications within 10 days after permanent flood. For water seeded rice apply within 7 days after permanent flood. | diflubenzuron (R) | | 0.125-0.25 | | DO NOT release flood water within 14 days after application. DO NOT apply to fields adjacent to crayfish farming. | | |
| | Dimilin 2 L | 12-16 fl oz | | 8.0-10.6 | | 80 | 12 |

RICE INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|------------------------------------|-------------------|--------------|---|---|---------------------------------------|
| Rice Water Weevil (Larvae) | chlorantraniliprole Dermacor X-100 | 1.5-6.0 oz/100 lb seed (see label) | 0.06-0.08 | | | | 4 |
| | clothianidin NipsIt Inside 5 FS | 1.92 oz/100 lb seed | 0.075/100 lb seed | | Use only on dry-seeded rice. DO NOT spray crop with another neonicotinoid insecticide after using NipsIt Inside. DO NOT use near fish or crawfish farms. | | 12 |
| | thiamethoxam Cruiser 5 FS | 0.03 mg ai/seed | | | DO NOT plant or sow Cruiser-treated seed by aerial application. Cruiser is NOT labeled for use in water-seeded rice. DO NOT use treated fields for aquaculture of edible fish or crustaceans. DO NOT exceed 120 lb seed per acre. | | 12 |
| Midge Larvae | There are currently no insecticides available for midge control in rice. | | | | | | |
| | Midges can be a problem in water-seeded rice. To avoid midge problems, use pre-sprouted seed, promptly apply seed as soon as field is flooded and avoid seeding during cool weather. | | | | | | |
| Rice Stalk Borer | gamma-cyhalothrin (R) Proaxis 0.5 CS | 3.2-5.12 oz | 0.0125-0.02 | 25-40 | DO NOT release flood water within 7 days after application. | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.92-2.56 oz | 0.03-0.04 | 50-67 | DO NOT release flood water within 7 days after application. | 21 | 24 |
| Aphids, Greenbug, Birdcherry-Oat Aphid Apply when 2-3 greenbugs per plant are found on one- to two-leaf stage rice. | clothianidin Belay 2.13F | 4.5 oz | 0.075 | 28.4 | DO NOT apply after 3rd tiller initiation. DO NOT apply to rice that has NipsIt Inside seed treatment. Hold water for 14 days after treatment. | | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS | 3.2-5.12 oz | 0.0125-0.02 | 25-40 | DO NOT release flood water within 7 days after application. | 21 | 24 |
| | Declare 1.25 CS | 1.28-2.05 oz | | 62-100 | | 21 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.6-2.56 oz | 0.025-0.04 | 50-80 | DO NOT release flood water within 7 days after application. | 21 | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT release flood water within 7 days after application. | 14 | 12 |
| Grape Colaspis | thiamethoxam Cruiser 5 FS | 0.03 mg ai/seed | | | DO NOT plant or sow Cruiser-treated seed by aerial application. Cruiser is NOT labeled for use in water-seeded rice. DO NOT use treated fields for aquaculture of edible fish or crustaceans. DO NOT exceed 120 lb seed per acre. | | 12 |
| | clothianidin NipsIt Inside 5 FS | 1.92 oz/100 lb seed | 0.075/100 lb seed | | Use only on dry-seeded rice. DO NOT spray crop with another neonicotinoid insecticide after using NipsIt Inside. DO NOT use near fish or crawfish farms. | | 12 |

SMALL GRAIN INSECTICIDE PERFORMANCE RATING, 2019
(Barley, Wheat, Oats and Rye)

| Insecticide | Chemistry | Restricted Entry Interval (hours) | Restricted Use (R) | Armyworm | Greenbug/Aphid | Grasshopper | Hessian Fly | Cereal Leaf Beetle |
|-----------------------------------|-----------|-----------------------------------|--------------------|----------|----------------|-------------|-------------|--------------------|
| Cruiser | NEO | 12 | | | 8 | | 7 | |
| Gaucho/Axcess/Senator | NEO | 12 | | | 8 | | 7 | |
| NipsIt Inside | NEO | 12 | | | 8 | | 7 | |
| Dimethoate | OP | 48 | | | 7 | 6 | | |
| Baythroid XL | SyP | 12 | X | 8 | 8 | 7 | | 7 |
| Lannate | Car | 48 | X | 7 | 7 | 3 | | 8 |
| Malathion/Fyfanon | OP | 12 | | 3 | 6 | 6 | | 8 |
| Mustang Maxx/Respect | SyP | 12 | X | 8 | 8 | 7 | | 7 |
| Proaxis/Declare | SyP | 24 | X | 8 | 8 | 7 | | 7 |
| Sevin | Car | 12 | | 6 | 0 | | | 7 |
| Blackhawk | SP | 4 | | 7 | 0 | 2 | | |
| Karate/Silencer/Lambda-Cy/Warrior | SyP | 24 | X | 8 | 8 | 7 | | 7 |
| Transform | SX | 24 | | | 9 | | | |

Rating Scale: 0 = no control, 10 = excellent

The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control. Shaded boxes indicate products recommended for specific pests in this guide.

SMALL GRAIN INSECT CONTROL
(Barley, Wheat, Oats and Rye)

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest (PHI) | Restricted Entry Interval (REI) Hours |
|--|--|---|-------------|--|--|---|---------------------------------------|
| Armyworm Army Cutworm For fall infestation, treat when populations reach 6 larvae per square foot. Apply when larvae are present and head cutting is occurring after wheat has reached milk/soft dough stage. Consider application in heading wheat prior to milk stage if most leaves are destroyed and larvae are observed in the panicles (>20 larvae/ sq ft.). | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.0-1.8 oz | 0.008-0.014 | 71-128 | | 30 (grain) 3 (grazing) | 12 |
| | carbaryl Sevin XLR or 4F | 1-2 qt | 1-2 | 2-4 | | 48 (grain) | 12 |
| | Sevin 80 S | 1.25-2.5 | | | | 14 (grazing) | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS | 2.56-3.84 oz | 0.01-0.015 | 33.3-50 | NOT labeled on barely, oats or rye. NOT labeled on barely, oats or rye. | 14 | 24 |
| | Declare 1.25 CS | 1.02-1.54 oz | | 83-125 | | 14 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See <i>Generic Insecticides</i>) | 1.28-1.92 oz | 0.015-0.025 | 67-100 | | 14 | 24 |
| | methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.22-0.45 | 5.3-10.6 | | 7 (grain) 10 (grazing) | 48 |
| | spinosad Blackhawk | 1.7-3.3 oz | 0.038-0.075 | | | 21 (grain) 0 (grazing) | 4 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 1.76-4.0 oz | 0.011-0.025 | 32-73 | | 14 | 12 |
| | Greenbug and Other Aphids | Barley Yellow Dwarf Virus (BYD): The most effective method of preventing BYD is to avoid planting early, which increases the risk of developing fall BYD infections. If planting early, using an insecticide seed treatment or foliar application in late fall or early spring may reduce incidence of BYD. | | | | | Greenbug Treatment Level: |
| | | | | | | Number per Linear Foot of Drill | |
| | | | | | Plant Height | | |
| | | | | | 4-6 inches | 50 | |
| | | | | | 6-10 inches | 200 | |
| | | | | | 10-20 inches | 300 | |
| | | | | | 30+ inches | 800 | |
| dimethoate Dimethoate 4 E | | 0.75 pt | 0.375 | 10.6 | Labeled on wheat only. | 35 (grain) 14 (grazing) | 48 |
| malathion Fyfanon 5 lb | | 1.5 pt | 1 | 5.3 | | 7 | 12 |
| methomyl (R) Lannate 2.4 LV | | 0.75-1.5 pt | 0.22-0.45 | 5.3-10.6 | | 7 (grain) 10 (grazing) | 48 |
| beta-cyfluthrin (R) Baythroid XL 1 EC | 1.8-2.4 oz | 0.014-0.019 | 53-71 | | 30 (grain) 3 (grazing) | 12 | |
| gamma-cyhalothrin (R) Proaxis 0.5 CS | 2.56-3.84 oz | 0.01-0.015 | 33.3-50 | NOT labeled on barely, oats or rye. NOT labeled on barely, oats or rye. | 14 | 24 | |
| Declare 1.25 CS | 1.02-1.54 oz | | 83-125.5 | | 14 | 24 | |
| lambda-cyhalothrin (R) Warrior II 2.08 CS (See <i>Generic Insecticides</i>) | 1.28-1.92 oz | 0.015-0.025 | 67-100 | | 14 | 24 | |
| sulfaxaflo Transform 50 WG | 0.75-1.5 oz | 0.023-0.047 | | If blooming vegetation is present 12 feet out from the downwind edge of the field, a 12-foot in-field buffer must be observed. | 14 (grain) 7 (grazing) | 24 | |
| zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | | 14 | 12 | |

SMALL GRAIN INSECT CONTROL
(Barley, Wheat, Oats and Rye)

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest (PHI) | Restricted Entry Interval (REI) Hours |
|--|--|---|----------------|-----------------|--|---|---------------------------------------|
| Grasshopper Treat when damage is occurring. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.8-2.4 oz | 0.014-0.019 | 53-71 | | 30 (grain) 3 (grazing) | 12 |
| | dimethoate Dimethoate 4 E | 0.75 pt | 0.375 | 10.6 | Labeled on wheat only. | 35 (grain) 14 (grazing) | 48 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125 | NOT labeled on barely, oats or rye. NOT labeled on barely, oats or rye. | 14 14 | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 fl oz | 0.015-0.025 | 67-100 | | 14 | 24 |
| | malathion Fyfanon 5 EC (See Generic Insecticides) | 1.5 pt | 1 | 5.3 | | 7 | 12 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | | 14 | 12 |
| | Hessian Fly (Wheat) | clothianidin NipsIt Inside 5 FS | 1.79 oz/100 lb | | | Preventative treatment for Hessian fly is not typically recommended in Arkansas. Hessian fly can be controlled by cultural methods: a. Burn wheat stubble and disc under. b. Destroy volunteer wheat. c. Plant late in fall, mid October or early November. d. Plant resistant varieties. e. Consider a seed treatment if wheat is planted early. | |
| imidacloprid Gaucho 600 F Access 5 F Senator 5 FS | | 1.2-2.4 oz/100 lb 1.2-2.4 oz/100 lb 1.2-2.4 oz/100 lb | | | | | 12 12 12 |
| thiamethoxam Cruiser 5 FS | | 0.75-1.33 oz/100 lb | | | | | 12 |
| Cereal Leaf Beetle Treat when an average of 1 beetle per stem is found. | | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.0-1.8 oz | 0.008-0.014 | 71-128 | | |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125 | NOT labeled on barely, oats or rye. NOT labeled on barely, oats or rye. | 14 14 | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 fl oz | 0.015-0.025 | 67-100 | | 14 | 24 |
| | methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.22-0.45 | 5.3-10.6 | | 7 (grain) 10 (grazing) | 48 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 1.76-4.0 oz | 0.011-0.025 | 32-73 | | 14 | 12 |

GRAIN SORGHUM INSECTICIDE PERFORMANCE RATING, 2019

| | Chemistry | Restricted Entry Interval (hours) | Restricted Use (R) | Chinch Bug | Sorghum Webworm | Corn Earworm | Fall Armyworm | Fire Ants | Greenbug/Yellow Sugarcane Aphid/ Corn Leaf Aphid | Sugarcane Aphid | Sorghum Midge | Stink Bug |
|-------------------------------------|-----------|-----------------------------------|--------------------|------------|-----------------|--------------|---------------|-----------|--|-----------------|---------------|-----------|
| Cruiser | NEO | 12 | | 3 | | | | 7 | 7 | 8 | | |
| Gacho/Axcess/Senator | NEO | 12 | | 3 | | | | 7 | 7 | 8 | | |
| NipsIt Inside/Poncho | NEO | 12 | | 7 | | | | | 7 | 8 | | |
| Asana XL/Adjourn | SyP | 12 | X | 7 | 5 | 4 | 4 | | 8 | 0 | 8 | 7 |
| Baythroid XL | SyP | 12 | X | 7 | 5 | 5 | 4 | | 8 | 0 | 8 | 7 |
| Belt | DM | 12 | | | 7 | 7 | 7 | | | | | |
| Besiege | DM+SyP | 24 | X | 7 | 9 | 9 | 9 | | 8 | 0 | 8 | 7 |
| Blackhawk | SP | 4 | | | 7 | 8 | 8 | 0 | 0 | 0 | 7 | 0 |
| Dimethoate | OP | 48 | | 5 | 4 | | 5 | | 8 | 3 | 8 | 5 |
| Karate Z/Silencer/Lambda-Cy/Warrior | SyP | 24 | X | 7 | 5 | 5 | 4 | | 8 | 0 | 8 | 7 |
| Heligen | Misc | 4 | | | | 7 | | | | | | |
| Lannate | Car | 48 | X | 5 | 8 | 8 | 8 | | 7 | 3 | 6 | 5 |
| Lorsban/Chlorpyrifos/Nufos | OP | 24 | X | 5 | 6 | 5 | 7 | 7 | 8 | 4 | 6 | 5 |
| Mustang Maxx/Respect | SyP | 12 | X | 7 | 5 | 5 | 4 | | 8 | 0 | 8 | 7 |
| Prevathon | DM | 4 | | | 9 | 9 | 9 | | | | | |
| Prolex/Declare | SyP | 24 | X | 7 | 5 | 5 | 4 | | 8 | 0 | 8 | 7 |
| Sevin | Car | 12 | | 7 | 7 | 6 | 7 | | 5 | | 6 | 5 |
| Sivanto | BU | 4 | | | | | | | | 8 | | |

Rating Scale: 0 = no control, 10 = excellent
Shaded boxes indicate products recommended for specific pests in this guide.

The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control.

QUICK-VIEW THRESHOLD GUIDE

| Insect | Threshold | Scouting Procedure |
|----------------------------|--|---|
| Sugarcane Aphid | 25% infestation with at least 50 aphids per leaf | Scout field edges first – watch closely for expanding infestations |
| Whorl Feeders | 3-6 larvae per whorl | Examine 25 plants in 4 spots (100/field) |
| Chinch Bug | When stand is threatened | Watch for yellowing/reddening and/or twisting of leaves Check under leaf sheath near soil line for chinch bugs |
| Greenbug | Plants up to 6 inches – visible damage with colonies present 6 inches to preboot – treat before entire leaves die Preboot to hard dough – treat when 2 or more entire leaves die | Examine 25 plants in 4 spots (100/field) |
| Yellow Sugarcane Aphid | 1 aphid per seedling | Examine 25 plants in 4 spots (100/field) |
| Sorghum Midge | 1 adult midge per head when 25%-30% of plants are flowering | |
| Corn Earworm/Fall Armyworm | 1 larvae 1/2-inch long or longer per head | |
| Sorghum Webworm | 5 larvae per head | |
| Stink Bug | 5 per head from flowering to soft dough 16 per head during hard dough | |

GRAIN SORGHUM INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|-----------------------------------|-------------------------|-------------------|---------------------|---|--|--|
| Soil Pests | clothianidin | | | | | | |
| | Poncho 600 | 5.1-6.4 oz/100 lb seed | | | | | 12 |
| Seed Corn Maggot, White Grubs, Wireworms, Southern Corn Rootworm | NipsIt Inside 5 F | 5.1-6.4 oz/100 lb seed | | | | | 12 |
| | imidacloprid | | | | Do not graze or feed to livestock within 45 days of planting. | | |
| | Gaucho 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | Axcess 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | Senator 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | thiamethoxam | | | | | | |
| | Cruiser 5 FS | 5.1-7.6 oz/100 lb seed | | | | | 12 |
| Chinch Bug | At Planting Treatments: | | | | | | |
| | clothianidin | | | | | | |
| On seedling grain sorghum (6" or less), apply foliar sprays when stand is threatened. | Poncho 600 | 5.1-6.4 oz/100 lb seed | | | | | 12 |
| On taller plants, apply controls when immature and adult bugs infest 75% of the plants. | NipsIt Inside 5 F | 5.1-6.4 oz/100 lb seed | | | | | 12 |
| | imidacloprid | | | | Do not graze or feed to livestock within 45 days of planting. | | |
| | Gaucho 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | Axcess 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | Senator 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | thiamethoxam | | | | | | |
| | Cruiser 5 FS | 5.1-7.6 oz/100 lb seed | | | | | 12 |
| | Foliar-Applied Treatments: | | | | | | |
| | beta-cyfluthrin (R) | | 0.019-0.022 | | Use 20-30 gal of water per acre. Direct sprays toward infested areas. | 14 | |
| | Baythroid XL 1 EC | 2.0-2.8 oz | | 45.7-98.5 | | | |
| | carbaryl | | 1.0-2.0 | | | 21 (grain) 14 (forage) | |
| | Sevin 80 S | 1.25-2.5 lb | | | | | 12 |
| | esfenvalerate (R) | | 0.03-0.05 | | | | |
| | Asana XL 0.66 EC | 5.8-9.6 oz | | 13-22 | | 21 | 12 |
| | (See Generic Insecticides) | | | | | | |
| | gamma-cyhalothrin 1.25 CS (R) | | 0.015 | | | | |
| | Prolex 0.5 CS | 3.84 oz | | 33 | | 30 | 24 |
| | Declare 1.25 CS | 1.54 oz | | 83 | | 30 | 24 |
| | lambda-cyhalothrin (R) | | 0.03 | | | | |
| | Warrior II 2.08 CS | 1.92 oz | | 67 | | 30 | 24 |
| | (See Generic Insecticides) | | | | | | |
| | zeta-cypermethrin 0.8 EC (R) | | 0.02-0.025 | | | 14 (grain & forage) 45 (fodder) | |
| | Mustang Maxx, Respect | 3.2-4.0 oz | | 32-40 | | | 12 |
| Sugarcane Aphid | At Planting Treatments: | | | | | | |
| | clothianidin | | | | | | |
| | Poncho 600 | 5.1-6.4 oz/100 lb seed | | | | | 12 |
| | NipsIt Inside 5 F | 5.1-6.4 oz/100 lb seed | | | | | 12 |
| | imidacloprid | | | | Do not graze or feed to livestock within 45 days of planting. | | |
| | Gaucho 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | Axcess 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | Senator 5 FS | 6.4 oz/100 lb seed | | | | | 12 |
| | thiamethoxam | | | | | | |
| | Cruiser 5 FS | 5.1 oz/100 lb seed | | | | | 12 |
| | Foliar-Applied Treatments: | | | | | | |
| | flupyradifurone | | 0.052-0.09 | | DO NOT apply more than 28 oz per acre per season. | 14 (grain) 7 (forage) | |
| | Sivanto 1.67 SL | 4.0-7.0 oz | | 18.3-32 | | | 4 |

GRAIN SORGHUM INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | | |
|--|---|-------------------------|-------------------|---------------------|--|--|--|----|----|
| Greenbug, Corn Leaf Aphid, Yellow Sugarcane Aphid | At Planting Treatments: | | | | Cruiser, Gaucho, Access, Senator, NipsIt and Poncho will give early-season suppression of chinch bugs and aphids. | | | | |
| | clothianidin | | | | | | | | |
| | Poncho 600 | 5.1-6.4 oz/100 lb seed | | | | | 12 | | |
| | NipsIt Inside 5 F | 5.1-6.4 oz/100 lb seed | | | | | 12 | | |
| | imidacloprid | | | | Do not graze or feed to livestock within 45 days of planting. | | | | |
| | Gaucho 5 FS | 6.4 oz/100 lb seed | | | | | 12 | | |
| | Access 5 FS | 6.4 oz/100 lb seed | | | | | 12 | | |
| | Senator 5 FS | 6.4 oz/100 lb seed | | | | | 12 | | |
| | thiamethoxam | | | | | | | | |
| | Cruiser 5 FS | 5.1-7.6 oz/100 lb seed | | | | | 12 | | |
| Foliar-Applied Treatments: | | | | | | | | | |
| chlorpyrifos (R) | | | 0.23-0.47 | | | 30 | 24 | | |
| Lorsban Adv. 3.755 EC (See Generic Insecticides) | 0.5-1.0 pt | | | 8-16 | | | | | |
| dimethoate | | | 0.25-0.5 | | | | | | |
| Dimethoate 4 E | 0.5-1.0 pt | | | 8-16 | | 28 | 48 | | |
| Dimethoate 2.67 E | 0.75-1.5 pt | | | 5.3-10.7 | | 28 | 48 | | |
| Sorghum Midge | beta-cyfluthrin (R) | | 0.008-0.01 | | Apply controls when 25%-30% of heads have begun to flower (yellow anthers) and the number of midge adults found averages one per head. If adults are found in similar number in 3-5 days after treatment and sorghum is still blooming, treat again. | | | | |
| | Baythroid XL 1 EC | 1.0-1.3 oz | | 45.7-80 | | | 14 | 12 | |
| | chlorpyrifos (R) | | 0.23 | | | | | | |
| | Lorsban Adv. 3.755 EC (See Generic Insecticides) | 0.5 pt | | | | 16 | | 30 | 24 |
| | dimethoate | | 0.125-0.25 | | | | | | |
| | Dimethoate 4 E | 0.25-0.5 pt | | | | 16-32 | | 28 | 48 |
| | Dimethoate 2.67 E | 6-12 oz | | | | 10.7-21.3 | | 28 | 48 |
| | esfenvalerate (R) | | 0.015-0.03 | | | | | | |
| | Asana XL 0.66 EC (See Generic Insecticides) | 2.9-5.8 oz | | | | 22-44 | | 21 | 12 |
| | gamma-cyhalothrin 1.25 CS (R) | | 0.0075-0.01 | | | | | 21 | 24 |
| Prolex 0.5 CS | 1.92-2.56 oz | | | 50-66.7 | | 21 | 24 | | |
| Declare 1.25 CS | 0.77-1.02 oz | | | 125-167 | | | | | |
| spinosad | | 0.034-0.075 | | | | | | | |
| Blackhawk (See Generic Insecticides) | 1.5-3.3 oz | | | | | 21 | 4 | | |

GRAIN SORGHUM INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|--------------------------|-------------------|---------------------|--|--|--|
| Sorghum Midge (cont.) | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.28 oz | 0.015-0.02 | 100-133 | | 30 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 5-6 oz | 0.05-0.06 | 21-25.6 | | 21 | 24 |
| | methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.22-0.45 | 5.3-10.6 | | 14 | 48 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 1.28-4.0 oz | 0.008-0.025 | 32-100 | | 14 (grain & forage) 45 (fodder) | 12 |
| Corn Earworm | Carbamates methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.22-0.45 | 5.3-10.6 | | 14 | 48 |
| Whorl Stage: treat when 3-6 worms per plant. | | | | | | | |
| Heading: 1 worm per head, 1/2 inch in size. | carbaryl Sevin 80 S Sevin XLR | 1.25-2.5 lb 1-2 qt | 1-2 | 2-4 | | 21 (grain) 14 (forage) | 12 12 |
| | Other Chemistry chlorantraniliprole Prevathon | 14-20 oz | 0.047-0.067 | 6.4-9.14 | | 14 | 4 |
| | flubendiamide Belt 4 SC | 2-4 oz | 0.0625-0.125 | 32-64 | | 14 | 4 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 6-10 oz | 0.06-0.097 | 12.8-21 | | 21 | 24 |
| | nucleopolyhedrovirus Heligen | 0.7-1.4 oz | | 91.4-183 | Apply before reaching economic threshold targeting small larvae. Applications on large larvae often result in poor control. Larvae stop feeding within 1-3 days and die within 3-9 days. See publication AG1306 for more information. | 0 | 4 |
| | spinosad Blackhawk | 1.67-3.3 oz | 0.038-0.075 | | | 21 | 4 |
| Fall Armyworm, Sorghum Webworm | carbaryl Sevin 80 S Sevin XLR | 1 1/4-2 1/2 lb 1-2 qt | 1-2 | 2-4 | Heading: Fall Armyworm – Treat when numbers exceed an average of 1 larvae per head, 1/2 inch in size, in maturing sorghum. | 21 (grain) 14 (forage) | 12 12 |
| Whorl Stage: treat when 3-6 worms per plant. | chlorantraniliprole Prevathon | 14-20 oz | 0.047-0.067 | 6.4-9.14 | | 14 | 4 |
| Heading: 1 fall armyworm per head, 1/2-inch or larger in size. 5 sorghum webworms per head | flubendiamide Belt 4 SC | 6-10 oz | 0.0625-0.125 | 12.8-21 | Sorghum Webworm: Treat when an average of 5 small larvae are found per head. Use higher rate for sorghum webworm. | 21 | 24 |
| | methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.022-0.45 | 5.3-10.7 | | 14 | 48 |
| | spinosad Blackhawk | 1.67-3.3 oz | 0.038-0.075 | | | 21 | 4 |

GRAIN SORGHUM INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--|--|-------------------------|-------------------|---------------------|-----------------------------|--|--|----|
| Stink Bugs Treat when 5 bugs per head from flowering to soft dough are found, or when 16 per head at hard dough are found. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.3-2.8 oz | 0.01-0.022 | 45.7-98.5 | | 14 | 12 | |
| | gamma-cyhalothrin 1.25 CS (R) Proaxis 0.5 CS | 2.56-3.84 oz | 0.01-0.015 | 33-50 | | 21 | 24 | |
| | Declare 1.25 CS | 1.02-1.54 oz | | 83-125 | | 21 | 24 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | | 0.02-0.03 | 66.7-100 | | | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege | 6-10 oz | | 0.06-0.097 | 12.8-21 | | 21 | 24 |
| zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 1.76-4.0 oz | | 0.008-0.025 | 32-73 | | 14 (grain) 45 (fodder) | 12 | |
| Fire Ants | imidacloprid | | | | Seed treatment | | | |
| | Gaucho 5 FS | 6.4 oz/100 lb seed | | | | | 12 | |
| | Axcess 5 FS | 6.4 oz/100 lb seed | | | | | 12 | |
| | Senator 5 FS | 6.4 oz/100 lb seed | | | | | 12 | |
| | thiamethoxam Cruiser 5 FS | 5.1-7.6 oz/100 lb seed | | | | Seed treatment | | 12 |

SOYBEAN INSECTICIDE PERFORMANCE RATING, 2019

| Rating Scale: 0 = no control 10 = excellent | Chemistry | Restricted Entry | Restricted Use (R) | Stem Feeders | | | Defoliators | | | | | | | | Defoliators and Pod Feeders | | | | Pod Feeders | | | |
|---|-----------|------------------|--------------------|--------------|-----------|------------------------------|----------------|----------------|-------------|------------------|-----------------------|----------------|----------------|-------------|-----------------------------|------------------|---------------|-----------------------------|--------------|-----------------|-----------------|----------------------|
| | | | | Cutworm | Kudzu Bug | Threecornered Alfalfa Hopper | Blister Beetle | Garden Webworm | Grasshopper | Green Cloverworm | Saltmarsh Caterpillar | Soybean Looper | Cabbage Looper | Spider Mite | Velvetbean Caterpillar | Bean Leaf Beetle | Beet Armyworm | Yellowstriped Fall Armyworm | Corn Earworm | Green Stink Bug | Brown Stink Bug | Red Banded Stink Bug |
| Admire/Imidacloprid | NEO | 12 | | | | | | | | | | | | | | | | | | 3 | 4 | 4 |
| Cruiser | NEO | 12 | | | | 7 | | | | | | | | | 5 | | | | | | | |
| Gaucho | NEO | 12 | | | | 5 | | | | | | | | | 5 | | | | | | | |
| Intego Suite | NEO | 12 | | | | 5 | | | | | | | | | 5 | | | | | | | |
| Ambush/Pounce | SyP | 12 | X | | | 7 | 6 | 7 | 4 | 8 | 4 | 1 | 6 | 0 | 8 | 3 | 3 | 7 | 4 | 5 | 5 | |
| Asana XL/Adjourn | SyP | 12 | X | 8 | 6 | 8 | 7 | 8 | 7 | 9 | 5 | 1 | 8 | 0 | 9 | 3 | 3 | 7 | 5 | 7 | 5 | |
| <i>Bacillus thuringiensis</i> | B | 4 | | 0 | | 0 | 0 | 5 | 0 | 8 | 3 | 7 | 7 | 0 | 8 | 0 | 2 | 0 | 2 | 0 | 0 | |
| Baythroid XL | SyP | 12 | X | 8 | 6 | 8 | 7 | 8 | 6 | 9 | 5 | 3 | 8 | 0 | 9 | 3 | 3 | 7 | 5 | 7 | 5 | 5 |
| Belay | NEO | 12 | | | 6 | | | | | | | | | | 7 | | | | | 7 | 6 | 7 |
| Belt | DM | 12 | | | | | | 9 | | 9 | 8 | 8 | 9 | | | | 8 | 9 | 8 | | | |
| Besiege | DM+SyP | 24 | X | 8 | 9 | 8 | 7 | 9 | 7 | 9 | 9 | 7 | 9 | | 9 | 5 | 9 | 9 | 9 | 7 | 5 | 5 |
| Blackhawk | SP | 4 | | 7 | 0 | 0 | 0 | 8 | 2 | 9 | 5 | 7 | 9 | 0 | 9 | 3 | 8 | 7 | 6 | 1 | 1 | |
| Brigade/Discipline/Fanfare | SyP | 12 | X | 9 | 9 | 9 | 7 | 7 | 7 | 9 | 6 | 3 | 8 | 8 | 9 | 7 | | 8 | 5 | 9 | 7 | 7 |
| Cobalt Advanced | OP+SyP | 24 | X | 8 | 8 | 8 | 7 | 8 | 8 | 9 | 5 | 3 | 8 | 4 | 9 | 7 | 5 | 7 | 4 | 9 | 7 | 7 |
| Dimethoate | OP | 48 | | 0 | 6 | 6 | 5 | 5 | 7 | 3 | 1 | 2 | 2 | 4 | 3 | 8 | 2 | 4 | 2 | 8 | 4 | 3 |
| Endigo ZCX | NEO+SyP | 24 | X | 8 | 9 | 8 | 7 | 8 | 7 | 9 | 5 | 3 | 8 | 0 | 9 | 7 | 3 | 7 | 5 | 9 | 8 | 7 |
| Heligen | Misc | 4 | | | | | | | | | | | | | | | | | 7 | | | |
| Hero | SyP | 12 | X | 9 | 9 | 9 | 7 | 7 | 7 | 9 | 6 | 3 | 8 | 8 | 9 | 6 | | 8 | 5 | 9 | 8 | 6 |
| Intrepid | IGR | 4 | | | | | | 8 | | 8 | 8 | 8 | 8 | 0 | 8 | | 8 | 8 | 5 | | | |
| Intrepid Edge | IGR+SP | 4 | | | | | | | | 9 | 8 | 8 | 8 | | 8 | | 8 | 8 | 8 | | | |
| Karate/Silencer/Lambda-Cy/Warrior | SyP | 24 | X | 8 | 9 | 8 | 7 | 8 | 7 | 9 | 5 | 3 | 8 | 0 | 9 | 4 | 3 | 7 | 5 | 7 | 5 | 5 |
| Lannate 2.4 LV | Car | 48 | X | 2 | | 5 | 5 | 8 | 6 | 9 | 4 | 7 | 8 | 0 | 9 | 6 | 7 | 7 | 6 | 7 | 5 | |
| Larvin 3.2 F | Car | 48 | X | 5 | | 2 | 2 | 8 | 5 | 9 | 5 | 8 | 8 | 0 | 9 | 8 | 7 | 7 | 8 | 3 | 2 | |
| Leverage | NEO+SyP | 12 | X | 8 | 6 | 8 | 7 | 8 | 7 | 9 | 5 | 3 | 8 | 0 | 9 | 7 | 3 | 7 | 5 | 9 | 7 | 7 |
| Lorsban/Nufos/Warhawk | OP | 24 | X | 8 | | 4 | 4 | 5 | 8 | 7 | 1 | 3 | 4 | 4 | 7 | 4 | 5 | 5 | 5 | 6 | 6 | 3 |
| Mustang Maxx/Respect | SyP | 12 | X | 8 | 8 | 8 | 7 | 8 | 7 | 9 | 5 | 3 | 8 | 0 | 9 | 5 | 3 | 7 | 5 | 7 | 6 | 5 |
| Orthene/Acephate | OP | 24 | X | | 6 | | | | 8 | | | | 7 | | | 7 | | | | 8 | 8 | 7 |
| Prevathon | DM | 4 | X | | | | | 9 | 8 | 9 | 9 | 7 | 9 | | 9 | | 9 | 9 | 9 | | | |
| Prolex/Declare | SyP | 24 | X | 8 | 7 | 8 | 7 | 8 | 7 | 9 | 5 | 3 | 8 | 0 | 9 | 4 | 3 | 7 | 4 | 7 | 5 | |
| Sevin | Car | 12 | | 5 | 6 | 3 | 8 | 3 | 7 | 8 | 5 | 1 | 1 | 0 | 8 | 7 | 3 | 6 | 6 | 5 | 4 | |
| Steward | OX | 12 | | 9 | 0 | 0 | 0 | 8 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 2 | 8 | 8 | 8 | 1 | 1 | |

The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control.

Shaded boxes indicate products recommended for specific pests in this guide.

SOYBEAN INSECT CONTROL

Equivalent Economic Threshold Conversion Between Drop Cloth and Sweepnet

| Insect | Sampling Method Used at Four Random Areas Per 40 Acres | | | |
|---|--|--|------------------|-------------------|
| | Drop Cloth (at least 8 shakes) | Sweepnet (at least four 25-sweep samples) | | |
| | Number/Foot of Row | Number/25 Sweeps | Number/50 Sweeps | Number/100 Sweeps |
| Stink bugs – up to R6 growth stage | 1 | 9 | 18 | 36 |
| Stink bugs – R6 to R6.5 growth stage (DO NOT treat after R6.5.) | 2 | 18 | 36 | 72 |
| Red Banded stink bug – up through R6.5 (Raise threshold to 10 from R6.5-R7) (DO NOT treat after R7 if weather conditions are favorable.) | | 4 | 8 | 16 |
| Soybean looper, cabbage looper, velvetbean caterpillar, green cloverworm, armyworm complex ¹ | 6 | 29 | 58 | 116 |
| Kudzu bug | 4 nymphs | 25 nymphs | 50 nymphs | 100 nymphs |

¹Threshold numbers in association with 40 percent defoliation before bloom and 25 percent after bloom. Number represents medium and large larvae.

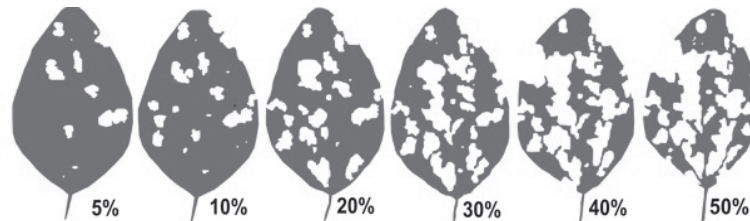
Corn Earworm Dynamic Threshold

The tables below are the result of a collaborative research effort between five states in the Mid-South including three locations in Arkansas. To determine the treatment level, estimate the potential value of the crop and the cost of the insecticide application. For example; if the crop value is \$8/bushel and the cost of control is \$14/acre, the sweepnet threshold would be 8.6 earworm per 25 sweeps.

| Crop value (\$/bu) | Larvae/25 sweeps | | | | | | |
|-----------------------|-------------------------|-----|-----|------|------|------|------|
| | Control costs (\$/acre) | | | | | | |
| | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 6 | 6.5 | 8.2 | 9.8 | 11.4 | 13.1 | 14.7 | 16.3 |
| 7 | 5.6 | 7.0 | 8.4 | 9.8 | 11.2 | 12.6 | 14.0 |
| 8 | 5.0 | 6.1 | 7.4 | 8.6 | 9.8 | 11.0 | 12.3 |
| 9 | 5.0 | 5.4 | 6.5 | 7.6 | 8.7 | 9.8 | 10.9 |
| 10 | 5.0 | 5.0 | 5.9 | 6.9 | 7.8 | 8.8 | 9.8 |
| 12 | 5.0 | 5.0 | 5.0 | 5.7 | 6.5 | 7.4 | 8.2 |
| 13 | 5.0 | 5.0 | 5.0 | 5.3 | 6.0 | 6.8 | 7.5 |
| 15 | 5.0 | 5.0 | 5.0 | 5.0 | 5.2 | 5.9 | 6.5 |

| Crop value (\$/bu) | Larvae/row foot | | | | | | |
|-----------------------|-------------------------|-----|-----|-----|-----|-----|-----|
| | Control costs (\$/acre) | | | | | | |
| | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 6 | 0.9 | 1.1 | 1.3 | 1.5 | 1.7 | 2.0 | 2.2 |
| 7 | 0.7 | 0.9 | 1.1 | 1.3 | 1.5 | 1.7 | 1.9 |
| 8 | 0.7 | 0.8 | 1.0 | 1.1 | 1.3 | 1.5 | 1.6 |
| 9 | 0.6 | 0.7 | 0.9 | 1.0 | 1.2 | 1.3 | 1.4 |
| 10 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | 1.2 | 1.3 |
| 12 | 0.6 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | 1.1 |
| 13 | 0.6 | 0.6 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| 15 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.8 | 0.9 |

Defoliation Levels on Soybean Leaves



SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--|--|--|-------------------|---------------------|--|--|--|----|
| Cutworm Treat when infestation threatens to reduce stand to less than 4-6 plants per row foot. | beta-cyfluthrin (R) Baythroid XL 1 EC | 0.8-1.6 oz | 0.007-0.013 | 80-160 | | 21 | 12 | |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 | |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 | |
| | cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | 0.8-1.6 oz | 0.013-0.025 | 80-160 | | 45 | 12 | |
| | carbaryl Sevin XLR or 4F | 1.0-1.5 qt | 1.0-1.5 | 2.7-4.0 | | 21 | 12 | |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC (See Generic Insecticides) | 1-2 pt | 0.5-1.0 | 4-8 | | 28 | 12 | |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 | |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | | 45 45 | 24 24 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | | 30 | 24 | |
| | indoxacarb Steward 1.25 SC | 5.6-11.3 oz | 0.055-0.11 | 11.5-22.8 | | 21 | 12 | |
| | thiodicarb (R) Larvin 3.2 F | 1.25-1.9 pt | 0.5-0.75 | 4.3-6.4 | DO NOT feed forage, hay or straw treated with Larvin. Use minimum 3 gal by air, 15 gal by ground finish spray. | 28 | 48 | |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 1.28-4.0 oz | 0.008-0.025 | 32-100 | | 21 | 12 | |
| | Kudzu Bug Treat when 4 nymphs per row foot or 25 nymphs per 25 sweeps are found. | acephate (R) Orthene/Acephate 97 S | 0.75-1.0 lb | 0.73-0.97 | | | 14 | 24 |
| | | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 6.4 oz | 0.1 | 20 | | 18 | 12 |
| lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | | 1.92 oz | 0.03 | 67 | | 30 | 24 | |
| gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | | 45 45 | 24 24 | |
| zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | | 4.0 oz | 0.025 | 32 | | 21 | 12 | |
| zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | | 6.4-10.3 oz | 0.062-0.1 | 12.4-20 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--|---|--|-------------------|---------------------|--|--|--|----|
| Threecornered Alfalfa Hopper Economic damage is unlikely when plants are greater than 10" tall. Damage usually occurs when plants are less than 10" tall. Apply when 50% of the plants are girdled or if fewer than 4-6 ungirdled plants per row foot remain in conventional rows, 30" to 38" and hopper nymphs are still present. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.012-0.022 | 45-80 | | 21 | 12 | |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 | |
| | clothianidin Belay 2.13 EC | 3-6 oz | 0.05-0.1 | 21.3-42.7 | | 21 | 12 | |
| | cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | 1.6-2.8 oz | 0.025-0.044 | 46-80 | | 45 | 12 | |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 | |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | | 45 45 | 24 24 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | | 30 | 24 | |
| | lambda-cyhalothrin+ chlorantraniliprole (R) Besiege 1.252 | 5.0-8.0 oz | 0.049-0.08 | 16-25.6 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 | |
| | imidacloprid Gaucho 600 Senator 600 Access 5 FS | 1.6 oz/100 lb seed 1.6 oz/100 lb seed 1.6 oz/100 lb seed | | | Seed treatment. DO NOT graze or feed livestock on forage or hay. | 12 | 12 | |
| | thiamethoxam Cruiser 5 FS Warden CX | 1.28 oz/100 lb seed 3.38 oz/100 lb seed | | | Seed treatment. | | 12 12 | |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 2.8-4.0 oz | 0.0175-0.025 | 32-45.7 | | 21 | 12 | |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 | |
| | Blister Beetle Before bloom, treat when 40% defoliation occurs. After bloom, treat when 25% defoliation occurs. | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.0-1.8 oz | 0.008-0.014 | 71-128 | | 21 | 12 |
| | | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 |
| bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 | |
| carbaryl Sevin XLR or 4F | | 2 qt | 2 | 2 | | 21 | 12 | |
| cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | | | | | | 45 | 12 | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|----------------------|---------------|---|--|--|---|
| Blister Beetle (cont.) Before bloom, treat when 40% defoliation occurs. After bloom, treat when 25% defoliation occurs. | gamma-cyhalothrin (R) Proaxis 0.5 CS | 1.92-3.2 oz | 0.0075-0.0125 | 40-66.7 | | 45 | 24 |
| | Declare 1.25 CS | 0.77-1.28 oz | | 100-167 | | 45 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 |
| | (See <i>Generic Insecticides</i>) | 2.1-6.4 oz | | | | | |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | | 32-45.7 | | 30 | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 1.28-4.0 oz | 0.008-0.025 | 32-100 | | 21 | 12 |
| zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 | |
| Defoliating Caterpillars (Garden Webworm, Green Cloverworm, Saltmarsh Caterpillar, Cabbage Looper, Velvetbean Caterpillar, Silver-Spotted Skipper) Before bloom, treat when 40% defoliation occurs. After bloom, treat when 25% defoliation occurs. Treatment for defoliators can be terminated at R6.5 growth stage. | acephate (R) Orthene/Acephate 90 S | 0.83-1.1 lb | 0.75-1.0 | | Acephate is not labeled for garden webworm, saltmarsh caterpillar or silver-spotted skipper. DO NOT apply more than 1.5 lb ai acephate per season. | 14 | 24 |
| | Orthene/Acephate 97 S | 0.75-1.0 lb | | | | 14 | 24 |
| | <i>Bacillus thuringiensis</i> | Check label. | | | | | 4 |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.8-2.4 oz | 0.014-0.019 | 53.3-71 | Rate can be dropped to 0.8 oz for green cloverworm. | 21 | 12 |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |
| | (See <i>Generic Insecticides</i>) | | | | | | |
| | carbaryl Sevin XLR or 4F | 2-3 pt | 1.0-1.5 | 2.7-4 | | 21 | 12 |
| | chlorpyrifos (R) Lorsban 4 E | 1-2 pt | | 4.0-8.0 | Lorsban is not labeled for cabbage looper, garden webworm or silver-spotted skipper. Rate can be lowered to 0.5 pt for green cloverworm or velvetbean caterpillar. | 28 | 12 |
| | (See <i>Generic Insecticides</i>) | | | | | | |
| | cyfluthrin (R) Tombstone 2 EC | 1.6-2.8 oz | 0.025-0.044 | 45.7-80 | | 45 | 12 |
| (See <i>Generic Insecticides</i>) | | | | | | | |
| esfenvalerate (R) Asana XL 0.66 EC | 2.9-5.8 oz | 0.015-0.03 | 22-44 | For cabbage looper, raise rate to 5.8-9.6 oz. Asana XL is not labeled for garden webworm or silver-spotted skipper. | 21 | 12 | |
| (See <i>Generic Insecticides</i>) | | | | | | | |
| flubendiamide Belt 4 SC | 2-3 oz | 0.0625-0.0937 | 42.7-64 | DO NOT apply more than 6 oz of Belt per acre per season. | 14 | 12 | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|-------------------------|-------------------|--|--|--|--|
| Defoliating Caterpillars (cont.) | gamma-cyhalothrin (R) | | 0.0075-0.0125 | | Higher rate of 1.28-1.54 oz/acre required for garden webworm and silver-spotted skipper. | | |
| | Proaxis 0.5 CS | 1.92-3.2 oz | | 40-66.7 | | 45 | 24 |
| | Declare 1.25 CS | 0.77-1.28 oz | | 100-167 | | 45 | 24 |
| | indoxacarb | | 0.055-0.11 | | Rate for green cloverworm, saltmarsh caterpillar and cabbage looper can be lowered to 4.6 oz. Will provide suppression of velvetbean caterpillar. Steward is not labeled for silver-spotted skipper. | | |
| | Steward 1.25 SC | 5.6-11.3 oz | | 11.5-22.8 | | 21 | 12 |
| | lambda-cyhalothrin (R) | | 0.02-0.03 | | For garden webworm and silver-spotted skipper, raise rate to 1.6-1.92 oz/acre. | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | | 66.6-100 | | 30 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) | | 0.06-0.1 | | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. Use 8-10 oz for silver-spotted skippers. | | |
| | Besiege 1.25 | 6-10 oz | | 13-21 | | 30 | 24 |
| | methomyl (R) | | 0.22-0.9 | | Lannate is not labeled for garden webworm. | | |
| | Lannate 2.4 LV | 0.75-3 pt | | 5.3-10.6 | | 14 | 48 |
| | methoxyfenozide | | 0.0625-0.125 | | Intrepid is not labeled for silver-spotted skipper. | | |
| | Intrepid 2 F | 4-8 oz | | 16-32 | | 14 | 12 |
| | methoxyfenozide + spinetoram | | 0.0975-0.187 | | DO NOT make more than 4 applications per year. | | |
| | Intrepid Edge 3F | 4-6.4 | | 20-32 | | 28 | 4 |
| permethrin (R) | | 0.05-0.2 | | Use higher rates for garden webworm. Not labeled for silver-spotted skipper. | | | |
| Ambush 2.0 E Pounce 25 W | 3.2-12.8 oz 3.2-12.8 oz | | 20-40 | | 60 | 12 12 | |
| spinosad | | 0.025-0.05 | | Blackhawk is not labeled for garden webworm or silver-spotted skipper. Raise rate to 1.7-2.2 oz for saltmarsh caterpillar. DO NOT apply more than 8.3 oz of Blackhawk per year. DO NOT feed treated forage to meat or dairy animals. | | | |
| Blackhawk | 1.1-2.2 oz | | | | 28 | 4 | |
| thiodicarb (R) | | 0.25 | | Larvin is not labeled for garden webworm or silver-spotted skipper. For cabbage looper, raise rate to 18-30 oz. | | | |
| Larvin 3.2 F | 10-30 oz | | 12.8 | | 28 | 48 | |
| zeta-cypermethrin 0.8 EC (R) | | 0.0175-0.025 | | For saltmarsh caterpillar and silver-spotted skipper, the rate can be lowered to 1.28 oz. Raise rate to 3.2-4 oz for cabbage loopers. | | | |
| Mustang Maxx | 2.8-4.0 oz | | 32-45.7 | | 21 | 12 | |
| zeta-cypermethrin + bifenthrin (R) | | 0.04-0.1 | | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. For green cloverworm and silver-spotted skipper, rate can be dropped to 2.6-6.1 oz. | | | |
| Hero 1.24 EC | 4.0-10.3 oz | | 12.4-32 | | 21 | 12 | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|-----------------------------|-------------------|---------------------|---|--|--|
| Grasshopper Before bloom, treat when 40% defoliation occurs. After bloom, treat when 25% defoliation occurs. | beta-cyfluthrin (R) Baythroid XL 1 EC | 2.0-2.8 oz | 0.016-0.022 | 45-64 | | 21 | 12 |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |
| | chlorantraniliprole Prevathon 0.43 | 8-20 oz | 0.027-0.067 | 6.4-16 | Make no more than 4 applications per year. For best results, add MSO at 1% v/v. | 1 | 4 |
| | chlorpyrifos (R) Lorsban 4 E (See Generic Insecticides) | 0.5-1.0 pt | 0.25-0.5 | 8-16 | | 28 | 12 |
| | cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | 2.0-2.8 oz | 0.031-0.044 | 68-80 | | 45 | 12 |
| | diflubenzuron (R) Dimilin 2L | 2 oz | 0.031 | 64 | Apply Dimilin when majority of grasshoppers have reached the 2nd to 3rd nymphal stage. Dimilin is not effective against adults. | 21 | |
| | dimethoate Dimethoate 4 E | 1 pt | 0.5 | 8 | | 21 | 48 |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | | 45 45 | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.6-1.92 oz | 0.025-0.03 | 67-80 | | 30 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.098 | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 |
| | lambda-cyhalothrin + chlorpyrifos (R) Cobalt Advanced | 6-13 oz | | 9.8-21.3 | | 30 | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx | 3.2-4.0 oz | 0.02-0.025 | 32-40 | | 21 | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 2.6-6.1 oz | 0.025-0.06 | 21-49.2 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. For green cloverworm and silver-spotted skipper, rate can be dropped to 2.6-6.1 oz. | 21 | 12 |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|----------------------------|---------------|--------------|---|---|---------------------------------------|
| Soybean Looper Before bloom, treat for 40% defoliation and loopers present. After bloom, treat for 25% defoliation plus 6-8 worms per row foot. Terminate treatment when soybeans reach R6.5 growth stage. | <i>Bacillus thuringiensis</i> | Check label. | | | <i>Bacillus thuringiensis</i> works effectively against insecticide-resistant or susceptible populations of soybean loopers and requires 3-4 days to kill larvae. | | 4 |
| | chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047--0.067 | 16-Sep | Make no more than 4 applications per year. For best results, add MSO at 1% v/v. | 1 | 4 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.0625-0.0937 | 42.7-64 | DO NOT apply more than 6 oz of Belt per acre per season. | 14 | 12 |
| | indoxacarb Steward 1.25 SC | 5.6-11.3 oz | 0.055-0.11 | 11.5-22.8 | | 21 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 10.0 oz | 0.098 | 12.8 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 |
| | methomyl (R) Lannate 2.4 LV | 1.5-3 pt | 0.45-0.9 | 2.7-5.3 | | 14 | 48 |
| | methoxyfenozide Intrepid 2 F | 4-8 oz | 0.0625-0.125 | 16-32 | | 14 | 12 |
| | methoxyfenozide + spinetoram Intrepid Edge 3F | 4-6.4 oz | 0.094-0.15 | 20-32 | DO NOT make more than 4 applications per year. | 28 | 4 |
| | spinosad Blackhawk | 1.1-2.2 oz | 0.025-0.05 | | DO NOT apply more than 8.3 oz of Blackhawk per year. DO NOT feed forage to meat or dairy animals. | 28 | 4 |
| | thiodicarb (R) Larvin 3.2 F | 1.1-1.9 pt | 0.45-0.75 | 4.3-7.1 | DO NOT feed forage, hay or straw treated with Larvin. | 28 | 48 |
| Spider Mites | abamectin Agri-Mek 0.7 S | 1.75-3.5 oz | 0.01-0.019 | 36.6-73 | | 7 | 12 |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 5.12-6.4 oz | 0.08-0.1 | 20-25 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |
| | chlorpyrifos (R) Lorsban 4 E (See Generic Insecticides) | 1 pt | 0.5 | 8 | Two applications may be needed for control. Control is best using higher volumes. Total spray 15-20 gal per acre. Treat when spider mites are numerous. | 28 | 12 |
| | dimethoate Dimethoate 4 E | 1 pt | 0.5 | 8 | | 21 | 48 |
| Bean Leaf Beetle Before bloom, treat when 40% defoliation occurs. After bloom, treat when 25% defoliation occurs and beetles are present. Terminate treatment when soybeans reach R6.5 growth stage. Tank mixing different chemistries has been shown to increase control. | acephate (R) Orthene/Acephate 90 S Orthene/Acephate 97 S | 0.83-1.1 lb 0.75-1.0 lb | 0.75-1.0 | | DO NOT apply more than 1.5 lb ai of acephate per season. | 14 | 24 24 |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|-------------------------|-------------------|--|--|--|--|
| Bean Leaf Beetle (cont.) | carbaryl | | 0.5 | | | | |
| | Sevin XLR or 4F | 1 pt | | 8 | | | |
| | clothianidin | | 0.05-0.11 | | | | |
| | Belay 2.13 | 3-6 oz | | 21.3-42.7 | DO NOT apply Belay within 45 days after planting seed treated with neonicotinoid seed treatments (imidacloprid, thiamethoxam). DO NOT apply at intervals less than 7 days apart. DO NOT graze or feed forage to livestock. | 21 | 12 |
| | cyfluthrin (R) | | 0.025-0.044 | | | | |
| | Tombstone 2 EC (See Generic Insecticides) | 1.6-2.8 oz | | 45.7-80 | | 45 | 12 |
| | dimethoate | | 0.5 | | | | |
| | Dimethoate 4 E | 1 pt | | 8 | | 21 | 48 |
| | esfenvalerate (R) | | 0.03-0.05 | | | | |
| | Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | | 13-22 | | 21 | 12 |
| | gamma-cyhalothrin (R) | | 0.0075-0.0125 | | | | |
| | Proaxis 0.5 CS | 1.92-3.2 oz | | 40-66.7 | | 45 | 24 |
| | Declare 1.25 CS | 0.77-1.28 oz | | 100-167 | | 45 | 24 |
| | lambda-cyhalothrin (R) | | 0.015-0.025 | | | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | | 80-133 | | 30 | 24 |
| | imidacloprid | | 0.3-0.45 | | | | |
| | Gaucho 600 | 1.6 oz/100 lb seed | | | Gaucho and Cruiser will suppress early-season bean leaf beetles. | | 12 |
| Axcess 5 FS | 1.6 oz/100 lb seed | | | | | 12 | |
| Senator 600 | 1.6 oz/100 lb seed | | | | | 12 | |
| thiamethoxam | | | | | | | |
| Cruiser 5 FS | 1.28 oz/100 lb seed | | | | | 12 | |
| Warden CX | 3.38 oz/100 lb seed | | | | | 12 | |
| methomyl (R) | | 0.3-0.45 | | | | | |
| Lannate 2.4 LV | 1-1.5 pt | | 5.3-8 | | 14 | 48 | |
| zeta-cypermethrin 0.8 EC (R) | | 0.0175-0.025 | | | | | |
| Mustang Maxx, Respect | 2.8-4.0 oz | | 32-45.7 | | 21 | 12 | |
| zeta-cypermethrin + bifenthrin (R) | | 0.04-0.1 | | | | | |
| Hero 1.24 EC | 4.0-10.3 oz | | 12.4-32 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 | |
| Armyworm Complex (Yellowstriped, Fall and Beet Armyworm) | beta-cyfluthrin (R) | | 0.013-0.022 | | | | |
| | Baythroid XL 1 EC | 1.6-2.8 oz | | 45.7-80 | PYRETHROIDS (Baythroid, Brigade, Tombstone, Prolex, Declare, Karate, Mustang Maxx, Hero) are not effective against beet armyworm. DO NOT USE. | 21 | 12 |
| | beta-cyfluthrin + imidacloprid (R) | | 0.066 | | | | |
| | Leverage 360 | 2.8 oz | | 45.7 | | 21 | 12 |
| | bifenthrin (R) | | 0.033-0.1 | | | | |
| Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | | 20-61 | | 18 | 12 | |
| chlordantraniliprole | | 0.047-0.067 | | | | | |
| Prevathon 0.43 | 14-20 oz | | 6.4-9.14 | | 1 | 4 | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|---|-----------------------------|-------------------|---------------------|---|--|--|
| Armyworm Complex (Yellowstriped, Fall and Beet Armyworm) (cont.) | cyfluthrin (R) Tombstone 2 EC <i>(See Generic Insecticides)</i> | 1.6-2.8 oz | 0.025-0.044 | 45.7-80 | | 45 | 12 |
| | flubendiamide Belt 4 SC | 2-3 oz | 0.0625-0.0937 | 42.7-64 | DO NOT apply more than 6 oz of Belt per acre per season. | 14 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | | 45 45 | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS <i>(See Generic Insecticides)</i> | 1.6-1.92 oz | 0.025-0.03 | 69-83 | | 30 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.098 | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 |
| | indoxacarb Steward 1.25 SC | 4.6-11.3 oz | 0.045-0.11 | 11.3-27.8 | | 21 | 12 |
| | methomyl (R) Lannate 2.4 LV | 1-1.5 pt | 0.3-0.45 | 5.3-8 | | 14 | 48 |
| | methoxyfenozide Intrepid 2 F | 4-8 oz | 0.0625-0.125 | 16-32 | | 14 | 12 |
| | methoxyfenozide + spinetoram Intrepid Edge 3F | 4-6.4 | 0.094-0.15 | 20-32 | DO NOT make more than 4 applications per year. | 28 | 4 |
| | spinosad Blackhawk | 1.67-3.3 oz | 0.038-0.075 | | DO NOT apply more than 8.3 oz of Blackhawk per year. DO NOT feed treated forage to meat or dairy animals. | 28 | 4 |
| | thiodicarb (R) Larvin 3.2 F | 0.6-1.9 pt | 0.25-0.75 | 4.3-12.8 | | 28 | 48 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx | 3.2-4.0 oz | 0.02-0.025 | 32-40 | | 21 | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/ Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--|--|---|---------------|--|---|--|---|--|
| Corn Earworm and Tobacco Budworm Before bloom, treat when 40% defoliation occurs. After bloom, use threshold table. | Synthetic Pyrethroids | In recent years, pyrethroids have shown reduced efficacy and can be expected to provide poor to moderate control. Consider tank-mixing another chemistry when using a pyrethroid. | | | | | | |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.6-2.8 oz | 0.013-0.022 | 45.7-80 | DO NOT use synthetic pyrethroids on populations of tobacco budworm. Tobacco budworm is resistant to this chemistry. | 21 | 12 | |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 | |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 | |
| | cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | 1.6-2.8 oz | 0.025-0.044 | 45.7-80 | | 45 | 12 | |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | | 45 45 | 24 24 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 | 67-100 | | 30 | 24 | |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 | |
| | permethrin (R) Ambush 2.0 E Pounce 25 W | 6.4-12.8 oz 6.4-12.8 oz | 0.1-0.2 | 10-20 | Permethrin: DO NOT graze treated areas or harvest for forage or hay. DO NOT make more than 2 applications per season. | 60 | 12 | |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx, Respect | 2.8-4.0 oz | 0.0175-0.025 | 32-45.7 | | 21 | 12 | |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 | |
| | Carbamates | | | | | | | |
| | carbaryl Sevin XLR or 4F | 1-3 pt | 0.5-1.5 | 2.7-8 | | 21 | 12 | |
| | methomyl (R) Lannate 2.4 LV | 0.75-1.5 pt | 0.225-0.45 | 5.3-10.7 | | 14 | 48 | |
| | thiodicarb (R) Larvin 3.2 F | 10-16 oz | 0.25-0.4 | 8-12.8 | | 28 | 48 | |
| Other Chemistry | | | | | | | | |
| nucleopolyhedrovirus Heligen | 1-1.6 oz | | 80-128 | Apply before reaching economic threshold targeting small larvae. Applications to large larvae often result in poor control. Larvae stop feeding within 1-3 days and die within 3-9 days. Refer to publication AG1306 for more information. | 0 | 4 | | |
| chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047-0.067 | 6.4-9.14 | Make no more than 4 applications per year. | 1 | 4 | | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|---|---|---------------|--------------|--|---|---------------------------------------|
| Corn Earworm and Tobacco Budworm (cont.) | Other Chemistry flubendiamide Belt 4 SC | 2-3 oz | 0.0625-0.0937 | 42.7-64 | DO NOT apply more than 6 oz of Belt per acre per season. | 14 | 12 |
| | indoxacarb Steward 1.25 SC | 5.6-11.3 oz | 0.055-0.11 | 11.5-22.8 | | 21 | 12 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.098 | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 |
| | methoxyfenozide + spinetoram Intrepid Edge 3F | 4-6.4 | 0.094-0.15 | 20-32 | DO NOT make more than 4 applications per year. | 28 | 4 |
| | spinosad Blackhawk | 1.67-2.2 oz | 0.038-0.05 | | DO NOT apply more than 8.3 oz of Blackhawk per year. DO NOT feed treated forage to meat or dairy animals. | 28 | 4 |
| ROOT FEEDER Grape Colaspis | chlothianidin Intego Suite | 3.37 oz/100 lb seed | | | | | |
| | imidacloprid Gaucho 600 | 1.6 oz/100 lb seed | | | A seed treatment can be beneficial in areas where grape colaspis has historically been a problem. | | 12 |
| | Access 5 FS | 1.6 oz/100 lb seed | | | | | 12 |
| | Senator 600 | 1.6 oz/100 lb seed | | | | | 12 |
| | thiamethoxam Cruiser 5 FS Warden CX | 1.28 oz/100 lb seed 3.2 oz/100 lb seed | | | | | 12 |
| Green Stink Bug, Southern Green Stink Bug, Red Shouldered Stink Bug Treat when an average of 1 stink bug per row foot is found using a shake sheet or 9 stink bugs per 25 sweeps up to R6 growth stage. Double threshold (18 per 25 sweeps) from R6 to R6.5 growth stage and terminate sprays after R6.5, keeping application-to-harvest interval restrictions in mind. | acephate (R) Orthene/Acephate 90 S Orthene/Acephate 97 S | 0.56-1.1 lb 0.50-1.0 lb | 0.5-1.0 | | DO NOT apply more than 1.5 lb ai acephate per season. | 14 14 | 24 24 |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 1.5-2.8 oz | 0.013-0.022 | 45.7-80 | | 21 | 12 |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 45.7 | | 21 | 12 |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |
| | clothianidin Belay 2.13 | 3-6 oz | 0.05-0.1 | 21.3-42.7 | DO NOT apply Belay treatments less than 7 days apart. DO NOT apply more than 12 oz per acre. | 21 | 12 |
| | cyfluthrin (R) Tombstone 2 EC (See Generic Insecticides) | 1.6-2.8 oz | 0.025-0.044 | 45.7-80 | | 45 | 12 |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 21 | 12 |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|-------------------------|-------------------|---|---|--|--|
| Green Stink Bug, Southern Green Stink Bug, Red Shouldered Stink Bug (cont.) Treat when an average of 1 stink bug per row foot is found using a shake sheet or 9 stink bugs per 25 sweeps up to R6 growth stage. Double threshold (18 per 25 sweeps) from R6 to R6.5 growth stage and terminate sprays after R6.5, keeping application-to-harvest interval restrictions in mind. | gamma-cyhalothrin (R) | | 0.0125-0.015 | | | | |
| | Proaxis 0.5 CS | 3.2-3.84 oz | | 40-66.7 | | 45 | 24 |
| | Declare 1.25 CS | 1.28-1.54 oz | | 83-100 | | 45 | 24 |
| | lambda-cyhalothrin (R) | | 0.025-0.03 | | | | |
| | Warrior II 2.08 CS (See Generic Insecticides) | 1.6-1.92 oz | | 67-80 | | 30 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) | | 0.08-0.098 | | | | |
| | Besiege 1.252 | 8.0-10.0 oz | | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 30 | 24 |
| | lambda-cyhalothrin + thiamethoxam (R) | | 0.064-0.07 | | | | |
| | Endigo ZC 2.06 | 4.0-4.5 oz | | 28.4-32 | | 30 | 24 |
| | lambda-cyhalothrin + chlorpyrifos (R) | | 0.033-0.76 | | | | |
| Cobalt Advanced | 16-38 oz | | 3.4-8 | | 30 | 24 | |
| zeta-cypermethrin 0.8 EC (R) | | 0.02-0.025 | | | | | |
| Mustang Maxx, Respect | 3.2-4.0 oz | | 32-40 | | 21 | 12 | |
| zeta-cypermethrin + bifenthrin + imidacloprid (R) | | 0.084 | | | DO NOT apply again for 30 days | 21 | 12 |
| Triple Crown 2.25 | 4.8 oz | | 33 | | | | |
| zeta-cypermethrin + bifenthrin (R) | | 0.04-0.1 | | | DO NOT apply more than 0.4 lb ai of Hero per season. DO NOT apply again for 30 days. | 21 | 12 |
| Hero 1.24 EC | 4.0-10.3 oz | | 12.4-32 | | | | |
| Brown Stink Bug Treat when an average of 1 stink bug per row foot is found using a shake sheet or 9 stink bugs per 25 sweeps up to R6 growth stage. Double threshold (18 per 25 sweeps) from R6 to R6.5 growth stage and terminate sprays after R6.5, keeping application-to-harvest interval restrictions in mind. | acephate (R) | | 0.5-1.0 | | DO NOT apply more than 1.5 lb ai acephate per season. | | |
| | Orthene/Acephate 90 S | 0.56-1.1 lb | | | | 14 | 24 |
| | Orthene/Acephate 97 S | 0.5-1.0 lb | | | | | 24 |
| | bifenthrin (R) | | 0.033-0.1 | | | | |
| | Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |
| | clothianidin | | 0.05-0.1 | | | | |
| | Belay 2.13 | 4-6 oz | | 21.3-42.7 | DO NOT apply Belay treatments less than 7 days apart. DO NOT apply more than 12 oz per acre. | 21 | 12 |
| lambda-cyhalothrin + thiamethoxam (R) | | 0.064-0.07 | | | | | |
| Endigo ZC 2.06 | 4.0-4.5 oz | | 28.4-32 | | 30 | 24 | |
| zeta-cypermethrin + bifenthrin + imidacloprid (R) | | 0.084 | | | DO NOT apply again for 30 days. | | |
| Triple Crown 2.25 | 4.8 oz | | 33 | | 21 | 12 | |
| Redbanded Stink Bug Treat when an average of 4 stink bugs per 25 sweeps up to R6.5 growth stage. | acephate (R) | | 1.0 | | DO NOT apply more than 1.5 lb ai acephate per season. DO NOT tank mix acephate with sodium chlorate. Tank mixing with sodium chlorate may result in explosion of fire. | | |
| | Orthene/Acephate 90 S | 0.56-1.1 lb | | | | 14 | 24 |
| | Orthene/Acephate 97 S | 0.50-1.0 lb | | | | 14 | 24 |
| | bifenthrin (R) | | 0.1 | | | | |
| | Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | | 20-61 | DO NOT apply more than 0.3 lb ai of Brigade per season. DO NOT apply again for 30 days. | 18 | 12 |
| clothianidin | | 0.07-0.1 | | | | | |
| Belay 2.13 | 4-6 oz | | 21.3-32 | DO NOT apply Belay treatments less than 7 days apart. DO NOT apply more than 12 oz per acre. | 21 | 12 | |

SOYBEAN INSECT CONTROL

| Insect | Insecticide | Formulation/ Acre | Lb ai/Acre | Acres/ Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|---|--|------------------------------|-------------------|--------------------------|--|--|--|--|
| Redbanded Stink Bug Treat when an average of 10 bugs per 25 sweeps from R6.5 to R7. Terminate insecticide applications at R7 if weather conditions are favorable. | lambda-cyhalothrin + chlorpyrifos (R) Cobalt Advanced | 24-38 oz | 0.5-0.76 | 3.4-5.3 | DO NOT tank mix Cobalt Advanced with sodium chlorate. Tank mixing with sodium chlorate may result in explosion of fire. | 30 | 24 | |
| | lambda-cyhalothrin + thiamethoxam (R) Endigo ZC 2.06 | 4.0-4.5 oz | 0.064-0.07 | 28.4-32 | | 30 | 24 | |
| | beta-cyfluthrin + imidacloprid (R) Leverage 360 | 2.8 oz | 0.066 | 28.32 | | 21 | 12 | |
| | Tank Mix Options With Bifenthrin | | | | | | | |
| | acephate (R) Orthene 97S | 0.5 lb | 0.5 | | Tank mix Orthene, Belay or Imidacloprid with 5.12 fl oz of bifenthrin (Brigade 2EC or generic) per acre. Tank mixes have proven to give superior control. | 18 | 24 | |
| | clothianidin Belay 2.13 | 3 oz | 0.05 | 42.7 | | 21 | 12 | |
| | imidacloprid (R) Imidacloprid 4F Imidacloprid 2F (See Generic Insecticides) | 1.5 oz 3 oz | 0.047 | 85.3 42.7 | | 21 21 | 12 12 | |
| Multiple Pests For control of multiple pests exceeding thresholds. | acephate + bifenthrin (R) Acenthrin 80 S | 8-21 oz | 0.4-1.05 | | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Spider Mites, Garden Webworm | 14 | 24 | |
| | acetamiprid + bifenthrin (R) Justice 1.8 EC | 2.5-5.0 oz | 0.035-0.07 | 25.6-51.2 | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Spider Mites, Garden Webworm | 30 | 12 | |
| | bifenthrin (R) + acetameprid Argyle 1.52 OD | 5-9 oz | 0.06-0.11 | 14-25.6 | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Spider Mites, Garden Webworm | 30 | 12 | |
| | chlorpyrifos + lambda-cyhalothrin (R) Cobalt Advanced 2.63 EC | 6-38 oz | 0.12-0.76 | 3.4-21.3 | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Garden Webworm | 30 | 24 | |
| | gamma-cyhalothrin (R) + spinosad Consero 5.25 SC | 2-4 oz | 0.08-0.16 | 32-64 | Bollworm, Tobacco Budworm, Cutworm, Grasshopper, Green Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Garden Webworm | 28 | 24 | |
| | imidacloprid + beta-cyfluthrin (R) Leverage 360 SC | 2.8 oz | 0.067 | 45.7 | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Garden Webworm | 21 | 12 | |
| | lambda-cyhalothrin (R) + chlorantraniliprole Besiege 1.25 SC | 5-10 oz | 0.49-0.98 | 12.8-25.6 | Bollworm, Tobacco Budworm, Cutworm, Grasshopper, Bean Leaf Beetle, Green Stink Bugs, Loopers, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Garden Webworm, Saltmarsh Caterpillar | 30 | 24 | |
| | lambda-cyhalothrin (R) + thiamethoxam Endigo 2.06 ZC | 2.5-4.5 oz | 0.04-0.07 | 28.4-51.2 | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Garden Webworm | 30 | 24 | |
| | zeta-cypermethrin + bifenthrin + imidacloprid (R) Triple Crown 2.25 | 3.5-4.8 oz | 0.061-0.084 | 33-36.6 | Bollworm, Cutworm, Grasshopper, Bean Leaf Beetle, Stink Bugs, Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Spider Mites, Garden Webworm | 21 | 12 | |

SUNFLOWER INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|---|------------------------------|---------------|-------------------|--|--|--|
| Sunflower Head Moth | <i>Bacillus thuringiensis</i> | Check label. | | | | | 4 |
| | Many insecticides (particularly Asana, Adjourn, Baythroid, Silencer, Proaxis, Declare, Mustang Maxx, Respect, Lambda-Cy and Wariror) are very hazardous to honeybees. If blooming sunflowers must be treated, notify local beekeepers so that bees can be moved or confined during application. | | | | | | |
| | chlorpyrifos (R) Lorsban Adv. 3.755 EC (See Generic Insecticides) | 1.0-1.5 pt | 0.47-0.7 | 5.3-8 | DO NOT apply more than 6 pt of chlorpyrifos 4 E per season. DO NOT allow livestock to graze in treated areas. | 42 | 24 |
| | lambda-cyhalothrin + chlorantraniliprole Besiege 1.252 | 5-10 oz | 0.049-0.098 | 12.8-25.6 | | 45 | 24 |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 2.0-2.8 oz | 0.016-0.022 | 45.5-64 | | 30 | 12 |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | DO NOT exceed 0.2 lb ai per acre of Asana or Adjourn per season. | 28 | 12 |
| | flubendiamide Belt 4 SC | 2-4 fl oz | 0.0625-0.125 | 32-64 | DO NOT graze or feed treated forage to livestock. | 14 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 2.56-3.84 oz 1.02-1.54 oz | 0.01-0.015 | 33-50 83-125.5 | | 45 | 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 | 66.7-100 | DO NOT exceed 0.12 lb ai per acre of Warrior, Silencer or Lambda-Cy per season after bloom initiation. DO NOT apply as an ULV spray. | 45 | 24 |
| | methadathion Supracide 2 E | 2.0 pt | 0.5 | 4 | DO NOT graze Supracide-treated areas or feed treated forage to livestock. | 50 | 72 |
| zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 2.24-4.0 oz | 0.014-0.025 | 32-57 | | 30 | 12 | |
| Cutworm | chlorpyrifos (R) Lorsban 15 G | 6.75 lb | 1.0 | | At planting, place Lorsban granules in 6- to 7-inch band over the row behind planter. Incorporate in top 1-inch of soil. | 42 | 24 |
| | beta-cyfluthrin (R) Baythroid XL 1 EC | 0.8-1.6 oz | 0.007-0.013 | 80-160 | Treat at 1 or more cutworms per sq ft or if plant stand losses are approaching the lower limits for optimum plant population. | 30 | 12 |
| | esfenvalerate (R) Asana XL 0.66 EC (See Generic Insecticides) | 5.8-9.6 oz | 0.03-0.05 | 13-22 | | 28 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-67 100-166 | | 45 | 24 |
| | lambda-cyhalothrin (R) Warrior II 208 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | | 45 | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 2.24-4.0 oz | 0.014-0.025 | 32-57 | | 30 | 12 |

EDAMAME INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|-------------------------------------|--|--|-------------------|---------------------|---|--|--|
| Cutworm | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 1.28-4.0 oz | 0.008-0.025 | 32-100 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 |
| Kudzu Bug | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 6.4 oz | 0.1 | 20 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.92 oz | 0.03 | 67 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 4.0 oz | 0.025 | 32 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0 -10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 |
| Threecornered Alfalfa Hopper | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 5.0-8.0 oz | 0.049-0.08 | 16-25.6 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 7 succulent, 21 dried | 24 |
| | imidacloprid Gaucho 600 Senator 600 Access 5 FS | 1.6 - 3.2 oz/100 lb seed 1.6 - 3.2 oz/100 lb seed 1.6 - 3.2 oz/100 lb seed | | | Seed treatment. DO NOT graze or feed livestock on forage or hay. | 12 | 12 |
| | thiamexthoxam Cruiser 5 FS Warden CX | 1.28 oz/100 lb seed 3.38 oz/100 lb seed | | | Seed treatment. | | 12 12 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 2.8-4.0 oz | 0.0175-0.025 | 32-45.7 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 |

EDAMAME INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|---|--|-------------------------------|-------------------|---|---|--|--|
| Blister Beetle | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | carbaryl Sevin XLR or 4F | 2 qt | 2 | 2 | | 21 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz 2.1-6.4 oz | 0.015-0.025 | 80-133 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | | 32-45.7 | | 7 succulent, 21 dried | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 1.28-4.0 oz | 0.008-0.025 | 32-100 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 |
| | zeta-cypermethrin 0.8 EC + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 |
| | Defoliating Caterpillars | <i>Bacillus thuringiensis</i> | 0.5 - 2 lb/a | | | | |
| (Garden webworm, green cloverworm, saltmarsh caterpillar, cabbage looper, velvetbean caterpillar, silver-spotted skipper) | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | carbaryl Sevin XLR or 4F | 2-3 pt | 1.0-1.5 | 2.7-4 | | 21 | 12 |
| | chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047-0.067 | 6.4-9.14 | | 1 | 4 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | DO NOT apply more than 0.06 lb ai per season. Higher rate of 1.28-1.54 oz/acre required for garden webworm and silver-spotted skipper. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 | 66.6-100 | DO NOT apply more than 0.06 lb ai per season. For garden webworm and silver-spotted skipper, raise rate to 1.6-1.92 oz/acre. | 7 succulent, 21 dried | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 6-10 oz | 0.06-0.1 | 13-21 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. Use 8-10 oz for silver-spotted skippers. | 7 succulent, 21 dried | 24 |
| | methoxyfenozide Intrepid 2F | 4-16 oz | 0.0625-0.250 | 16-32 | Intrepid is not labeled for silver-spotted skipper. DO NOT exceed more than 1 lb ai of Intrepid per season. | 7 | 7 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx | 2.8-4.0 oz | 0.0175-0.025 | 32-45.7 | DO NOT apply more than 0.15 lb ai per season. For saltmarsh caterpillar and silver-spotted skipper, the rate can be lowered to 1.28 oz. Raise rate to 3.2-4 oz for cabbage loopers. | 1 succulent, 21 dried | 12 |
| zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. For green cloverworm and silver-spotted skipper, rate can be dropped to 2.6-6.1 oz. | 3 | 12 | |

EDAMAME INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|-----------------------|--|-----------------------------|-------------------|---------------------|---|--|--|
| Grasshoppers | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047-0.067 | 6.4-9.14 | | 1 | 4 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS | 1.6-1.92 oz | 0.025-0.03 | 67-80 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.098 | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 7 succulent, 21 dried | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 2.6-6.1 oz | 0.025-0.06 | 21-49.2 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 |
| Soybean Looper | <i>Bacillus thuringiensis</i> | Check label. | | | <i>Bacillus thuringiensis</i> works effectively against insecticide-resistant or susceptible populations of soybean loopers and requires 3-4 days to kill larvae. | | 4 |
| | chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047-0.067 | 6.4-9.14 | | 1 | 4 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 10.0 oz | 0.098 | 12.8 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 7 succulent, 21 dried | 24 |
| | methoxyfenozide Intrepid 2 F | 4-8 oz | 0.0625-0.125 | 16-32 | DO NOT exceed more than 1 lb ai of Intrepid per season. | 7 | 12 |
| Spider Mites | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 5.12-6.4 oz | 0.08-0.1 | 20-25 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |

EDAMAME INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|--|--|---|-------------------|--|--|--|--|--|
| Bean Leaf Beetle | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 | |
| | carbaryl Sevin XLR or 4F | 1 pt | 0.5 | 8 | | 21 | 12 | |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 | |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 0.96-1.6 oz | 0.015-0.025 | 80-133 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 | |
| | imidacloprid Gaucho 600 Access 5 FS Senator 600 | 1.6 - 3.2 oz/100 lb seed 1.6 - 3.2 oz/100 lb seed 1.6 - 3.2 oz/100 lb seed | 0.3-0.45 | | Gaucho and Cruiser will suppress early-season bean leaf beetles. | | 12 12 12 | |
| | thiamexthoxam Cruiser 5 FS Warden CX | 1.28 oz/100 lb seed 3.38 oz/100 lb seed | | | | | 12 12 | |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 2.8-4.0 oz | 0.0175-0.025 | 32-45.7 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 | |
| | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 | |
| | Armyworm Complex (Yellow-striped, Fall and Beet Armyworm) | PYRETHROIDS (Brigade, Prolex, Proaxis, Karate, Mustang Maxx, Hero) are not effective against beet armyworm. DO NOT USE. | | | | | | |
| | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 | |
| chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047-0.067 | 6.4-9.14 | | 1 | 4 | | |
| gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 | | |
| lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.6-1.92 oz | 0.025-0.03 | 69-83 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 | | |
| lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.098 | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 7 succulent, 21 dried | 24 | | |
| methoxyfenozide Intrepid 2 F | 4-8 oz | 0.0625-0.125 | 16-32 | DO NOT exceed more than 1 lb ai of Intrepid per season. | 7 | 12 | | |
| zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 | | |
| zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 | | |

EDAMAME INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours | |
|---|---|--|-----------------------------|---------------|---|---|--|----------|
| Corn Earworm and Tobacco Budworm | In recent years, pyrethroids have shown reduced efficacy and can be expected to provide poor to moderate control. Consider tank-mixing another chemistry when using a pyrethroid. DO NOT use synthetic pyrethroids on populations of tobacco budworm. Tobacco budworm is resistant to this chemistry. | | | | | | | |
| | Synthetic Pyrethroids | | | | | | | |
| | | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.0331-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 1.92-3.2 oz 0.77-1.28 oz | 0.0075-0.0125 | 40-66.7 100-167 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.28-1.92 oz | 0.02-0.03 | 67-100 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 2.8-4.0 oz | 0.0175-0.025 | 32-45.7 | DO NOT apply more than 0.15 lb ai per season. | 1 succulent, 21 dried | 12 |
| | | zeta-cypermethrin + bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply more than 0.266 lb ai of Hero per season. DO NOT apply again for 5 days. | 3 | 12 |
| | | Carbamates | | | | | | |
| | | carbaryl Sevin XLR or 4F | 1-3 pt | 0.5-1.5 | 2.7-8 | | 21 | 12 |
| | | Other Chemistry | | | | | | |
| | chlorantraniliprole Prevathon 0.43 | 14-20 oz | 0.047-0.067 | 6.4-9.14 | Make no more than 4 applications per year. | 1 | 4 | |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.98 | 12.8-16 | | 7 succulent, 21 dried | 24 | |
| ROOT FEEDER Grape Colaspis | imidacloprid Gaucho 600 Access 5 FS Senator 600 | 1.6 oz/100 lb seed 1.6 oz/100 lb seed 1.6 oz/100 lb seed | | | A seed treatment can be beneficial in areas where grape colaspis has historically been a problem. | | 12 12 12 | |
| | thiamexthoxam Cruiser 5 FS Warden CX | 1.28 oz/100 lb seed 3.2 oz/100 lb seed | | | | | 12 | |

EDAMAME INSECT CONTROL

| Insect | Insecticide | Formulation/Acre | Lb ai/Acre | Acres/Gallon | Application/Comments | Minimum Days From Last Application to Harvest | Restricted Entry Interval (REI) Hours |
|--|--|-----------------------------|-------------------|---------------------|--|--|--|
| Green Stink Bug, Southern Green Stink Bug, Red Shouldered Stink Bug | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.330.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | gamma-cyhalothrin (R) Proaxis 0.5 CS Declare 1.25 CS | 3.2-3.84 oz 1.28-1.54 oz | 0.0125-0.015 | 40-66.7 83-100 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried 7 succulent, 21 dried | 24 24 |
| | lambda-cyhalothrin (R) Warrior II 2.08 CS (See Generic Insecticides) | 1.6-1.92 oz | 0.025-0.03 | 67-80 | DO NOT apply more than 0.06 lb ai per season. | 7 succulent, 21 dried | 24 |
| | lambda-cyhalothrin + chlorantraniliprole (R) Besiege 1.252 | 8.0-10.0 oz | 0.08-0.098 | 12.8-16 | DO NOT graze or feed hay to livestock. DO NOT exceed 20 fl oz per acre per season. | 7 succulent, 21 dried | 24 |
| | zeta-cypermethrin 0.8 EC (R) Mustang Maxx/Respect | 3.2-4.0 oz | 0.02-0.025 | 32-40 | DO NOT apply more than 0.15 lb ai per season. DO NOT apply more than 0.266 lb ai of Hero per season. | 1 succulent, 21 dried | 12 |
| | zeta-cypermethrin +bifenthrin (R) Hero 1.24 EC | 4.0-10.3 oz | 0.04-0.1 | 12.4-32 | DO NOT apply again for 5 days. | 3 | 12 |
| Brown Stink Bug | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.330.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| Redbanded Stink Bug | bifenthrin (R) Brigade 2 EC (See Generic Insecticides) | 2.1-6.4 oz | 0.330.033-0.1 | 20-61 | DO NOT apply more than 0.2 lb ai of Brigade per season. DO NOT apply again for 30 days. | 3 | 12 |
| | imidacloprid Imidacloprid 4F Imidacloprid 2F (See Generic Insecticides) | 1.4 oz 2.8 oz | 0.13 | 91.4 45.7 | DO NOT apply more than 0.13 lb ai of Imidacloprid per season. | 21 21 | 12 12 |
| Multiple Pests | lambda-cyhalothrin (R) + chlorantraniliprole Besiege 1.25 SC | 5-10 oz | 0.49-0.98 | 12.8-25.6 | Bollworm, Tobacco Budworm, Cutworm, Grasshopper, Bean Leaf Beetle, Green Stink Bugs, Loopers, Green Cloverworm, Velvetbean Caterpillar, Kudzu Bug, Garden Webworm, Saltmarsh Caterpillar | 7 succulent, 21 dried | 24 |

STORED GRAIN INSECT CONTROL

| Type Treatment | Insect | Insecticide | Rate | Application/Comments |
|--|--|---|--|--|
| Preventive treatments for bins (empty bins, walls, ceilings, beams, outside storage, foundations and grain-handling equipment) | Beetles and Moths | Centynal 0.42 | (Rate/1,000 sq ft) 0.25-1.5 oz/ gal water | Clean bins before application. Storcide II may be applied using automated spray equipment. DO NOT enter bin until spray has dried. Use malathion for wooden or metal bins. Malathion will not control Indian meal moth. Malathion is NOT labeled for rice storage facilities. DO NOT APPLY DIRECTLY TO GRAIN. |
| | | Malathion 5 EC | 5.12 oz/gal water | |
| | | Storcide II | 1.8 oz/gal water | |
| | | Suspend 0.42 SC | 0.25-1.5 oz/ gal water | |
| Preventive treatment sprays for grain | Beetles and Moths | Actellic 5 E | 9.2-12.3 oz/30 tons grain (1,071 bushels) | Shelled corn and grain sorghum only |
| | | Centynal 0.42 SC | (Rate/1,000 bushels) Barley – 7.31 fl oz Corn, Popcorn, Rye, Sorghum – 8.53 fl oz Oats – 4.88 fl oz Rice – 6.86 fl oz Wheat – 9.14 fl oz | |
| | | Contain or Sensat | (Rate/1,000 bushels) Barley – 8.2 fl oz Corn, Sorghum – 9.8 fl oz Oats – 5.9 fl oz Rice – 7.8 fl oz Wheat – 10.5 fl oz | Effective against all grain-infesting moths as well as confused flour beetle and flat grain beetle. Provides suppression only of other weevils and beetles. |
| | | Diacon-D Diacon IGR 2.5 | 8-10 lb/1,000 bushels (Rate/1,000 bushels) Barley, Rice – 3-6 fl oz Corn, Sorghum, Wheat – 3.5-7 fl oz Oats, Peanut, Sunflower – 2-4 fl oz | Diacon is a growth regulator and does not control adults but is effective against larvae. |
| | | Malathion 6% Dust | 10 lb/1,000 bushels (wheat, corn, oats, rye or barley) | Malathion is not labeled for rice. Apply as grain is being loaded or moved into final storage for protection from beetles and moths. |
| | | Silicon dioxide (Insecto, Dryacide) | 1-2 lbs per ton of grain | OMRI certified for organic production. Excessive use may lower grain grade and may reduce test weight. |
| | | Storcide II | (Rate/1,000 bushels) Barley – 9.9 fl oz Oats – 6.6 fl oz Rice – 9.3 fl oz Sorghum – 11.6 fl oz Wheat – 12.4 fl oz | Apply Storcide II in 1-5 gal of water into main grain stream as a coarse spray. Storcide II is not labeled for corn. |
| | | Surface treatment (inside bins and grain treatment) | Beetles and Moths | Malathion 6% Dust |
| Contain or Sensat | 2.6 fl oz/1,000 sq ft | | | Effective against all grain-infesting moths as well as confused flour beetle and flat grain beetle. Provides suppression only for other weevils and beetles. |
| Diacon-D Diacon IGR 2.5 | 8 lb/1,000 sq ft 1/30 fl oz (1 mL)/1,000 sq ft | | | Diacon is a growth regulator and does not control adults but is effective against larvae. |
| Silicon dioxide (Insecto, Dryacide) | 2-3 lbs/1,000 sq ft | | | OMRI certified for organic production. Excessive use may lower grain grade and may reduce test weight. |
| Moths only | <i>Bacillus thuringiensis</i> (Dipel, SOK-Bt, etc.) | | Follow label directions. | Apply as top-dress for protection against moths only. Incorporate into top 4 inches. |

STORED GRAIN INSECT CONTROL

| Type Treatment | Insect | Insecticide | Rate | Application/Comments |
|--|-------------------|---|--|--|
| Grain fumigation | Beetles and Moths | Aluminum Phosphide (R) (Phostoxin, Fumitoxin, Gastoxin, Fumex, Killz-All, Phosfume, Weevil-Cide) | Silos and Concrete Bins 200-900 pellets/1,000 bu 40-180 tablets/1,000 bu 10 pellets/ton 6 tablets/ton (check label also) | Grain surface should be level. Apply in gas-tight bins when grain temperature is 60°F or higher. Leave for at least 3 days, preferably 5 days. DO NOT fumigate when temperatures are below 40°F. Use higher rates when infestations are high and/or temperatures are low. Always use a gas mask and never fumigate alone. Fumigated grain should be aerated thoroughly before feeding. Use a self-contained breathing apparatus and a safety rope. Seal all buildings and storage bins airtight before fumigation. Fumigation is not recommended for storage bins not equipped with fans for aeration. |
| | | | Butler-Type Bins 450-900 pellets/1,000 bu 90-180 tablets/1,000 bu Space Treatments pellets: 100-725/1,000 cubic ft tablets: 20-145/1,000 cubic ft | |
| | | | Bagged Grain or Feed 150-450 pellets/1,000 cubic ft 30-90 tablets/1,000 cubic ft | Be careful under hot, humid conditions when using aluminum phosphide because phosphine gas may be released quickly under these conditions. Phosphine needs at least 72 hours to kill some immature insects. Special training and precautions are needed before using aluminum phosphide. For more information on treatment using aluminum phosphide: http://www.degeschamerica.com/ . |
| HOME STORAGE | | | | |
| Protection of small quantities of grain for home storage to be eaten | Beetles and Moths | Heat oven until center of grain is 120 degrees F. | 30 minutes | Place in a tight container. Temperature should be checked with meat thermometer. DO NOT use heat on seed to be planted. |
| | | Cold or freezer treatment at 0 degrees F. | 4 days | Place container in deep freeze. |

HONEY BEE HIVE MANAGEMENT

All chemical information provided below is given with the understanding that no endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Individuals who use pesticides are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Before purchasing or using any pesticide, always read and carefully follow the label directions. Products listed below are identified by common chemical name. A trade name in parentheses may also be listed as a convenience for the reader. Additional trade names may be available.

| Pest/Disease | Treatment | Rate | Application | Precautions and Remarks |
|---|--|---|--|---|
| Varroa Mites | Formic Acid 46.7% (Mite Away Quick Strip) | 2 strips per colony | Hive entrance should be fully open during application; seal other holes and close screen bottom board. Lay strips across top of brood frames (or between brood frames if 2 brood boxes present). Leave at least 2 inches between strips and at least 4 inches from outside edge of hive. Apply only when daytime high temperatures are between 50°F and 92°F during week of application. | Material is extremely caustic. Applicators should wear coveralls, long sleeves, long pants, acid-resistant gloves (PVC, neoprene, nitrile) and protective eyewear. Wear approved respirator with organic vapor cartridge. DO NOT open hives without PPE for 72 hours after application. Safe to apply during the honey flow. |
| | Thymol (ApiGuard, Thymovar, ApilifeVar) | Dosage prepackaged by manufacturer; follow label directions for bulk packaging. | Follow label directions for specific product. | DO NOT use during honey flow. Remove product at least 30 days prior to honey harvest. Treatments are most effective during broodless periods. Use when daytime high temperatures are between 68°F and 86°F. DO NOT use when temperatures are above 90°F. |
| | Oxalic Acid Dihydrate | Liquid: up to 50 mL medicated syrup per hive body | Dissolve 35 g of oxalic acid dihydrate in 1 liter of 1:1 sugar syrup (warm syrup to completely dissolve crystals). Use syringe to trickle 5 mL of solution directly onto adult bees in each occupied bee space in each brood box. | DO NOT apply as liquid to any colony more than once per year during broodless period; this method may cause some bee mortality or overwintering bee loss. |
| | | Vapor: 2 grams crystals per hive body | Seal all upper entrances, ventilation and cracks; smoke bees up from the bottom board; place 2 grams oxalic acid crystals into vaporizer; insert the vaporizer apparatus through the bottom entrance and cover entrance with towel; apply heat until all oxalic acid has sublimated. | Follow vaporizer manufacturer's directions for use. Oxalic acid can damage bee brood and will not control varroa mites in capped cells. Use only in late fall or early spring when little or no brood is present. DO NOT use when honey supers are in place. CAUTION: Oxalic acid should be used only outdoors. Wear protective goggles, dust/mist filter, chemically resistant gloves, long-sleeved shirt, pants, shoes, and socks whenever handling, mixing, applying or cleaning up oxalic acid dehydrate. Also wear a respirator fitted with organic acid filter whenever applying with a vaporizer. Use only material labeled for use in honey bee colonies. |
| Potassium Salt of Hop Beta Acids (HopGuard II) | 1 strip per 5 frames of bee brood | Open folded strips and place over top bars of brood frames, hanging within colony cluster. Apply up to 6 strips per year per hive, based on need. Bees will destroy and remove cardboard strips. | For best results, apply when little or no brood is present in the colony. If used while brood is present, application may need to be repeated 3 times at 2-week intervals. DO NOT apply to frames in honey supers; safe to use during honey flow if all label guidelines are followed. | |

HONEY BEE HIVE MANAGEMENT

All chemical information provided below is given with the understanding that no endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Individuals who use pesticides are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Before purchasing or using any pesticide, always read and carefully follow the label directions. Products listed below are identified by common chemical name. A trade name in parentheses may also be listed as a convenience for the reader. Additional trade names may be available.

| Pest/Disease | Treatment | Rate | Application | Precautions and Remarks |
|--------------------------------|---|--|---|--|
| Varroa Mites (cont.) | Amitraz (Apivar) | 1 strip/5 frames of bees in brood chamber | Hang strip between frames in brood nest. Treat for minimum of 42 days and maximum of 56 days. Remove strips and discard. DO NOT reuse strips. Use chemical-resistant gloves to handle strips. | If hives are treated in the spring, prior to the first honey flow, strips must be removed at least 14 days prior to adding honey supers. Fall treatment can be applied as soon as honey supers are removed. |
| | Fluvalinate (Apistan) | 1 strip/5 frames of bees in brood chamber | Hang strip between frames in brood nest. Treat for minimum of 42 days and maximum of 56 days. Remove strips and discard. DO NOT reuse strips. Use chemical-resistant gloves to handle strips. | Treat hives in the spring before first honey flow or in late summer or fall after surplus honey has been removed. Supers may be returned to hive following treatment. Never consume or sell contaminated honey. Many mite populations are resistant to this product. |
| | Coumaphos (CheckMite+) | 1 strip/5 frames of bees in brood chamber | Hang strip between frames in brood nest. Treat for minimum of 42 days and maximum of 56 days. Remove strips and discard. DO NOT reuse strips. Use chemical-resistant gloves to handle strips. | Treat hives in spring before first honey flow or in late summer or fall after surplus honey has been removed. Supers may not be placed on hives for 14 days after removal of strips. Never consume or sell honey that has been treated. DO NOT treat any hive with coumaphos more than two times in one year. Many mite populations are resistant to this product. |
| Tracheal Mites | Menthol 99.94% granules in packet (Menthol, Mite-A-Thol) | 1.8 ounces (50 grams)/colony | Place packet on top bars when daytime high temperature is above 70°F and below 80°F; place on bottom board if temperature is above 80°F. Remove packet after 10 to 12 weeks and discard. | Remove product at least 4 weeks prior to spring honey flow to prevent honey contamination. In the fall, remove surplus honey prior to treatment. DO NOT use product when temperature is below 60°F. Use of fumigants for varroa mites (formic acid, thymol) is effective against tracheal mites as well. |
| | 1:2 Shortening-sugar patties | 1 patty (thoroughly mix 1 part vegetable shortening with 2 parts granulated sugar) | Place 1 flattened patty (approximately 1/3 cup) on top bars above brood nest when brood is being reared in hive. | Grease patties do not kill tracheal mites, but slow their spread within a hive by interfering with mite host-finding ability. Check often, as patties are extremely attractive to small hive beetles. |
| Nosema | Bioclohexylammonium fumagillin (Fumadil-B, Fumagilin-B) | Mix with syrup according to manufacturer's product label directions for number of hives needing treatment. | Mix with sugar syrup and feed to honey bees. Feed 2 gallons of syrup for fall treatment; 1 gallon syrup for spring treatment. | DO NOT use during honey flow. Stop treatment at least 4 weeks prior to addition of any honey supers. |
| | Nozevit | 1 mL (20 drops) per 12 fluid ounces of light syrup | Feed medicated syrup to each hive 2 times, 10 days apart, in the spring and/or the fall. | DO NOT use during honey flow. Stop treatment at least 4 weeks prior to addition of any honey supers. [Nozevit is NOT a medication or an antibiotic; it is a feeding supplement which, in some cases, appears to lower the overall spore count in Nosema-infected bees.] |

HONEY BEE HIVE MANAGEMENT

| Pest/Disease | Treatment | Rate | Application | Precautions and Remarks |
|---------------------------|---|--|---|--|
| Small Hive Beetles | Coumaphos (CheckMite+) | 1 strip per hive | Place 1" square of strip in center of plastic Beetle Barn trap, or prepare a 5" x 5" square of corrugated cardboard by removing the paper from one side. Cover smooth side with duct tape or packing tape to prevent bees from tearing up and removing cardboard. Cut one strip in half and staple both pieces to the corrugated side of cardboard. Place strip-side-down on bottom board of hive. Use chemical-resistant gloves to handle strips. DO NOT USE LEATHER BEE GLOVES. | DO NOT USE DURING HONEY FLOW. Remove strip 14 days before honey supers are added in spring, or remove surplus honey prior to fall treatment. Never consume or sell honey that has been treated. DO NOT treat any hive with coumaphos more than two times in one year. <i>Chemical control has limited effect on small hive beetles; keep colonies strong, do not over-super and manage adult beetle populations using mechanical traps to prevent damage from beetle larvae.</i> |
| | Under-hive beetle traps (Freeman Beetle Trap, IPK Trap, West Beetle Trap) | 1 trap per hive | Level hive in all directions. Replace or modify bottom board to hold plastic or metal tray. Fill tray with vegetable oil, mineral oil or soapy water. | Trap will accumulate hive debris (dust, wax, pollen, mites) in addition to beetles; check tray regularly and replace liquid as needed. |
| | In-hive beetle traps (Beetle Jail, Beetle Blaster, Beetle Eaters, Hood Trap) | Up to 2 per hive body | For traps with one chamber, fill reservoir one-half to three-quarters full with vegetable or mineral oil. Place between top bars of frames near outside walls of hive body. For traps with multiple chambers, add apple cider vinegar or other bait in addition to oil. | Oils coat and suffocate beetles but are not attractive; baits attract beetles but do not kill them. Baitable traps are recommended. Inspect traps frequently and replace oil/bait. Bees may cover trap openings with propolis. Beetle Bait Recipe: Combine 1 cup water, 1/2 cup apple cider vinegar, 1/4 cup sugar and the peel of 1 ripe banana (chopped in small pieces). Allow to ferment one to two days. |
| | Permethrin (Gardstar 40% EC) | 5 mL per gallon of water | Thoroughly drench soil in area 18 to 24 inches wide in front of each hive. Apply late in evening when few bees are active. | Mow grass/vegetation around hives prior to application. Apply only after high numbers of beetle larvae have been found in a hive. Soil drench kills only adult beetles emerging from soil; does not prevent adults flying from other areas. Permethrin is HIGHLY TOXIC TO HONEY BEES; do not contaminate hives or other surfaces that bees may contact. Apply with a sprinkler can, never with a pressure sprayer. |
| American Foulbrood | Oxytetracycline hydrochloride (Terramycin Pre-Mix, Tetra Bee Mix, Tetroxy) | Mix 8.75 grams of Oxytetracycline powder with 1 pound of powdered sugar, or use pre-mixed product. | Apply 1 ounce (2 tablespoons), 3 times, at 4- to 5-day intervals to the tops of the frames in the brood chamber. Dust the mixture onto the tops of frames, around the edges of the brood chamber to avoid powder killing uncapped brood. | DO NOT use during honey flow. Stop treatment at least 6 weeks prior to addition of any honey supers. Requeening hive, or caging queen for 10 days, to break brood cycle at time of application will increase effectiveness of treatment. |
| | Tylosin (Tylan) | Mix 2 teaspoons product with 1/4 cup powdered sugar. | Apply approximately 3 tablespoons, 3 times, at 4- to 5-day intervals to the top of the frames in the brood chamber. Dust the mixture onto the tops of frames, around the edges of the brood chamber to avoid powder killing uncapped brood. | Tylosin is recommended for use when foulbrood is found to be resistant to other treatments. Use only under the supervision of a state apiary inspector. NOTE: AFB is extremely contagious. Antibiotics cannot cure AFB-infected honey bees. Destruction of infected colonies (bees and hives) by burning is mandatory. Apiary should be quarantined; all other colonies in the apiary should be treated with antibiotic, then inspected again in 4 weeks. If AFB is suspected, contact state apiary inspector. |

HONEY BEE HIVE MANAGEMENT

All chemical information provided below is given with the understanding that no endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Individuals who use pesticides are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Before purchasing or using any pesticide, always read and carefully follow the label directions. Products listed below are identified by common chemical name. A trade name in parentheses may also be listed as a convenience for the reader. Additional trade names may be available.

| Pest/Disease | Treatment | Rate | Application | Precautions and Remarks |
|--|--|--|--|--|
| European Foulbrood | Oxytetracycline hydrochloride (Terramycin Pre-Mix, Tetra Bee Mix, Tetroxy) | Mix 8.75 grams of Oxytetracycline powder with 1 pound of powdered sugar, or use pre-mixed product. | Apply 1 ounce (2 tablespoons), 3 times, at 4- to 5-day intervals to the tops of the frames in the brood chamber. Dust the mixture onto the tops of frames, around the edges of the brood chamber to avoid powder killing uncapped brood. | DO NOT use during honey flow. Stop treatment at least 6 weeks prior to addition of any honey supers. Requeening hive, or caging queen for 10 days, to break brood cycle at time of application will increase effectiveness of treatment. |
| | Tylosin (Tylan) | Mix 2 teaspoons product with 1/4 cup powdered sugar. | Apply approximately 3 tablespoons, 3 times, at 4- to 5-day intervals to the top of the frames in the brood chamber. Dust the mixture onto the tops of frames, around the edges of the brood chamber to avoid powder killing uncapped brood. | Tylosin is recommended for use when foulbrood is found to be resistant to other treatments. Use only under the supervision of a state apiary inspector. |
| Greater Wax Moth (Fumigation of Stored Bee Hive Supers and Other Bee-keeping Equipment) | Paradichlorobenzene 100% (Para Moth) | 3 ounces crystals for a stack of up to 5 hive bodies | Sprinkle crystals on paper or cardboard placed on top bars of the uppermost hive body in stack. Cover tightly, using tape to seal gaps between hive bodies if necessary. Stacks should be inspected every 2 to 3 weeks; add more crystals if needed. | Use in well-ventilated area. Never use on a live colony of honey bees or on combs of un-extracted honey. Not usually necessary after first freeze of fall season. Unstack supers and allow to thoroughly air out for at least 2 weeks prior to placing back on hive. |
| | Glacial acetic acid (80%) | 150 mL (2/3 cup) per stack of up to 5 hive bodies | Soak an absorbent pad (such as cotton wool) with acetic acid and place on top bars of topmost super; cover tightly. Use tape to seal gaps between hive bodies if necessary. Stacks should be inspected every 2 to 3 weeks and treatment repeated if necessary. | Never use on a live colony of honey bees. Repeated use of acetic acid can cause corrosion of metal parts such as wires, nails and frame rests. |
| | Aluminum phosphide (Phostoxin) | 150-225 pellets/1,000 cu ft 30-40 tablets/1,000 cu ft | NOTE: Special license, training and precautions are needed for purchase or use of aluminum phosphide. Read and follow all label directions. Wear proper PPE at all times. | Honey from treated hives or supers may only be used for bee food. |