

# CANOLA INSECTS

## BERTHA ARMYWORMS

The Bertha armyworm attacks many kinds of broadleaf plants, including canola, flax and beans. Areas of North Dakota where this insect may be found include the north-central counties of Bottineau, Rollette, Towner, and neighboring areas. The larvae are pale green when they first hatch. These larvae feed on the leaves. Older larvae reach a length of 3/4 to 1 inch and will be velvety brown to black with a yellowish band along each side of the body. As leaves dry, these larvae begin feeding on seeds and flowers which are more succulent. The greatest risk of crop injury occurs in August as the worms approach full growth. In Canada, where this insect is a more frequent pest, early seeded canola often has been swathed prior to the occurrence of significant feeding injury.

**Threshold:**

Thresholds would be 18 to 22 larvae per square yard, as long as leaf feeding is the extent of the damage observed. Thresholds may be adjusted lower if larvae are found feeding on maturing seed pods.

## CUTWORMS

Most damage by cutworms occurs during seedling stage. Army cutworm feeding as early as late April has caused problems in recent years for canola growers in southwestern North Dakota. Cutworm damage consists of young plants being chewed off slightly below or at ground level. Some cutworm feeding injury may occur on foliage. Cutworms primarily feed at night. When checking canola fields for cutworms during the day, dig down into soil an inch or two around recently damaged plants; there you can find the gray to gray-brown larva.

**Threshold:**

Treatment is warranted when one cutworm or more is found per 3 feet of row and the larvae are small (<3/4 inch long).

## DIAMONDBACK MOTH

Diamondback moths move to canola, rapeseed and other mustard hosts in late spring and early summer. The first eggs are laid on the lower leaves. The small, greenish larvae make tiny, irregular holes in the leaves. Moths of later generations lay eggs higher on the plant. These hatching larvae feed first on leaves, moving later to buds, flowers and developing seedpods. Foliar damage by diamondback moth larvae looks bad, but significant yield losses are not common. Damage would be much worse when plants are under drought or heat stress.

**Threshold:**

Treat when larval counts reach 25 to 30 per square foot, or 1 to 2 larvae per plant, and there is significant evidence of damage to flowers and/or pods.

## FLEA BEETLES

Flea beetles are the most serious pest of canola in North Dakota. The adult beetles feed on the emerging cotyledon and first true leaves of the young plant. Feeding injury can result in plant death and significant stand loss, especially during hot, dry weather.

Flea beetles overwinter as adults. They become active when temperatures reach 58° F. The beetles fly to canola, rapeseed and other mustards, moving into fields just as the seedlings emerge. The feeding injury appears as holes or small pits in the cotyledons and leaves. Injury can range from a few shot holes to destruction of the entire plant. Flea beetles feed most actively when the weather is sunny, warm and dry. Beetle activity is less when weather conditions are cool and damp. When warm, dry conditions exist and feeding injury is occurring, the plant can be stressed quickly. Cool, damp conditions can reduce the feeding intensity of the beetles and aid plant growth to the point where they can withstand the feeding damage. Once the crop is beyond the seedling stage and the first true leaves are fully expanded, serious damage usually does not occur. By mid-June, adult beetles decrease in number.

**Flea Beetle Management:**

**Early Planting** . . . The early planting and establishment of canola can prevent significant injury to young plants by flea beetles migrating to fields after the first true leaves are fully expanded.

**Seed Treatment** . . . Gaucho®, Helix®, Poncho® and Prosper® are for use by commercial seed treaters.

**Foliar Treatment** . . . Fields should be checked daily for the presence of flea beetles while canola plants are at risk. The treatment threshold is when injury is approaching 25% and beetles are present. Foliar treatments must be made quickly. The weakness of foliar control strategies is the inability to cover large number of acres quickly when feeding pressure is high, and residual protection by the insecticides is short, allowing for reinfestation to occur.

## GRASSHOPPERS

**Thresholds:**

Grasshopper control is advised whenever 20 or more adults per square yard are found in field margins or 8 to 14 adults per

square yard are occurring in the crop. (For more information on infestation ratings, see the discussion under Grasshoppers in Small Grain Insects).

**Insecticides registered for controlling insects in Canola**

INSECTICIDE	DOSAGE IN LB AI/ACRE	PRODUCT PER ACRE	RESTRICTIONS ON USE
<i>Bacillus thuringiensis</i> For Organic Production	see specific labels for rate recommendations		No preharvest interval. Non-toxic to man or wildlife. Worker Restricted Entry Interval (REI) is 4 hours. Treat when larvae are young (early instars) before crop is damaged. Larvae must be actively feeding on treated, exposed plant surfaces. Under heavy pest population pressure, use the higher label rates, shorten the spray interval (3-14 days), and /or raise spray volume to improve spray coverage. Currently labeled are: Agree®, Biobit®, Condor G®, Dipel®, Javelin®, M-Peril®, MVP®.
<b>Bertha Armyworm only</b>			
Bifenthrin Capture 2 EC	0.033 - 0.04	2.1 - 2.6 fl oz	PHI = 35 days. For flea beetles, reduced rate (1.3 fl oz per acre) is issued as a state 2 (ee) label with Capture 2 EC only. Do not apply more than 5.12 fl oz per acre per season. Apply a minimum of 2 gals. of finished spray per acre by air or in a minimum of 10 gals. per acre by ground. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 qts of water in the finished spray.
<i>RUP</i>			
Sniper	0.033 - 0.04	2.1 - 2.6 fl oz	
<i>RUP</i>			
Bifenture EC-CA	0.033 - 0.04	2.1 - 2.6 fl oz	
<i>RUP</i>			
Tundra	0.033 - 0.04	2.1 - 2.6 fl oz	
<i>RUP</i>			
clothianidin Poncho		3.84 - 10.23 fl oz per 100 lbs of seed	For use in commercial seed treaters only. Not for use in hopper-box, slurry-box or other seed treatment applications at, or immediately before, planting. Provides protection from flea beetle feeding injury. Rates can be varied depending on assessment of flea beetle risk based on population size observed.
Prosper (fungicide premix)		19.2 - 25.6 fl oz per 100 lbs of seed	
Delta Gold	0.009	0.8 fl oz	Apply a minimum of 2 GPA of water by air and 5 GPA of water by ground. PHI = 7 days. Do not apply more than 1.5 fl oz of Decis 1.5EC per acre per season.
<i>RUP</i>			
Gaucho 600 (Imidacloprid)		10.24 - 25.6 fl oz per hundredweight of seed	Primarily for use in commercial seed treaters. Canola seed may be treated as an end-use seed treatment on agricultural establishments at, or immediately before planting, using a liquid or slurry treatment device. Provides protection from flea beetle feeding injury. Rates can be varied depending on assessment of flea beetle risk based on population size observed.
thiamethoxam Helix (10.3 % active)		23 fl oz per hundredweight of seed	For use in commercial seed treaters only. The formulations vary by the concentration of insecticide. Provides protection from flea beetle feeding injury. Helix contains 3 fungicides to protect against seed-borne blackleg, seed-borne <i>Alternaria</i> , and the seedling disease complex disease. There is a 30 day plant-back restriction.
Helix Xtra (20.7% active)			
Methyl parathion	0.5	1 pt	Apply using a minimum of 3 GPA. PHI = 25 days. Do not enter treated fields within 48 hours after application.
<i>RUP</i>			
Mustang Max	0.025	4 fl oz	PHI = 7 days. Do not apply more than 0.15 lb ai per acre per season. Do not make applications less than 7 days apart.
<i>RUP</i>			
Proaxis	0.0075 - 0.015	1.92 - 3.84 fl oz	PHI = 7 days. When applying by air, apply in a minimum of 2 gals water/acre.
<i>RUP</i>			

<b>INSECTICIDE</b>	<b>DOSAGE IN LB AI/ACRE</b>	<b>PRODUCT PER ACRE</b>	<b>RESTRICTIONS ON USE</b>
lambda-cyhalothrin Taiga Z	0.015 - 0.03	1.92 - 3.84 fl oz	PHI = 7 days. Do not apply more than 0.09 lb ai per acre per season. Avoid application when bees are actively foraging.
<i>RUP</i>			
Warrior	0.015 - 0.03	1.92 - 3.84 fl oz	When applying by air, apply in a minimum of 2 gals water/acre.
<i>RUP</i>			

*RUP* - Restricted use pesticide