



MANITOBA  
CROP  
ALLIANCE

# ALTERNATIVES TO LAMBDA-CYHALOTHRIN FOR 2023

## BACKGROUND INFORMATION

Lambda-cyhalothrin is a widely used insecticide belonging to the synthetic pyrethroid chemical group (Group 3A). Commonly sold as Matador or Silencer, among others, the lambda-cyhalothrin active ingredient is a broad-spectrum insecticide that is effective on several pests of pulse, corn, small grain and oilseed crops.

As a result of Health Canada's re-evaluation ([Pest Management Regulatory Agency \(PMRA\), 2021](#)), lambda-cyhalothrin has been **cancelled for all feed uses**. This means that as of May 2023, crop or crop components (fractions, meal, screenings) treated with lambda-cyhalothrin according to label directions **cannot be fed to livestock in Canada**.

Many crops in Canada are grown for both food and feed use, with no segregation ability in the grain handling system. This presents an incredible challenge for the whole value chain, but especially for farmers with uncertainty around availability and ability to use these products during the 2023 growing season. Manitoba commodity organizations and their national partners continue to engage and seek clarity on this issue for farmers. This factsheet was developed to ensure that farmers are aware of their options for pest control.

Some manufacturers of lambda-cyhalothrin have re-evaluated their marketing plans for this insecticide, and some formulations will not be available in Western Canada. Limited amounts of Matador and Voliam Xpress will be available for use in certain pulse crops. Silencer, Labamba and Zivata will be available for on-label use.

Several other pyrethroid insecticides are available. These include Deltamethrin (Decis, Poleci, Advantage deltamethrin), Permethrin (Pounce, Ambush, Perm-UP, IPCO Syncro), and Cypermethrin (UP-Cyde, Ship). Various other insecticides are registered for insects in field crops; see the [Guide to Field Crop Protection 2023](#) for details.

## INSECT MANAGEMENT

The goal of implementing an integrated pest management (IPM) program is to be able to effectively manage pests using all available tools, including chemical, cultural, mechanical, and resistant varieties, while minimizing harm to biological controls. Management of insect pests with insecticides should only be considered if populations or damage exceed economic thresholds, and selective insecticides should be used where practical and economical. Insecticides are just one component of an IPM program. Other practices that should be implemented include crop rotation, cultivar selection and seeding dates, all of which can reduce risk of injury.

Pest monitoring programs are completed annually on several crop pests in Manitoba. These monitoring programs are used to create forecast maps, direct research and monitor emerging pest issues.

- Manitoba Pest Monitoring Programs
  - [Bertha Armyworm](#)
  - [Diamondback Moth](#)
  - [Armyworm](#)
  - [Grasshopper](#)





**Table 1.** Summary of key insects in field crops, including monitoring techniques and economic thresholds.

<b>INSECT &amp; INTERVENTION GUIDELINES</b>	
<b>Armyworm</b> – Monitor crop from mid-June to early August. Shake plants and carefully check the soil surface for larvae. Feeding results in leaves stripped from stems, awns chewed from heads and clipped heads.	
<b>Cereals</b>	Economic threshold is four larvae/ft <sup>2</sup> , or two larvae/ft <sup>2</sup> if heads are being clipped.
<b>Bertha Armyworm</b> – Larvae feed on the underside of leaves, chewing irregularly shaped holes in the leaves. Rapid crop damage occurs when larvae molt to the second-last stage, when larvae are around 1.3 cm in length. If the plant drops its leaves before larvae are mature, they may feed directly on pods. Begin monitoring for larvae in early July. To monitor larvae populations, mark out an area of 1/4 m <sup>2</sup> and shake plants in the area to dislodge larvae. Count the number of larvae and multiply by four to get the number per m <sup>2</sup> . Sample at least five locations within the field to get an average and use the average to determine if the economic threshold has been exceeded.	
<b>Canola</b>	Economic threshold varies with cost of insecticide, application method and crop value. Determine number of larvae/m <sup>2</sup> and consult the economic threshold chart on <a href="#">Canola Encyclopedia</a> .
<b>Cabbage Seedpod Weevil</b> – Begin scouting as crop begins to flower. Most economic damage occurs when larvae feed on developing seeds within pods. As larvae exit pods, they leave small holes that make the pods susceptible to shattering.	
<b>Canola</b>	Economic threshold of 25-40 weevils per 10 sweeps. Insecticide should be applied in the evening at 10-20 per cent bloom to avoid eggs being laid in newly formed pods.
<b>Cutworm</b> – Inspect seedlings regularly from seeding until mid-June. Cutworms feed during the night and burrow below ground during the day, making them challenging to detect. Feeding results in notched, wilted, dead or cut-off plants. Often cutworms will be found close to the damaged plants. The most susceptible areas of a field include hilltops, south facing slopes and dry areas. If damage is seen but no cutworms are observed, dig through the top 2-6 cm of soil to confirm cutworms as the cause.	
<b>Canola</b>	Nominal threshold of 25-30 per cent stand reduction.
<b>Peas &amp; Faba Beans</b>	Two to three cutworms (<2.5 cm long)/m <sup>2</sup> .
<b>Soybeans &amp; Dry Beans</b>	One or more cutworms (<2.5 cm long) per metre of row, or 20 per cent of plants cut.
<b>Cereals</b>	Five to six larvae/m <sup>2</sup> .
<b>Flax</b>	Four to five larvae/m <sup>2</sup> .
<b>Corn</b>	When 2-4 per cent of plants are cut below ground or 6-8 per cent of plants are cut above ground, and cutworms less than 1.3 cm long are present.
<b>Diamondback Moth</b> – Scout for larvae from late May until harvest by shaking plants to dislodge from the canopy and count the number/ft <sup>2</sup> . Larvae feed on leaves, buds, flowers, seed pods and outer layer of stems. When larvae are small, damage appears as small irregular holes in the leaves. If larvae are numerous, they may eat the entire leaf, leaving only the veins.	
<b>Canola</b>	Seedling – 25-33 per cent defoliation with larvae still present on plants. Immature to flowering – 100-150 larvae/m <sup>2</sup> . Plants with flowers and pods – 200-300 larvae/m <sup>2</sup> .
<b>European Corn Borer</b> – Begin scouting in early July – older fields should be scouted first. Most severe damage is due to stalk breakage prior to harvest and ear drop. Check 10 locations in the field (10 plants per location) for egg masses and young larvae. Larvae are found mostly in the midrib and leaf axil.	
<b>Corn</b>	Consult Manitoba Agriculture's <a href="#">Management Worksheet and Economic Threshold</a> table to determine if chemical control is necessary.

Table 1 continued on next page





INSECT & INTERVENTION GUIDELINES	
<p><b>Flea Beetle</b> – Begin scouting at emergence, monitor level of injury from feeding on cotyledons, first true leaves and stems of canola seedlings. Assess plants every few days until they have three to four true leaves, especially on calm, sunny days when temperatures exceed 14 C. Adult beetles feed on leaves, stems and seed pods and produce small pits. With continued feeding, pits merge and create larger holes.</p>	
<b>Canola</b>	When 25 per cent defoliation of leaf surface occurs, and beetles continue to feed.
<p><b>Grasshopper</b> – Consult Manitoba Agriculture’s <a href="#">Grasshopper Factsheet</a> for scouting techniques. Damage occurs through defoliation of leaves or clipping of pods and flowers. The third to fifth nymphal stages are the optimal time to apply controls if needed. Adults are often the most damaging stage.</p>	
<b>Canola</b>	8–12 grasshoppers/m <sup>2</sup> .
<b>Peas &amp; Faba Beans</b>	>10 grasshoppers/m <sup>2</sup> . Peas are not a preferred food source for grasshoppers. Infestations of 10/m <sup>2</sup> (1/ft <sup>2</sup> ) do not cause economic losses in peas. No thresholds available for faba beans.
<b>Soybeans &amp; Dry Beans</b>	V stages: >30 per cent defoliation, R1 (bloom) to R5 (beginning seed): 15 per cent defoliation, R6 to R8 (full maturity) 25 per cent defoliation.
<b>Cereals</b>	8–12 grasshoppers/m <sup>2</sup> .
<b>Flax</b>	Nominal threshold of two grasshoppers/m <sup>2</sup> if they are clipping bolls.
<p><b>Lygus Bug</b> – Adults and nymphs pierce tissue and suck plant sap. Lygus bugs in the third instar or later damage buds, flowers and seeds. Feeding on seeds leads to discoloration, darkening and shriveling.</p>	
<b>Canola</b>	Two to three adults per sweep at late flower to early pod.
<b>Dry Beans</b>	More damaging in light-coloured market classes (navy, Great Northern) A preliminary nominal threshold was proposed of 10 lygus bug adults/m <sup>2</sup> at R2 (beginning pod) to R3 (mid-bloom) stages in Manitoba. Ontario thresholds suggest one to two lygus bugs (adults or nymphs) per sweep during pod stages to avoid quality loss.
<b>Faba Beans</b>	A preliminary nominal threshold is suggested from research conducted in Western Canada of 5–10 lygus bugs (adults or nymphs) per 10 sweeps at early pod stages to minimize perforated seed damage.
<b>Sunflower</b>	One lygus bug per nine heads in sunflowers for human consumption. Control should be implemented prior to the beginning of the bloom stage if adult densities are approaching economic threshold.
<p><b>Pea Aphid</b> – Begin scouting for aphids towards the end of June to early July, at early flower. Check five plant tips (top 8”) or conduct 10 sweeps using a sweep net at four locations in the field. Unfold the newest stipule (clam leaf) to check inside for aphids.</p>	
<b>Peas</b>	Two to three aphids per 20 cm (8”) plant tip or 9–12 aphids per sweep when 25 per cent of the field has begun flowering.
<b>Faba Beans</b>	34–50 aphids per main branch gives approximately a seven-day lead time before populations reach injury levels (96–142/main branch).
<p><b>Pea Leaf Weevil</b> – Leaf notching is a sign of adult weevil feeding. Scout V1 through V6 to assess damage. In fall, sweep net fabas or scout post-harvest growth of peas for signs of adult feeding to inform seed treatment decisions for next spring. Seed treatment options are available. Foliar insecticide sprays are ineffective due to the long window of weevil emergence in the spring.</p>	
<b>Peas</b>	VE to V6: 30 per cent of plants have feeding notches on the uppermost, closed stipule (clam leaves).
<b>Faba Beans</b>	V2 to V3: 15 per cent of plants with notching on the uppermost bifoliate leaf.

Table 1 continued on next page



# ALTERNATIVES TO LAMBDA-CYHALOTHRIN FOR 2023

INSECT & INTERVENTION GUIDELINES	
<b>Potato Leafhopper</b> – Dwarfed, crinkled or curled foliage is a sign of hopper-burn. Small triangular brown areas appear at the tips of leaves. Examine undersides of leaves for adults and nymphs to determine the number of insects per trifoliolate.	
<b>Dry Beans</b>	VC: 0.25 leafhoppers per leaf; V2: 0.5 leafhoppers per trifoliolate; V4 One leafhopper per trifoliolate; R1: Two leafhoppers per trifoliolate.
<b>Soybeans</b>	V stages: five leafhoppers per plant; R1: nine leafhoppers per plant
<b>Soybean Aphid</b> – Scout soybeans weekly from R1 (beginning bloom) to R5 (beginning pod), estimating the number of aphids per plant on at least 30 plants per field (Six plants in five areas). Two field visits are required to assess soybean populations. The first visit to assess the population and a second visit five days later to assess if the population is increasing, maintaining or decreasing. By the R6 (full seed) stage, yield loss should be minimal and control is no longer warranted.	
<b>Soybean</b>	At R1 (beginning bloom) to R5 (beginning seed): 250 aphids per plant on average and increasing. This action threshold allows a seven-day lead time before populations reach the economic injury level (670 aphids per plant).
<b>Sunflower Beetle</b> – Scout for adults during May and June, when plants are in the seedling stage. Begin looking for larvae in June through mid-August. Examine 10 plants per stop and peel back leaves and growing tip to count total number of larvae. Adults and larvae cause damage by chewing leaf tissue which can result in destroyed leaves.	
<b>Sunflower</b>	Adults – One to two per seedling. Larvae – 10-15 per plant or 25-30 per cent defoliation.





**Table 2.** Alternative foliar and seed treatment options for pests impacted by the lambda-cyhalothrin review. Please note the footnotes for how to read the special notes within the tables.

LAMBDA-CYHALOTHRIN AND ALTERNATIVE CHEMISTRIES IN SMALL GRAINS, PULSES, & SPECIAL CROPS					
BARLEY, WHEAT & OATS					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
Armyworm	**Chlorpyrifos products		1B	60	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Delegate	spinetoram	5	21	Spinosyns
	Lumivia CPL (seed treatment)	chlorantraniliprole	28	-	Diamide
	Malathion 85E/Malathion 500	malathion	1B	7	Organophosphate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	28	Pyrethroid
Grasshopper	**Chlorpyrifos products		1B	60	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5EC/Advantage Deltamethrin 5 EC/Poleci 2.5 EC Western	deltamethrin	3A	31 (oats) 40 (wheat,barley)	Pyrethroid
	Eco Bran	carbaryl	1A	14 (oats, wheat) 28 (barley)	Carbamate
	Lagon 480E	dimethoate	1B	35	Organophosphate
	Nolo Bait	Nosema locustae		-	
	Malathion 85E/Malathion 500	malathion	1B	7	Organophosphate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	28	Pyrethroid
	UP-Cyde 2.5 EC/Ship 250EC	cypermethrin	3A	30 (wheat) 45 (barley)	Pyrethroid

CANOLA					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
Bertha Armyworm	**Chlorpyrifos products		1B	21	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5 EC/ Advantage Deltamethrin 5 EC/ Poleci	deltamethrin	3A	7	Pyrethroid
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	7	Pyrethroid
	UP-Cyde/Ship	cypermethrin	3A	30	Pyrethroid

Table 2 continued on next page



# ALTERNATIVES TO LAMBDA-CYHALOTHRIN FOR 2023

<b>Cabbage Seedpod Weevil</b>	Decis 100 EC/ Decis 5 EC/ Advantage Deltamethrin 5 EC/ Poleci	deltamethrin	3A	7	Pyrethroid
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	7	Pyrethroid
<b>Cutworm</b>	**Chlorpyrifos products		1B	21	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5 EC	deltamethrin	3A	7	Pyrethroid
	Fortenza/Lumiderm (seed treatment)	cyantraniliprole	28	-	Diamide
	***Labamba	lambda-cyhalothrin	3A	7	Pyrethroid
	Pounce/Perm-UP/IPCO Syncro Ambush	permethrin	3A	Up to 5-leaf stage	Pyrethroid
<b>Diamondback Moth</b>	**Chlorpyrifos products		1B	21	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5 EC/Advantage Deltamethrin 5 EC/Poleci	deltamethrin	3A	7	Pyrethroid
	Malathion 500/Malathion 85E	malathion	1B	7	Organophosphate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	7	Pyrethroid
<b>Flea Beetle</b>	BUTEO start (seed treatment)	flupyradifurone	4D	-	Neonicotinoid-butenolide
	Decis 100 EC/Decis 5 EC/Advantage Deltamethrin 5 EC/Poleci	deltamethrin	3A	7	Pyrethroid
	Fortenza/Lumiderm (seed treatment)	cyantraniliprole	28	-	Diamide
	Helix Vibrance (seed treatment)	thiamethoxam	4	-	Neonicotinoid
	Malathion 500/Malathion 85E	malathion	1B	7	Organophosphate
	NipsIt INSIDE (seed treatment)	clothianidin	4	-	Neonicotinoid
	Pounce/Perm-Up/IPCO Syncro Ambush	permethrin	3A	Up to 5-leaf stage	Pyrethroid
	Prosper EverGol (seed treatment)	clothianidin	4	-	Neonicotinoid
	Sevin XLR	carbaryl	1A	Seedling application only	Carbamate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	7	Pyrethroid
	Sombrero (seed treatment)	imidacloprid	4	-	Neonicotinoid
	UP-Cyde/Ship	cypermethrin	3A	30	Pyrethroid
	<b>Lygus Bug</b>	**Chlorpyrifos products		1B	21
Cygon 480-AG		dimethoate	1B	21	Organophosphate
Decis 100 EC/ Decis 5 EC/ Advantage Deltamethrin 5 EC/Poleci		deltamethrin	3A	7	Pyrethroid
***Silencer/Labamba/Zivata		lambda-cyhalothrin	3A	7	Pyrethroid

Table 2 continued on next page





CORN					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
Cutworm	**Chlorpyrifos products		1B	70	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	14 (field corn) 1 (sweet corn or seed corn)	Diamide
	Fortenza/Lumiderm (seed treatment)	cyantraniliprole	28	-	Diamide
	Lumivia (seed treatment)	chlorantraniliprole	28	-	Diamide
	Pounce/Perm-UP/Ambush 500 EC/IPCO Syncro	permethrin	3A	30	Pyrethroid
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	-	Pyrethroid
	UP-Cyde 2.5 EC/Ship 250EC	cypermethrin	3A	21	Pyrethroid
	Vayego	tetraniliprole	28	14	Diamide
European Corn Borer	BioProtec CAF	Bacillus thuringiensis	11	-	
	Coragen MaX/Coragen	chlorantraniliprole	28	14 (field corn) 1 (sweet corn or seed corn)	Diamide
	Decis 100 EC/Decis 5EC/Advantage Deltamethrin 5 EC/Poleci 2.5 EC Western	deltamethrin	3A	1	Pyrethroid
	Delegate	spinetoram	5	28	Spinosyns
	Dipel 2X DF	Bacillus thuringiensis	11	-	
	Intrepid	methoxyfenozide	18	21 (field corn) 3(sweet corn)	Ecdysone receptor agonist
	Malathion 85E	malathion	1B	5	Organophosphate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	21 (field corn)	Pyrethroid
	UP-Cyde 2.5 EC/Ship 250EC	cypermethrin	3A	5	Pyrethroid
	Vayego	tetraniliprole	28	14	Diamide

Table 2 continued on next page



DRY BEAN					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
<b>Aphid</b>	Carbine	flonicamid	29	7	Flonicamid
	Cyagon 480-AG	dimethoate	1B	7	Organophosphate
	Dibrom	naled	1B	4	Organophosphate
	Malathion 500/Malathion 85E	malathion	1B	1 (Malation 500) 3 (Malathion 85E)	Organophosphate
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Movento	spirotetramat	23	7	Tetronic acid
	Sivanto Prime	flupyradifurone	4D	7	Neonicotinoid-butenolide
	Voliam Xpress	lambda-cyhalothrin, chlorantraniliprole	3A, 28	14	Pyrethroid, Diamide
<b>Cutworm</b>	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5 EC	deltamethrin	3A	7	Pyrethroid
	Lumiva CPL (seed treatment)	cyantraniliprole	28	-	Diamide
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer, Zivata)	Pyrethroid
	Scorpio Ant and Insect Bait (black cutworm)	spinosad	5	28	Spinosyns
<b>European Corn Borer</b>	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Intrepid	methoxyfenozide	18	7	Ecdysone receptor agonist
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Voliam Xpress	lambda-cyhalothrin, chlorantraniliprole	3A, 28	14	Pyrethroid, Diamide

Table 2 continued on next page





<b>Lygus Bug</b>	Carbine	flonicamid	29	7	Flonicamid
	Cygon 480-AG	dimethoate	1B	7	Organophosphate
	Decis 100 EC/Decis 5 EC	deltamethrin	3A	7	Pyrethroid
	***MatadorSilencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labambda) 21 (Silencer/ Zivata)	Pyrethroid
	Sevin XLR	carbaryl	1A	5	Carbamate
<b>Potato Leafhopper</b>	Cygon 480-AG	dimethoate	1B	7	Organophosphate
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Sevin XLR	carbaryl	1A	5	Carbamate
	Sivanto Prime	flupyradifurone	4D	7	Neonicotinoid-butenolide

<b>FABA BEAN</b>					
<b>INSECT</b>	<b>INSECTICIDES</b>	<b>ACTIVE INGREDIENT(S)</b>	<b>GROUP</b>	<b>PHI (Days)</b>	<b>CHEMICAL GROUP</b>
<b>Lygus Bug</b>	Carbine	flonicamid	29	7	Flonicamid
	Cygon 480-AG	dimethoate	1B	7	Organophosphate
	Decis 100 EC/Decis 5 EC	deltamethrin	3A	7	Pyrethroid
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labambda) 21 (Silencer/ Zivata)	Pyrethroid
	Sevin XLR	carbaryl	1A	5	Carbamate

Table 2 continued on next page



# ALTERNATIVES TO LAMBDA-CYHALOTHRIN FOR 2023

<b>Pea Aphid</b>	Carbine	flonicamid	29	7	Flonicamid
	Cygon 480-AG	dimethoate	1B	7	Organophosphate
	Dibrom	naled	1B	4	Organophosphate
	Malathion 500/Malathion 85E	malathion	1B	1 (Malation 500) 3 (Malathion 85E)	Organophosphate
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Movento	spirotetramat	23	7	Tetronic acid
	Sivanto Prime	flupyradifurone	4D	7	Neonicotinoid-butenolide
	Voliam Xpress	lambda-cyhalothrin, chlorantraniliprole	3A, 28	14	Pyrethroid, Diamide
<b>Potato Leafhopper</b>	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Sivanto Prime	flupyradifurone	4D	7	Neonicotinoid-butenolide

FLAX					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
<b>Cutworm</b>	**Chlorpyrifos products		1B	21	Organophosphate
	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5EC/Advantage Deltamethrin 5 EC/Poleci 2.5 EC Western	deltamethrin	3A	7 (Decis) 40 (Poleci, Advantage)	Pyrethroid
	***Labamba	lambda-cyhalothrin	3A	7	Pyrethroid
	Pounce/Perm-UP/Ambush 500 EC/IPCO Syncro	permethrin	3A	Up to 5 leaf stage	Pyrethroid
<b>Grasshopper</b>	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5EC/Advantage Deltamethrin 5 EC/Poleci 2.5 EC Western	deltamethrin	3A	7 (Decis) 40 (Poleci, Advantage)	Pyrethroid
	Malathion 85E/Malathion 500	malathion	1B	7	Organophosphate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	7	Pyrethroid

Table 2 continued on next page



# ALTERNATIVES TO LAMBDA-CYHALOTHRIN FOR 2023

PEAS					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
Cutworm	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5 EC	deltamethrin	3A	7	Pyrethroid
	Lumiva CPL (seed treatment)	cyantraniliprole	28	-	Diamide
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Pounce/Perm-UP/IPCO Syncro	permethrin	3A	7	Pyrethroid
	Scorpio And and Insect Bait (supression)	spinosad	5	28	Spinosyns
Grasshopper	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Decis 100 EC/Decis 5 EC	deltamethrin	3A	7	Pyrethroid
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
Pea Aphid	Carbine	flonicamid	29	7	Flonicamid
	Lagon/Diamante 4	dimethoate	1B	3 to 21 (see labels)	Organophosphate
	Malathion 85E	malathion	1B	3	Organophosphate
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Movento	spirotetramat	23	7	Tetronic Acid
	Sivanto Prime	flupyradifurone	4D	7	Neonicotinoid-butenolide
	Voliam Xpress	lambda-cyhalothrin, chlorantraniliprole	3A, 28	14	Pyrethroid, Diamide
Pea Leaf Weevil	Cruiser 5F5 (seed treatment)	thiamethoxam	4	-	Neonicotinoid
	Decis 100 EC/Decis 5 EC (suppression)	deltamethrin	3A	7	Pyrethroid
	Lumiva CPL (seed treatment)	chlorantraniliprole	28	-	Diamide
	***Matador/Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	14 (Matador/ Labamba) 21 (Silencer/ Zivata)	Pyrethroid
	Trilex EverGol Shield (seed treatment)	imidacloprid	4	-	Neonicotinoid

Table 2 continued on next page





# ALTERNATIVES TO LAMBDA-CYHALOTHRIN FOR 2023

SOYBEAN					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
Cutworm	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	Lumiderm (seed treatment)	cyantraniliprole	28	-	Diamide
	Scorpio Ant and Insect Bait (black cutworm)	spinosad	5	28	Spinosyns
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	21	Pyrethroid
	Vayego	tetraniliprole	28	14	Diamide
Grasshopper	Coragen MaX/Coragen	chlorantraniliprole	28	1	Diamide
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	21	Pyrethroid
Lygus Bug	Lagon 480 E/Cygon 480-AG	dimethoate	1B	30	Organophosphate
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	21	Pyrethroid
Soybean Aphid	Concept	imidacloprid, deltamethrin	3A,4A	20	Pyrethroid, Neonicotinoid
	Lagon 480 E/Cygon 480-AG	dimethoate	1B	30	Organophosphate
	Movento	spirotetramat	23	21	Tetronic Acid
	Sefina	afidopyropen	9	7	Pyridinecarboxamide
	***Silencer/Labamba/Zivata	lambda-cyhalothrin	3A	21	Pyrethroid
	Sivanto Prime	flupyradifurone	4D	21	Neonicotinoid-butenolide

SUNFLOWER					
INSECT	INSECTICIDES	ACTIVE INGREDIENT(S)	GROUP	PHI (Days)	CHEMICAL GROUP
Sunflower Beetle	Decis 100 EC/Decis 5EC/Advantage Deltamethrin 5 EC/Poleci 2.5 EC Western	deltamethrin	3A	70	Pyrethroid
	UP-Cyde 2.5 EC/Ship 250EC	cypermethrin	3A	70	Pyrethroid

\*Always refer to product label for application and efficacy details.

\*\*Chlorpyrifos products will not be sold by retailers after December 2022. Farmers have until December 2023 to apply any remaining inventory before the product is officially unregistered and unusable for application. *Source: Manitoba Agriculture.*

\*\*\*DO NOT cut treated fields for hay/forage. DO NOT graze treated fields. DO NOT feed treated crops to livestock. For grasses/non-grasses grown for seed production only, DO NOT feed seed screenings and aftermath to livestock.

Information in this table was adapted from Manitoba Agriculture's 2023 Guide to Field Crop Protection. Please consult the manufacturer or label for more details.





## ADDITIONAL RESOURCES

- [2023 Guide to Field Crop Protection](#)
- [Field Heroes](#)
- [Prairie Pest Monitoring Network](#)
- [Manitoba Agriculture – Insect Profiles](#)
- [Manitoba Agriculture – Weekly Crop & Pest Report](#)
- [Canola Encyclopedia – Insects](#)
- [Production Resources – MPSG](#)
  - [MPSG – Soybean Aphids: Identification, Scouting and Management](#)
  - [MPSG – Scouting for Pea Aphids](#)
- [Canadian Corn Pest Coalition](#)
- [Keep it Clean Canada](#)

## DEFINITIONS

- **Economic Injury Level** – the smallest number of insects (or level of injury) that cause damage equal to the pest management cost.
- **Economic Threshold** – the density of insects (or level of injury) at which control measures should be taken to prevent an increasing population from reaching the economic injury level.
- **Nominal Threshold** – an educated estimate that is based on experience or comparison of economic threshold information from a similar crop pest. Nominal thresholds are decision guidelines.
- **Pre-harvest Interval (PHI)** – the number of days that must pass between the last application of a pesticide and harvest.
- **Maximum Residue Limit (MRL)** – the highest level of a pesticide residue that is legally tolerated in or on food or feed when pesticides are applied correctly. These limited are established in accordance with scientific assessments performed by Health Canada.