OKLAHOMA COOPERATIVE EXTENSION SERVICE EPP-7197

Management of Insect and Mite Pests in Sunflowers

Tom A. Royer
Extension Entomologist

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.

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

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

Management of Insect and Mite Pests in Sunflowers

Pest, Damage, and Treatment Threshold	*Insecticide Formulation and (MOA* Group)*	*Rate of Product per Acre*	*Comments*
Cutworms (black, granulate, sandhill)			
Striped or solid colored, robust caterpillars that "roll" up when disturbed, and prefer to live under ground.	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.
Damage: Cutworms generally feed at night and live under the soil during the day. Plants will be cut at or slightly above the soil level, causing stand reductions.	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.
Threshold: 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.	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.

Pest, Damage, and Treatment Threshold	*Insecticide Formulation and (MOA* Group)*	*Rate of Product per Acre*	*Comments*
Grasshopper 1 to 2 inches long, outer wings leathery, inner wings clear or colored. Enlarged hind legs designed for jumping. Damage: Chew leaves, leaving ragged edges or completely chewing leaf blade. Damage developing seed heads, causing yield loss. Threshold: See EPP-7196: Grasshopper Management in Rangeland, Pastures, and Crops	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.
	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.
	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.
Foliar-feeding caterpillars (painted lady, woolly bear) Various caterpillars, painted lady and woolly bear caterpillars have hairy bodies. Damage: Feed on leaves Threshold: Treat when defoliation exceeds 25% and caterpillars are still present.	Cobalt (1B, 3)	19-38 fl oz	45 day waiting period for harvest 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 for harvest.
	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.
Seed weevils (Red and Gray) 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. Damage: Larvae feed inside seed, cut exit hole when mature, and burrow into ground. Threshold: 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.	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.
	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.
	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.

Pest, Damage, and Treatment Threshold	*Insecticide Formulation and (MOA* Group)*	*Rate of Product per Acre*	*Comments*
Stem weevil 1/8 inch long, grayish-brown with varying white spots on wing covers. Adults emerge in mid- to late June. Damage: Adults insert eggs in stalks. Larval feeding causes weakening of stalk, easily lodged heads. Threshold: 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.	**Planting Time**		
	Furadan 4F, LFR (1A)	2.5 fl oz/1000 ft row	28 day waiting period for harvest.
	Post-Plant		
	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.
Sunflower beetle Similar to Colorado potato beetle, light yellow with dark brown stripes and measures about ¾ inch long. Larvae are yellow and humpbacked. Damage: Feed on foliage, chewing holes in leaves. Thresholds: Seedlings: 1 adult per plant. Larger plants: 10 to 15 larvae + 25% defoliation.	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.

Pest, Damage, and Treatment Threshold	*Insecticide Formulation and (MOA* Group)*	*Rate of Product per Acre*	*Comments*
Sunflower (Head) moth Adult is small white moth, 3/8 inch long that folds wings around body when resting. Larvae are brown/purple with longitudinal white stripes. Damage: 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. Threshold: 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.	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[r] XL	28 day PHI, do not feed or graze
Baythroid[r] 2, XL	30 day PHI for harvest or grazing
Cobalt[r]	45 day PHI, do not feed or graze
Delta Gold[r]	21 day PHI, do not feed or graze
Furadan[r] 4F	75 day PHI
Karate[r] w Zeon	45 day PHI
Lorsban[r] 4E	42 day PHI, do not feed or graze
Methyl parathion[r]	30 day PHI, do not feed or graze
Mustang[r] MAX EC	30 day PHI, do not feed or graze
Proaxis[r]	30 Day PHI

[r] = 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.

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