Management of Insect and Mite Pests in Canola

Pest, Damage, and Treatment Threshold	(Group)	Insecticide & Formulation	Rate of Product per Acre	Comments
Aphids Cabbage aphid: small blue-gray aphid with short comicles, usually covered with a powdery wax secretion. Green peach aphid: Pale green to yellow with long comicles and three dark lines on abdomen. Turnip aphid: Pale gray green with short, swollen cornicles, 1/16 inch long. Winged adults can be recognized by presence of transverse dark bands on last two abdominal segments. <u>Damage:</u> High populations can cause stunting and discoloration of leaves. Feeding by cabbage aphid can stop terminal growth and reduce yield. Damage is of little consequence after pod formation is completed. <u>Threshold:</u> No thresholds exist from Oklahoma data. Georgia thresholds: treat seedling and rosette stage plants when aphids exceed five per leaf or 20% infested plants. Treat bud and early bloom stage when infested plants (racemes) exceed 15%. Do not treat at late flower or pod stage.	(20B) (3) (1B) (3) (3)	Azadirachtin (Aza-direct Ecozin) Capture Methyl parathion Proaxis 0.5 CS Warrior with Zeon	Apply per label 2.1 to 2.6 fl oz 1 pt 3.84 fl oz 3.84 fl oz	No PHI for harvest. 35 day PHI for harvest. 28 day PHI for harvest. Do not graze treated fields. 30 Day PHI for harvest or grazing. 30 day PHI for harvest or grazing. Spray in evening during bloom to avoid killing honeybees. Notify beekeepers before spraying if possible.

Pest, Damage, and Treatment Threshold	(Group)	Insecticide & Formulation	Rate of Product per Acre	Comments
Beet Armyworm Green caterpillar, darker above with a white stripe along the side of the body and a small black spot above the second pair of true legs, three pairs of true (thoracic legs) and four pair of abdominal prolegs. Damage: Caterpillars can reduce seedling stand and chew conspicuous, irregular-shaped holes in leaves. Threshold: Seedling, treat when scouting indicates one or more per row-ft. Treat when defoliation becomes severe, and larvae are present.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	No PHI for harvest.
	(11B1,2)	*B. thuringiensis* (Dipel Javelin, Leipnox, Xentari)	Apply per label	No PHI for harvest.
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields.
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing.
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing.
Cabbage looper Green caterpillar, with a thin white line along each side of the body, three pairs of thoracic legs and three pair of abdominal prolegs. Damage: Caterpillars chew conspicuous, irregular-shaped holes in leaves. Threshold: Treat when defoliation becomes severe, and larvae are present.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	No PHI for harvest.
	(11B1,2)	*B. thuringiensis* (Dipel Javelin, Leipnox, Xentari)	Apply per label	No PHI for harvest.
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields.
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing.
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing.
Diamondback moth Adult moths are light grayish-brown with a white diamond-shaped marking along back when wings are folded. Larvae are slightly tapered at each end and pale green in color. Wriggle rapidly when disturbed. Damage: Larvae feed on all plant parts, preferring the undersides of older leaves. Threshold: No threshold established.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	No PHI for harvest.
	(11B1,2)	B. thuringiensis (Dipel Javelin, Leipnox, Xentari)	Apply per label	No PHI for harvest.
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields.
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing.
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing.

Pest, Damage, and Treatment Threshold	(Group)	Insecticide & Formulation	Rate of Product per Acre	Comments
False chinch bug Adults 1/8 inch long, dirty gray, with brown or black markings, piercing mouthparts. Damage: Feeds in groups. Large numbers may cause wilting of heads or small plants. Threshold: 140 or more per head.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	Spay nymphs early.
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields.
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing.
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing.
Flea beetle Shiny, black beetle about 1/16 inch long that jumps when disturbed. Damage: Early spring. Plant tissue is scraped from leaf, small holes chewed in leaves. Can cause delayed development in cool growing conditions. Threshold: None established.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing
Harlequin bug Black shield-shaped with orange, red, and yellow markings. Measures 3/8 inch long. Eggs barrel shaped, laid in clusters. Damage: Adults and nymphs pierce stalks and leaves with sucking mouthparts. Threshold: No threshold has been established.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	Spay nymphs early.
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields.
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing.
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing.
Grasshopper One to two inches long, outer wings leathery, inner wings clear or colored. Enlarged hind legs designed for jumping. Damage: Chews leaves, leaving ragged edges, or completely chewing leaf blade, killing small plants. Threshold: 15 to 20 per square yard. If nymph populations exceed threshold field borders (25 to 40 per square yard), treat before they move into sorghum.	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields.
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing.
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing.

Pest, Damage, and Treatment Threshold	(Group)	Insecticide & Formulation	Rate of Product per Acre	Comments
Lygus bug Several species. Generally oval, about 1/4 inch long, brown with some yellow or reddish markings. Damage: Feeds on developing seeds, flowers, leaves, and buds. Thresholds are for infestations before or during petal fall. Threshold: North Dakota thresholds are: 15 per 10 sweeps before petal fall, and 20 per 10 sweeps after petal fall.	(20B)	Azadirachtin (Aza-direct Ecozin)	Apply per label	Spay nymphs early. No PHI for harvest
	(3)	Capture	2.1 to 2.6 fl oz	35 day PHI for harvest.
	(1B)	Methyl parathion	1 pt	28 day PHI for harvest. Do not graze treated fields
	(3)	Proaxis 0.5 CS	3.84 fl oz	30 Day PHI for harvest or grazing
	(3)	Warrior with Zeon	3.84 fl oz	30 day PHI for harvest or grazing Spray in evening during bloom to avoid killing honeybees. Notify beekeepers before spraying if possible.

Pre-harvest Intervals and grazing restrictions

Aza-direct (neem)	No PHI for harvest
Bacillus thuringiensis	No PHI for harvest.
Capture	35 day PHI for harvest.
Methyl parathion	28 day PHI for harvest. Do not graze treated fields.
Proaxis	30 Day PHI for harvest or grazing.
Warrior	30 day PHI for harvest or grazing.

* Group numbers in parentheses (#) preceding 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