



# Management of Insect and Mite Pests in Sunflowers

Tom A. Royer  
Extension Entomologist

Oklahoma Cooperative Extension Fact Sheets are also available on our website at: <http://osufacts.okstate.edu>

Sunflower pests, if not controlled when thresholds are exceeded, will reduce yield and quality of seed and oil. Pesticides should not be used as a substitute for good agronomic practices or as “preventative insurance” because it is rarely economically or environmentally justifiable. Many sunflower pest problems can be avoided by developing an Integrated Pest Management (IPM) plan that includes using good cultural practices such as planting high-quality, vigorous, Oklahoma-proven hybrid seed, providing proper fertilization and weed control, and using crop rotations.

Pesticide recommendations in this publication were correct as of the “Modified Date.” Pesticide names in parentheses are

chemical names that have many common generic commercial names. Always check the label that came with the purchased insecticide for the most current rates and restrictions. Refer to the following publications for additional information.

EPP-7196 Grasshopper Management in Rangeland, Pastures, and Crops (OSU)  
MF2384 High Plains Sunflower Production Handbook (Kansas State) [www.oznet.ksu.edu/library/crpsl2/mf2384.pdf](http://www.oznet.ksu.edu/library/crpsl2/mf2384.pdf)

## Management of Insect and Mite Pests in Sunflowers

<i>Pest, Damage, and Treatment Threshold</i>	<i>Insecticide Formulation and (MOA* Group)</i>	<i>Rate of Product per Acre</i>	<i>Comments</i>
<b>Cutworms (black, granulate, sandhill)</b> Striped or solid colored, robust caterpillars that “roll” up when disturbed, and prefer to live under ground.  <u>Damage:</u> Cutworms generally feed at night and live under the soil during the day. Plants will be cut at or slightly above the soil level, causing stand reductions.  <u>Threshold:</u> Scout fields at seedling emergence. Threshold is one cutworm per square foot combined with a 25% stand reduction. Treat when worms are less than ½ inch long.	Asana XL (3)	5.8 to 9.6 fl oz	28 day waiting period for harvest for harvest, do not graze.
	Baythroid XL (3)	0.8 to 1.6 fl oz	30 day waiting period for harvest for harvest, do not graze.
	Cobalt (1B, 3)	19 to 38 fl oz	45 day waiting period for harvest for harvest, do not graze.
	Delta Gold (3)	1.0 to 1.5 fl oz	21 day waiting period for harvest for harvest, do not graze.
	Karate w Zeon (3) (lambda cyhalothrin)	0.96 to 1.60 (0.015 to 0.025 lb ai/A)	45 day waiting period for harvest for harvest.
	Lorsban 4E (1B) (chlorpyrifos)	2 pts (1 lb ai/A)	42 day waiting period for harvest for harvest, do not graze.
	Mustang MAX EC (3)	2.24 to 4 fl oz	30 day waiting period for harvest for harvest, do not graze.
	Proaxis 0.5 CS (3)	1.92 to 3.2 fl oz	45 day waiting period for harvest for harvest.

<b><i>Pest, Damage, and Treatment Threshold</i></b>	<b><i>Insecticide Formulation and (MOA* Group)</i></b>	<b><i>Rate of Product per Acre</i></b>	<b><i>Comments</i></b>
<b>Grasshopper</b>			
1 to 2 inches long, outer wings leathery, inner wings clear or colored. Enlarged hind legs designed for jumping.	Asana XL (3)	5.8 to 9.6 fl oz	28 day waiting period for harvest for harvest, do not graze.
	Baythroid XL (3)	2.0 to 2.8 fl oz	30 day waiting period for harvest for harvest, do not graze.
<u>Damage:</u> Chew leaves, leaving ragged edges or completely chewing leaf blade. Damage developing seed heads, causing yield loss.	Cobalt (1B, 3)	7 to 13 fl oz	45 day waiting period for harvest for harvest, do not graze.
	Delta Gold (3)	1.0 to 1.5 fl oz	21 day waiting period for harvest for harvest, do not graze.
<u>Threshold:</u> See EPP-7196: Grasshopper Management in Rangeland, Pastures, and Crops	Furadan 4F(1A)	4 to 16 fl oz	28 day waiting period for harvest for harvest.
	Karate w Zeon (3) (lambda cyhalothrin)	1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A)	45 day waiting period for harvest for harvest.
	Lorsban 4E (1B) (chlorpyrifos)	2 pts (1 lb ai/A)	42 day waiting period for harvest for harvest, do not graze.
	Mustang MAX EC (3)	2.24 to 4 fl oz	30 day waiting period for harvest for harvest, do not graze.
	Proaxis 0.5 CS (3)	1.92 to 3.2 fl oz	45 day waiting period for harvest for harvest.
<b>Foliar-feeding caterpillars (painted lady, woolly bear)</b>			
Various caterpillars, painted lady and woolly bear caterpillars have hairy bodies.	Cobalt (1B, 3)	19-38 fl oz	45 day waiting period for harvest for harvest, do not graze.
<u>Damage:</u> Feed on leaves	Karate w Zeon (3) (lambda cyhalothrin)	1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A)	45 day waiting period for harvest for harvest.
<u>Threshold:</u> Treat when defoliation exceeds 25% and caterpillars are still present.	Lorsban 4E (1B) (chlorpyrifos)	1 to 1.5 pt (1 lb ai/A)	(woolly bear caterpillars only, 42 day waiting period for harvest, do not graze).
	Proaxis 0.5 CS (3)	1.92 to 3.2 fl oz	45 day waiting period for harvest.
<b>Seed weevils (Red and Gray)</b>			
Reddish weevil about 1/8 inch long, and grey weevil about 1/4 inch long. Larvae are white, about 1/6 inch long when mature.	Baythroid XL (3)	2.0 to 2.8 fl oz	30 day waiting period for harvest.
	Cobalt (1B, 3)	19 to 38 fl oz	45 day waiting period for harvest.
	Delta Gold (3)	1.0 to 1.5 fl oz	21 day waiting period for harvest.
<u>Damage:</u> Larvae feed inside seed, cut exit hole when mature, and burrow into ground.	Karate w Zeon (3) (lambda cyhalothrin)	1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A)	45 day waiting period for harvest.
	Lorsban 4E (1B) (chlorpyrifos)	1.0 to 1.5 pt (0.5 to 0.75 lb ai/A)	42 day waiting period for harvest.
<u>Threshold:</u> Scout for red weevil when 85% of plants are past R-4 growth stage. Treat when counts exceed 10 weevils per head. Continue to scout to determine if second spray is needed.	Methyl parathion 4EC (1B)	2 pts	30 day waiting period for harvest.
	Mustang MAX EC (3)	2.24 to 4 fl oz	30 day waiting period for harvest.
	Proaxis 0.5 CS (3)	2.56 to 3.84 fl oz	45 day waiting period for harvest.

<b><i>Pest, Damage, and Treatment Threshold</i></b>	<b><i>Insecticide Formulation and (MOA* Group)</i></b>	<b><i>Rate of Product per Acre</i></b>	<b><i>Comments</i></b>
<b>Stem weevil</b>			
<p>1/8 inch long, grayish-brown with varying white spots on wing covers. Adults emerge in mid- to late June.</p> <p><u>Damage:</u> Adults insert eggs in stalks. Larval feeding causes weakening of stalk, easily lodged heads.</p> <p><u>Threshold:</u> Begin scouting in mid-June. Treat when counts reach 1 weevil per three plants. In areas with history of problem, treat when plants reach 8 to 10 leaf stage if planted before June 1.</p>	<b><u>Planting Time</u></b>		
	Furadan 4F, LFR (1A)	2.5 fl oz/1000 ft row	28 day waiting period for harvest.
	<b><u>Post-Plant</u></b>		
	Baythroid XL (3)	1.6 to 2.4 fl oz	30 day waiting period for harvest, do not graze.
	Cobalt (1B, 3)	19 to 38 fl oz	45 day waiting period for harvest, do not graze.
	Delta Gold (3)	1.0 to 1.5 fl oz	21 day waiting period for harvest, do not graze.
	Furadan 4F(1A)	1 pt (foliar)	28 day waiting period for harvest.
	Karate w Zeon (3) (lambda cyhalothrin)	1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A)	45 day waiting period for harvest.
	Lorsban 4E (1B) (chlorpyrifos)	1.0 to 1.5 pt (0.5 to 0.75 lb ai/A)	42 day waiting period for harvest, do not graze.
	Mustang MAX EC (3)	2.24 to 4 fl oz	30 day waiting period for harvest, do not graze.
Proaxis 0.5 CS (3)	2.56 to 3.84 fl oz	45 day waiting period for harvest.	
<b>Sunflower beetle</b>			
<p>Similar to Colorado potato beetle, light yellow with dark brown stripes and measures about ¼ inch long. Larvae are yellow and humpbacked.</p> <p><u>Damage:</u> Feed on foliage, chewing holes in leaves.</p> <p><u>Thresholds:</u> Seedlings: 1 adult per plant. Larger plants: 10 to 15 larvae + 25% defoliation.</p>	Baythroid XL (3)	0.8 to 1.6 fl oz	30 day waiting period for harvest, do not graze.
	Cobalt (1B, 3)	19 to 38 fl oz	45 day waiting period for harvest, do not graze.
	Delta Gold (3)	1.0 to 1.5 fl oz	21 day waiting period for harvest, do not graze.
	Furadan 4F(1A)	4 to 8 fl oz	28 day waiting period for harvest.
	Karate w Zeon (3) (lambda cyhalothrin)	0.96 to 1.60 (0.015 to 0.025 lb ai/A)	45 day waiting period for harvest.
	Lorsban 4E (1B) (chlorpyrifos)	1.0 to 1.5 pt (0.5 to 0.75 lb ai/A)	42 day waiting period for harvest, do not graze.
	Mustang MAX EC (3)	2.24 to 4 fl oz	30 day waiting period for harvest, do not graze.
	Proaxis 0.5 CS (3)	1.92 to 3.2 fl oz	45 day waiting period for harvest.

<b><i>Pest, Damage, and Treatment Threshold</i></b>	<b><i>Insecticide Formulation and (MOA* Group)</i></b>	<b><i>Rate of Product per Acre</i></b>	<b><i>Comments</i></b>
<p><b>Sunflower (Head) moth</b> Adult is small white moth, 3/8 inch long that folds wings around body when resting. Larvae are brown/purple with longitudinal white stripes.</p> <p><b>Damage:</b> Young larvae feed on pollen and florets. Older larvae burrow into head and feed on developing seed. Larvae spin webbing on surface of flower head. Damage enables head rots to develop.</p> <p><b>Threshold:</b> Begin scouting when flowers first open and scout every few days. It is best to scout in evening with flashlight. Treat when moth numbers reach 1 to 2 moths per five plants.</p>	Baythroid XL (3)	2.0 to 2.8 fl oz	30 day waiting period for harvest, do not graze.
	Cobalt (1B, 3)	19 to 38 fl oz	45 day waiting period for harvest, do not graze.
	Delta Gold (3)	1.0 to 1.5 fl oz	21 day waiting period for harvest, do not graze.
	Karate w Zeon (3) (lambda cyhalothrin)	1.28 to 1.92 fl oz (0.02 to 0.03 lb ai/A)	45 day waiting period for harvest.
	Lorsban 4E (1B) (chlorpyrifos)	1.0 to 1.5 pt (0.5 to 0.75 lb ai/A)	42 day waiting period for harvest, do not graze.
	Methyl parathion 4EC (1B)	2 pts	30 day waiting period for harvest, do not graze.
	Mustang MAX EC (3)	2.24 to 4 fl oz	30 day waiting period for harvest, do not graze.
	Proaxis 0.5 CS (3)	2.56 to 3.84 fl oz	45 day waiting period for harvest.

### Pre-harvest Intervals

Asana <sup>r</sup> XL	28 day PHI, do not feed or graze
Baythroid <sup>r</sup> 2, XL	30 day PHI for harvest or grazing
Cobalt <sup>r</sup>	45 day PHI, do not feed or graze
Delta Gold <sup>r</sup>	21 day PHI, do not feed or graze
Furadan <sup>r</sup> 4F	75 day PHI
Karate <sup>r</sup> w Zeon	45 day PHI
Lorsban <sup>r</sup> 4E	42 day PHI, do not feed or graze
Methyl parathion <sup>r</sup>	30 day PHI, do not feed or graze
Mustang <sup>r</sup> MAX EC	30 day PHI, do not feed or graze
Proaxis <sup>r</sup>	30 Day PHI

<sup>r</sup> = Restricted Use

\* MOA group numbers in parentheses (#) following the insecticide name are used to designate the mode of action of the insecticide according to the classification system developed by the Insecticide Resistance Action Committee (IRAC) in 2005. It is intended to help in the selection of insecticides for preventative resistance management. If you make multiple applications for a specific pest during a growing season, simply select a registered insecticide with a different number for each application. To further delay resistance from developing, integrate other control methods into your pest management programs.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 20 cents per copy. 0608