

**List of registered products for PEPPER PESTS in CANADA  
and established MRLs/Tolerances**

Pesticide*	a.i.*	Group #	Rate*	Pest*	PHI (days)*	REI (hours)	Remarks*	US Tolerance (ppm)**	Canada MRL (ppm)***
Avid	Abamectin	6	30 mL/100 L	Two spotted spider mite, tomato psyllid	3	Do not re-enter treated areas until residues have dried.	Application should be made preferably in 2,000-4,000 L water per hectare. Do not apply more than 1,200 mL or less than 600 mL product per hectare per application. Use in sufficient water to obtain uniform coverage. Application is limited to between February and October and/or when daily light intensity in the greenhouse is at levels higher than 700 Joules per cm <sup>2</sup> per day. Make no more than 5 applications per crop cycle. Apply no more than 6,000 mL product per ha per crop cycle. Do not apply through any type of irrigation system.	0.02	0.01
Bioprotec 3P	Bacillus thuringiensis subsp. kurstaki strain EVB113-19	11	refer to label	Cabbage looper, tomato hornworm, <i>Duponchelia fovealis</i> , Banana moth ( <i>Opogona sacchari</i> )	0	0	refer to label	EXEMPT	
Bioprotec CAF	Bacillus thuringiensis subsp. kurstaki strain EVB113-19	11	1.8 L/1000 L 0.9 - 1.8 L/1000L	Cabbage looper tomato hornworm	0	0	refer to label	EXEMPT	
Botanigard WP	Beauveria bassiana Strain GHA		250-500 g in 400 L 500-1,000 g in 400 L	whiteflies, aphids thrips	0	Foliar: 4; Bee- vectored: 0	Spray to wet, but avoid run-off. Apply at 5 to 10 day intervals. High populations may require 2 to 5 day intervals. Repeat applications for as long as pest pressure persists. Product use, especially at higher rates, may result in commercially unacceptable visible residues. Fungicides, some insecticide formulations, and some wetting agents and spreaders may kill the spores. Pollinator application method: For suppression. Uses a microbial inoculum dispenser that is attached to the front of the bumble bee hive. When used as directed the impact on bees is minimal, and is compatible with the release of some biological control agents, including <i>Aphidius colemani</i> , <i>Amblyseius swirskii</i> , <i>Encarsia formosa</i> , and <i>Eretmocerus eremicus</i> . Do not release <i>Orius insidiosus</i> in the presence of bee vectored BotaniGard 22WP. See label for more details.	EXEMPT	

Confirm (updated Feb 1/13)	Tebufenozide	18	0.5 L/ha	European corn borer	3	12	Good spray coverage is essential for control. Apply at intervals of at least 7 days. Do not exceed 4 applications per year. Effective against larval Lepidoptera, however, it is essentially non-toxic to adult bees and does not adversely affect beneficial insects such as predatory mites, beetles, wasps, and spiders.	1	0.2
			0.6 L/ha	cabbage looper			Foliar application only. Make a maximum of 4 applications per crop cycle. Applications should be made a minimum of 7 days apart. Effective against larval Lepidoptera, however, it is essentially non-toxic to adult bees and does not adversely affect beneficial insects such as predatory mites, beetles, wasps, and spiders.		
			0.6 L/ha	Lepidoptera leafminers			For suppression. Foliar application only. Use a high volume sprayer. Apply at first egg hatch. Make a maximum of 4 applications per crop cycle, if monitoring indicates it is required. Applications should be made a minimum of 10 days apart. Effective against larval Lepidoptera, however, it is essentially non-toxic to adult bees and does not adversely affect beneficial insects such as predatory mites, beetles, wasps, and spiders.		
Coragen (updated Mar.29/12)	Chlorantraniliprole	28	125 ml/1000 L finished spray volume.	cabbage looper	1		Begin applications when treatment thresholds have been reached. Thorough coverage is required to obtain optimum control. Repeat applications if monitoring indicates it is necessary. Do not make more than 3 applications per crop cycle. Do not apply more than once every 7 days. Do not exceed a total of 750 mL product per hectare per crop cycle. The maximum finished spray volume is 1,400 L per hectare.	1.4	0.7
			200 ml/1000 L finished spray volume.	Lepidopteran leafminer			1		

Delegate	Spinetoram	5	92-132 g/1000 L water	control of cabbage looper, European corn borer  thrips	2	12	Use the higher rate when insect populations are high and/or insects are large. Apply when eggs hatch and first instar larvae are present. Three applications can be used per crop cycle, with a minimum of 7 days between applications. Do not apply by a fogger or mister.  Use the higher rate when insect populations are high and/or insects are large. Apply when eggs hatch and first instar larvae are present. Three applications can be used per crop cycle, with a minimum of 7 days between applications. Do not apply by a fogger or mister.	0.4	0.2
Dibrom	naled	1B	Vapour: 9.6 mL per 100 m <sup>3</sup> ; Fog: 6.7-13.4 mL per 100 m <sup>3</sup>	whiteflies, spider mites, aphids, leafrollers mealy bugs, pepper weevil and tomato psyllid	Only after the last harvest, at the end of the cropping cycle	48 (must be fully ventilated before re-entry)	Maximum of 1 application per crop cycle, after the last harvest at the end of the cropping cycle. Vapour treatment: Apply to cold pipes using a plastic squeeze bottle when plants are dry. Do not apply using a paint brush or any other method. Do not apply to hot pipes. Thoroughly ventilate premises before re-entering. Fogging treatment: Apply with automated fogging equipment only. All workers must evacuate the premises during the fogging operations.	0.5	0.5
DiPel 2X DF (update Nov 23, 2012)	Bacillus thuringiensis, var. kurstaki strain ABTS-351	11	625 g/ 1000 L  500 – 1000 g/1000 L  75-150g/250 L	Duponchelia fovealis  Lepidopteran leafminers  Cabbage looper	0		Make applications when egg hatch is essentially complete when larvae are small but before crop damage occurs. Apply the product such that it flows along the stem, coating it well. Thorough coverage of foliage and stem is necessary. Apply every 7 days as required by monitoring.  Apply at egg hatch. Thorough coverage of foliage and stems is necessary. Apply every 7 to 10 days as required by monitoring  Apply at egg hatch to target young larvae (early instars). For best control through spray coverage is required. Ensure uniform deposits of DiPel 2X DF at sites of feeding and include treatment to both sides of foliage. Under heavy population pressure, or for larger larvae, shorten the spray interval or use the higher rate range. Repeat applications at an interval to maintain control, usually 3-14 days. Maximum of 4 applications per season, usually 3-14 days apart. Weekly applications may be necessary if the egg hatch is asynchronous.	EXEMPT	

Dipel WP	<i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> strain ABTS-351	11A	150-300 g in 250 L per 4,000 m <sup>2</sup>	Cabbage looper ( <i>Trichoplusia ni</i> )	NS	NS	Apply to upper and lower portions of the leaves to run-off. Repeat applications will be necessary if a new hatch occurs.	EXEMPT	
Distance	Pyriproxyfen	7C	45 mL/100 L	Greenhouse whitefly ( <i>Trialeurodes vaporariorum</i> ), silverleaf whitefly ( <i>Bemisia tabaci</i> B biotype), and sweet potato whitefly ( <i>Bemisia tabaci</i> )	3	12	Apply as a foliar spray mixture uniformly to all plant surfaces and to the point of run-off. Make first application when adult insects begin to appear. If necessary, make a second application from 14 to 28 days after the first application. Use longer interval when plants are not rapidly flushing new growth. Apply a maximum of 2 applications per cropping cycle. If the cropping cycle is less than 6 months, do not apply more than 2 applications per 6 months.	0.8	0.8
DynoMite	Pyridaben	21A	284 g in 1,000 L water per ha	two-spotted spider mite	3	12	Maximum number of applications per crop cycle is 2. Apply when mites first appear and before the threshold of 5 mites per leaf is reached. Do not apply this product through any type of irrigation system. Do not apply as a fog.	NONE	1
Endeavor 50 WG	Pymetrozine	9B	100-200 g/ha in a minimum of 1000 L water/ha	green peach aphid, melon aphid	3		Do not apply more than 200 g in 1,000 L per application. Do not exceed 2 applications per crop cycle or 3 applications per year in greenhouses with multiple crop cycles. Apply as a foliar spray. Do not reapply for at least 7 days. On hard-to-wet plants add a nonionic or organosilicone-based surfactant to improve coverage.	0.2	0.2

Entrust 80 W	spinosad (organic formulation)	5	72 g product per 1000 L of water as a dilute	Cabbage looper	2	12	The maximum application volume that can be used is 1000 L/ha. The use of this product for is restricted to plant growth stages for which thorough coverage can be achieved by application volumes of 1000 L/ha or less. Apply when eggs hatch and first instar larvae are present. Do not apply by a fogger or mister. Monitoring is critical for the proper timing of the insecticide. Repeat applications as determined by further monitoring of pest pressure. Three applications of Entrust 80 W can be used per crop cycle, with a minimum of 7 days between applications.	0.4	0.2
			30 g product per 1000 L of water as a dilute spray	European corn borer and exposed western flower thrips (suppression only)	2	The maximum application volume that can be used is 2000 L/ha. The use of this product is restricted to plant growth stages for which thorough coverage can be achieved by application volumes of 2000 L/ha or less. For European corn borer, apply when eggs hatch and first instar larvae are present. For exposed western flower thrips, apply when pest first appears. Do not apply by a fogger or mister. Monitoring is critical for the proper timing of the insecticide. Repeat applications as determined by further monitoring of pest pressure. Three applications of Entrust 80 W can be used per crop cycle, with a minimum of 7 days between applications.			
Entrust SC	spinosad	5	100 mL in 1,000 L water	European corn borer	2	12	Maximum application volume that can be used is 2,000 L per hectare. Apply when eggs hatch and first instar larvae are present. Do not apply by a fogger or mister. Three applications can be used per crop cycle, with a minimum of 7 days between applications.	0.4	0.2
			240 mL in 1,000 L water	cabbage looper			Maximum application volume that can be used is 1,000 L per hectare. Apply when eggs hatch and first instar larvae are present. Do not apply by a fogger or mister. Three applications can be used per crop cycle, with a minimum of 7 days between applications.		
			100 mL in 1,000 L water	Thrips			For suppression. Maximum application volume that can be used is 2,000 L per hectare. Apply when western flower thrips first appears. Do not apply by a fogger or mister. Three applications can be used per crop cycle, with a minimum of 7 days between applications		

Exirel	cyantraniliprole	28	1,000 to 1,500 ml per hectare	Pepper weevil	1	12	<p>For suppression. Select a spray volume appropriate for the size of plants and density of foliage. Use the higher listed rate and higher spray volumes for large plants or dense foliage. DO NOT APPLY IN IRRIGATION WATER, APPLY AS FOLIAR SPRAY ONLY.</p> <p>Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control. Use the high rate under heavy pest pressure.</p> <p>Do not make more than 4 applications per crop cycle.</p> <p>Do not apply more than once every 5 days.</p>	2.0	2.0
Flagship WG	thiamethoxam	4A	14 g in 100 L water	Pepper weevil	1	12	<p>For suppression. Apply before pests reach damaging levels. Apply in sufficient water volume to ensure thorough coverage, up to a maximum of 2,000 L per hectare. Maximum of 3 applications per crop cycle. Application interval is 7 days. Toxic to bees and other beneficial insects. Avoid application when bees or other beneficial insects are actively visiting the treatment area.</p>	0.25	0.25
Floramite SC	Bifenazate	UN	125 mL (30 g a.i.) in 400 L water	two-spotted spider mite	1	12	<p>Apply as a full coverage spray to the foliage to obtain uniform coverage. Actual spray volume will vary depending on the size of the plants being treated. Application should be made as soon as mites appear and will provide residual control for up to 28 days. Maximum number of sprays per crop cycle is 2. Make only one application of this product before rotating to products of an alternate chemical class. This product is primarily active on the motile stages of mites. It is not effective against rust mites, broad mites and flat mites.</p>	4.0	4.0
Foray 48B	<i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> strain ABTS-351	11	0.6-1.8 L in 500-1,000 L water per ha (60-180 mL per m <sup>2</sup> )	Cabbage loopers	NS	NS	<p>Apply using a high volume spray. Apply at 10 day interval when loopers first appear. In general, larvae should be treated when they are newly hatched.</p>	EXEMPT	
Forbid 240 SC	Spiromesifen	23	30-50 mL/100 L	Two-spotted spider mites, whiteflies	3	12	<p>Under high pest population pressure, re-apply in 10 to 14 days as required by monitoring. Do not apply more than 2 applications per crop cycle. Avoid applying during the warmest part of the day. Mite juvenile stages are often more susceptible than adults. Toxic to certain beneficial insects. May be toxic to bee brood. Not acutely toxic to adult bees. Residues on pollen and nectar may harm bee brood.</p>	0.45	0.45

Insecticidal Soap	Potassium salts of fatty acids		1-2 L/100 L	aphids, spider mites, whiteflies, earwigs, psyllids	5		May cause damage to plant under high temperature conditions.	EXEMPT	
Intercept	Imidacloprid	4	4.1 g/1000 seedlings in a solution application rate of 8 L/100 m <sup>2</sup> of seedling trays  16 g in 70 mL of water per 1000 plants	aphids, whiteflies	3	NS	For use as a soil drench using micro-irrigation, drip irrigation, overhead irrigation, or hand-held or motorized calibrated irrigation equipment. Do not apply as a foliar application. Irrigate moderately but thoroughly after application, allowing no leaching and runoff from container for at least 10 days after application. Do not apply more than once per season. Mature plants: applications should be made when infestation pressure surpasses threshold and beneficials are not able to maintain pest populations below damage thresholds. Transplants: Apply to 2-3 week old	1.0	1.0
Kontos (April, 2013)	Spirotetramat	23	30-42 mL in 100 L water; Maximum use rate per single application: 300 mL per ha (72 g a.i. per ha)	Aphids, whiteflies	3	12	Use appropriate spray volume for adequate crop foliage spray coverage. Spray crop to wet not to drip. Do not exceed a spray volume of 712 L per hectare (42 mL concentration) to 1,000 L per hectare (30 mL concentration). Use the higher concentration for higher pest infestation levels. Interval between applications is at least 7 to 14 days. Maximum product allowed per crop cycle is 900 mL per hectare (216 g a.i. per hectare). Maximum number of applications per cropping cycle is 3. Toxic to bee brood. Not acutely toxic to adult bees. Residues in/on pollen and nectar may harm bee brood. This product is toxic to certain beneficial insects.	2.5	2.5
Kopa Insecticidal Soap	Potassium salts of fatty acids		8L/400L of water	aphids, mites, whiteflies	0		Refer to label.	EXEMPT	
Loopex	<i>Autographa californica</i> Nucleopolyhedrovirus		50-200 mL/400L of water	cabbage loopers	0	Do not allow worker entry into treated areas until mists have settled.	Application timing should target small larvae and be applied using high volume spray systems (minimum 400 L per hectare). Dilute between 50 and 200 mL product per 400 L of water and apply sufficient volume to ensure thorough coverage of the foliage. Uniform spray deposit coverage of the foliage is essential for optimum control. Repeat applications every 7 to 14 days if monitoring indicates that it is necessary.	EXEMPT	

Met52™ EC Bioinsecticide (June 2016)	Metarhizium anisopliae Strain F52		0.5 – 5.0 L/1000L  Foliar: 0.5-5 L in 1,000 L; Drench: 108 mL in 10 L	Mites, whiteflies  Thrips (reduces numbers)	0	Do not re- enter into treated areas until the spray is dried.	Foliar: Reduces pest numbers. Use the higher application concentration when pest pressure is high. Re-apply as required. The need for and timing of re-application should be determined by monitoring. An application interval of 5 to 10 days is recommended. Spray to wet all foliage, but avoid run-off. Do not apply through a thermal pulse fogger.  Foliar: Reduces pest numbers. Use the higher application concentration when pest pressure is high. Re-apply as required. The need for and timing of re-application should be determined by monitoring. An application interval of 5 to 10 days is recommended. Spray to wet all foliage, but avoid run-off. Do not apply through a thermal pulse fogger. Drench: May reduce pest numbers. Drench application should be thoroughly watered-in without causing water to come out of the bottom of the pots/grow bags – depending on the growing media type and moisture this will be around 250 ml per 4 L pot or grow bag. Re-apply as required. The need for and timing of re-application should be determined by monitoring. Do not apply via drip irrigation.	EXEMPT	
Neudosan Commercial or Opal Insecticidal Soap	potassium salts of fatty acids	NC	8 L in 400 L water	aphids, mites, whiteflies	0	NS	Spray early in morning or evening or when overcast. Combining this product with sulphur or applying this product within 3 days of sulphur application may increase the plant damage caused by sulphur on sensitive plants.	EXEMPT	



Opal2 Insecticidal Soap	potassium salts of fatty acids		mix 2 L in 100 L water applying 250 L per 4,000 m <sup>2</sup>  1 part concentrate:50 parts water    1 part concentrate:100 parts water	aphids  earwigs  mealybugs  mites  psyllids  whiteflies	0	NS	Make applications bi-monthly or when aphids reach treatment levels using concentrated high volume power sprayers.  Insects must be sprayed directly to achieve proper control.  Insects must be sprayed directly to achieve proper control. Repeat applications as required.  Insects must be sprayed directly to achieve proper control. Insects must be sprayed directly to achieve proper control. Apply once weekly for 2 to 3 weeks.  Insects must be sprayed directly to achieve proper control.  Insects must be sprayed directly to achieve proper control. Spray all plant surfaces thoroughly at 2 week intervals	EXEMPT	
PureSpray Green Spray Oil 13E	Mineral Oil		1L/100L of water	aphids, whiteflies    mites, thrips	0	12	Deters feeding. Begin when pests appear. Apply at 7 to 10 day intervals. For effective control thorough coverage is essential. Do not exceed rate otherwise phytotoxicity may result.  For suppression. Begin when pests appear. Apply at 7 to 10 day intervals. For effective control thorough coverage is essential. Do not exceed rate otherwise phytotoxicity may result.	EXEMPT	
Pylon (March 2014)	Chlorfenapyr	13	30 mL/100L    20-30 mL/100L	Tomato hornworm, Tobacco budworm, Cabbage looper, Alfalfa looper  Two-spotted spider mite	0	12	For suppression. Maximum number of applications per crop cycle is 1. Do not apply using a spray volume greater than 1,000 L per hectare. Do not apply as an ultra low volume (ULV) spray. Do not apply through any type of irrigation equipment. Toxic to bees and other beneficial insects.	1.0	2.0
Safer's Insecticidal Soap	potassium salts of fatty acids	NC	mix 10 mL in 500 mL water	Aphids, earwigs, mealybugs, mites, whiteflies, psyllids	NS	NS	Insects must be sprayed directly to achieve proper control. Apply weekly for 2 to 3 weeks and thereafter repeat as required.	EXEMPT	

Safer's Trounce Insecticidal Soap	potassium salts of fatty acids + pyrethrins	3A + NC	5 L in 100 L and apply 250 L spray solution per 4,000 m <sup>2</sup>  5 L in 100 L water  5 L in 100 L water	Aphids  Mites  Whiteflies	1	NS	Make applications bi-monthly or when aphids reach treatment levels using concentrated high volume power sprayers.  Spray all plant parts once weekly for 2 to 3 weeks, and thereafter as required. If possible, foliage should be misted daily until mite control is achieved.  Spray all plant surfaces as required at 2 week intervals	0.5	0.5
Shuttle 15 SC (Feb, 2013)	Acequinocyl	20B	0.21 - 0.46 L per 500 L of water	Two-spotted spider mite ( <i>Tetranychus urticae</i> )	1	12	Apply as a full coverage spray to the foliage. Thorough coverage is essential for effective control of Two-spotted spider mite. Actual spray volume will vary depending on the size of plants being sprayed. Application should be made as soon as the mite population reaches economic infestation levels. Apply the higher concentration for heavy pest infestations. Allow a minimum of 21 days between applications of Shuttle 15 SC Miticide. Do not apply more than 0.69kg ai/ha per crop cycle. Do not apply more than a maximum of two applications per crop.	0.7	0.7
Sluggo	Ferric phosphate		25-50 kg/ha (2.5-5g/m <sup>2</sup> )	Slugs and snails			Re-apply bait as needed or at least every 2 weeks if slugs and snails continue to be a problem.	EXEMPT	
Success 480 SC	spinosad	5	120 mL/1000 L water for control of cabbage looper; 50 mL/1000L water product for suppression of exposed western flower thrip and control of European corn borer.	Cabbage looper, European corn borer and exposed western flower thrip (suppression only)	2	12	DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters. DO NOT apply by a fogger or mister. Monitoring is critical for the proper timing of the insecticide. Repeat applications as determined by further monitoring of pest pressure. Three applications of Success 480 SC can be used per crop cycle with a minimum of 7 days between applications. Cabbage looper- Maximum application volume is 1000 L/ha. Restricted to plant growth stages for which thorough coverage can be achieved by application volumes of 1000 L/ha or less. Apply when eggs hatch and first instar larvae are present. Corn borer/thrips- Maximum application volume is 2000 L/ha. Restricted to plant growth stages for which thorough coverage can be achieved by application volumes of 2000 L/ha or less. For European corn borer, apply when eggs hatch and first instar larvae are present. For exposed western flower thrips, apply when pest first appears.	0.4	0.2
Tristar 70 WSP	Acetamiprid	4	3 water-soluble packs/1000 L water	aphids	3	12	Do not exceed 5 packs/ha. Maximum of 2 applications per year per greenhouse. Do not apply when bees are present in the area to be treated.	0.2	0.2

Vectobac	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> , serotype H-14, strain AM 65-52	11	Light to moderate infestation: 2-4 L in 1,000 L; Heavy infestation: 4-8 L in 1,000 L water; (1,200-2,400 ITU)	Fungus gnats	0	NS	Do not mix and apply with fertilizers or fungicides containing copper or chlorine as this may neutralize the active ingredients. Apply weekly as a soil drench or when pest monitoring indicates the need. This product is a larvicide and will not control adult gnats.	EXEMPT	
XenTari WG	<i>Bacillus thuringiensis</i> subsp. <i>aizawai</i> strain ABTS-1857	11A	500-1,000 g per ha	Beet armyworm, Corn earworm (tomato fruitworm), leafminers, loopers, tobacco budworm	0	Do not re-enter treated areas until the spray is dried.	Treat when larvae are young (early instars) before the crop is damaged. Use sufficient spray volume to ensure thorough coverage but not to the point of run-off. Best results are obtained if applications are made in the evening or on a cloudy day. Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days, depending on plant growth rate, moth activity, and other factors. Toxic to bees and certain beneficial insects.	EXEMPT	

**List of registered products for PEPPER DISEASES in CANADA  
and established MRLs/Tolerances**

Pesticide*	a.i.*		Rate*	Pest*	PHI (days)*		Remarks*	US Tolerance (ppm)**	Canada MRL (ppm)***
Actinovate SP (Storage update June 14 2016)	Streptomyces lydicus, strain WYEC 108		425 g/1,100 L water  Seed treatment: 7.5- 42 g in 300 mL water per kg of seed; Hydroponic systems: 420-840 g per ha; Soil drench: 42-84 g in 100 L water per m <sup>3</sup> of growing media	suppression of powdery mildew  suppression of <i>Pythium</i> spp.	0		Apply as a foliar spray to leaves and blossoms. Begin applications at transplant and make subsequent sprays at 7 day intervals. Spray to wet, but avoid run-off.  Apply as a seed treatment through mist-type commercial seed treatment equipment, slurry, or other comparable methods that provide thorough coverage of treated seeds. Prior to planting, dissolve product in water and spray directly on seed. For hydroponic systems apply solution to the growing media or apply as a soil drench. Repeat every 7 to 14 days.	EXEMPT	
Agrotek <sup>TM</sup> Ascend <sup>TM</sup> Vaporized Sulphur (updated April 2013)	sulphur	M	0.4 - 3.2 g sulphur per 1,000 m <sup>2</sup> per application.	Powdery mildew ( <i>Leveillula</i> <i>taurica</i> )	NS	2	Use 1 vaporizer per 1,000 m <sup>2</sup> . Start using before plants show signs of infection. Use for 1 to 8 hours per night, 2 to 7 days per week. Do not apply if temperature is above 24°C and high humidity prevails. Certain species of beneficial insects are sensitive to sulphur.	EXEMPT	
Bartlett Microscopic Wettable Sulphur	sulphur	NS	543-760 g in 1,000 L water per ha	Powdery mildew	NS	24	Do not exceed 10 applications per crop cycle. Apply on a minimum of 14 day interval. Do not apply if high temperatures (above 26°C) and high humidity prevail or are expected during the three days following application.	EXEMPT	
Captan 50 WP	captan	M4	Use 2.5 kg in 1,000 L water applied at rates of 50 to 85 L per 100 m <sup>2</sup>	Root rots (damping off, crown and root rot, Root and stem rot, Root and stem wilt)	NS	48	Use as a soil treatment. Work into the upper 7.5 to 19 cm of soil before planting.	0.05	0.1
Captan 80 WP	Captan	M4	Use 1.5 kg in 1,000 L water applied at rates of 50 to 85 L per 100 m <sup>2</sup>	Root rots (damping off, crown and root rot, Root and stem rot, Root and stem wilt)	NS	48	Use as a soil treatment. Work into the upper 7.5 to 10 cm of soil before planting.	0.05	0.1

Cease	<i>Bacillus subtilis</i> strain QST 713	44	1.0-2.0 L/100 L water	grey mould ( <i>Botrytis cinerea</i> ), bacterial spot ( <i>Xanthomonas campestris</i> ), bacterial blight ( <i>Pseudomonas syringae</i> ), bacterial speck ( <i>Pseudomonas syringae</i> pv. <i>Tomato</i> )	0	NS	For suppression. Begin application soon after emergence or transplant and when conditions are conducive to disease development. Repeat as necessary on a 7 to 10 day interval.	EXEMPT	
Confine Extra	mono- and di-potassium salts of phosphorous acid	33	5-10 L in 100 L water per ha	Late blight (Phytophthora blight, Phytophthora foliar blight)	1	Allow entry only after thorough ventilation and spray mist has cleared and the treated surface has dried.	For suppression. Use a maximum of 5 foliar and/or chemigation applications per growing season. Begin applications when conditions are favourable for disease.	EXEMPT	
Cueva Commercial	copper octanoate	M1	0.5-2% solution applied at 470-940 L per ha	Bacterial canker, bacterial speck, bacterial spot, late blight, septoria leaf spot	1	4	Re-apply using 5 to 10 day intervals. Do not exceed 15 applications per year. If concerned about sensitivity of plants, apply to individual plants or small areas to determine if plant damage occurs.	EXEMPT	
Decree	<i>fenhexamid</i>	17	1.5 kg product/ha or 0.75 kg a.i./ha	<i>Botrytis cinerea</i>	1	4	Begin application when conditions favour disease development. Do not make more than 3 applications per crop cycle.	2.0	1.0
Double Nickel 55	<i>Bacillus amyloliquefaciens</i> strain D747	44	Foliar application: 0.5-2 kg per ha  Foliar application: 1.25-3.6 kg per ha; Low disease pressure: 0.9-1 kg per ha	Early blight  Grey mould (Botrytis blight, stem canker)	0	Keep unprotected persons out of treated areas until sprays have dried.	Apply from flowering to fruiting. Repeat application every 3 to 10 days (or 3 to 7 days under high disease pressure) for as long as conditions favour disease development.  For suppression. Use from flowering to fruit maturity. Repeat application every 3 to 10 (or 3 to 7 days under high disease pressure) days for as long as conditions favour disease development.	EXEMPT	

Double Nickel LC	<i>Bacillus amyloliquefaciens</i> strain D747	44	Foliar application: 2.5-10 L per ha  Foliar application: 6.25-18 L per ha; Low disease pressure: 4.5-5 L per ha	Early blight  Grey mould (Botrytis blight, stem canker)	0	Keep unprotected persons out of treated areas until sprays have dried.	Apply from flowering to fruiting. Repeat application every 3 to 10 days (or 3 to 7 days under high disease pressure) for as long as conditions favour disease development.  For suppression. Apply from flowering to fruit maturity. Repeat application every 3 to 10 (or 3 to 7 days under high disease pressure) days for as long as conditions favour disease development.	EXEMPT	
Fontelis (updated Apr 25/12)	Penthiopyrad	7	1.25 to 1.75 L/ha	Gray mold (Botrytis cinerea)  Suppression of Early Blight (Alternaria solani)	0		Begin applications prior to disease development and continue on a 7- to 10-day interval. Use higher rate and shorter interval when disease pressure is high. Make no more than 2 sequential applications of Fontelis before switching to a fungicide with a different mode of action. Maximum seasonal use rate is 5.25 L/ha. Re-entry period is 12 hrs.	3.0	3.0
Influence WP	garlic powder	NC	10-20 kg in 1,000 L water per 300 m <sup>2</sup>	Root rots (damping off, crown and root rot, Root and stem rot, Root and stem wilt)	0	Do not enter treated areas until the spray is dried	For suppression. Apply as a drench to the substrate surface at seeding. Use the higher rate under high disease pressure or when conditions are conducive to disease development.	EXEMPT	
Kasumin 2L (updated June, 2016)	Kasugamycin	24	1.2 L in 240 L water per ha (100 ppm)	Suppression of Bacterial Spot (clavibacter michiganensis) and Bacterial Leaf Spot (Xanthomonas campestris)	1	12	For suppression. Do not make more than 3 applications per season. A minimum interval of 7 days between applications is required. Do not make more than 2 sequential applications before switching to a product with a different mode of action.	0.04	0.1
Maestro 80 DF or Supra Captan 80 WP	Captan	M4	Use 1.25 kg in 1,000 L water applied at rates of 50 to 85 L per 100 m <sup>2</sup>	Root rots (damping off, crown and root rot, Root and stem rot, Root and stem wilt)	NS	48	Use as a soil treatment. Work into the upper 7.5 to 10 cm of soil before planting.	0.05	0.1

MilStop	Potassium bicarbonate	NC	5.6 kg in 2,000 L water per ha	powdery mildew	0	4	Start application at first sign of disease. Uniform and complete coverage of the foliage is essential for the most effective results. Number of applications will depend on disease pressure. Use 7 day intervals between applications. Maximum number of applications per season is 10. Do not apply through any type of irrigation system.	EXEMPT	
Mycostop	Streptomyces griseoviridis strain K61		Rockwool: 5-10 mg per plant (for spraying and drenching use 10-20 mL per plant of 0.05% suspension); Beds: 5-10 g per 100 m <sup>2</sup> (for spraying and drenching use 0.1-0.2 L per m <sup>2</sup> of 0.05% suspension)	<i>Fusarium</i> spp., root diseases, stem rot	NS	NS	For suppression. Apply immediately after transplanting. Repeat applications at 3 to 6 week intervals. For seedling production, apply first spray after emergence using lower rate.	EXEMPT	
Nova	Myclobutanil	3	340 g/ha using 1,500-3,000 L water/ha	powdery mildew	3	12	Use a maximum of one application per crop cycle. Apply as soon as possible after initial infection.	4.0	1.0
Orondis	oxathiapiprolin	U15	0.175-0.35 L per ha	Late blight (Phytophthora blight, Phytophthora foliar blight)	0	12	Foliar application only. Begin applications prior to disease development and continue on a 5 to 14 day interval. Use higher rate and shorter interval when disease pressure is high. Do not make more than 4 applications per crop year.	0.5	0.5
Palladium WG	cyprodinil	9 + 12	775 g in 475-2,000 L water per ha	Powdery mildew	1	24	For suppression. Begin applications when conditions become favourable to disease but before infection. If favourable conditions persist, make additional applications on a 7 to 10 day interval. Do not make more than 2 sequential applications before using another registered fungicide with a different mode of action. Do not make more than 3 applications per crop cycle.	1.5	1.5
	+ fludioxonil							0.5	0.5
Prestop	Gliocladium catenulatum (fungus)		Use 0.5% aqueous suspension (25 g in 5 L water). Growing media: 125-250 mL of suspension per 10 L growing media; Soil drench: 20 L suspension per 10 m <sup>2</sup> growing media.	<i>Pythium</i> sp., <i>Rhizoctonia solani</i>	NS	4	For suppression. Apply as a growing media treatment or as a drench treatment. Most effective when applied preventatively, before disease starts. Treat the growing media prior to seeding, transplanting or potting, or else make a drench application immediately after seeding, transplanting or potting. Additional applications can be made as a drench. Repeat applications every 3 to 6 weeks, with shorter intervals used under conditions of moderate to high disease pressure.	EXEMPT	

			Use 0.5% aqueous suspension (25 g in 5 L water).	<i>Botrytis cinerea</i>			For suppression. Apply as a foliar spray treatment to plant stems and leaves. Spray to wet but not to run-off. Most effective when applied preventatively, before disease starts. Repeat applications every 3 to 4 weeks, with shorter intervals used under conditions of moderate to high disease pressure.		
Previcur N	Propamocarb hydrochloride	28	10 mL/10 L of water & apply this solution at rate of 100-200 mL / plant. Use higher rate for 2nd and 3rd applications.	Pythium root rot	1	12	Do not mix with other products. Prevent intense sunlight after application. A maximum of 4 applications can be made per crop cycle. Do not apply more than 2 seeding/seedling applications per crop cycle. Do not apply more than 2 after transplanting applications per crop cycle.	2	4
Pristine WG	Boscalid	7	1.2 kg/ha in a minimum water volume of 250 L/ha	Powdery mildew ( <i>Leveillula taurica</i> )	1	12	For suppression. Begin applications prior to disease development. Do not apply this product using any type of foggers or misters. Do not apply more than 1 time per crop cycle. Do not use on greenhouse transplants.	3.0	1.4
	Pyraclostrobin	11						1.4	1.0
PureSpray Green Spray Oil 13E	Mineral Oil	NC	10 L in 1,000 L water (1% solution) per ha	Powdery mildew ( <i>Leveillula taurica</i> )	NS	12	For suppression. Begin when conditions are favourable for disease development and/or when first symptoms appear. Apply at 7 to 10 day intervals. For effective control thorough coverage is essential. Do not exceed rate otherwise phytotoxicity may result.	EXEMPT	
Regalia Maxx	<i>Reynoutria sachalinensis</i> extract	P5	0.125-0.25% v/v (1.25-2.5 mL per L)	Powdery mildew ( <i>Leveillula taurica</i> )	0	Do not enter treated area until spray is dried	For suppression. Begin applications at the first sign of disease, or when conditions become conducive for disease development. Repeat as necessary on a 7 to 10 day interval. Use the shorter spray interval under high disease pressure. Spray until just prior to runoff. Do not apply in a spray volume of more than 1,500 L per ha.	EXEMPT	
Rhapsody ASO	<i>Bacillus subtilis</i> strain QST 713	NC	1.0-2.0 L/100 L water	grey mould, bacterial spot, bacterial blight, bacterial speck	0	NS	For suppression. Begin application soon after emergence or transplant and when conditions are conducive to disease development. Repeat as necessary on a 7 to 10 day interval.	EXEMPT	
RootShield HC	Trichoderma harzianum rifai strain KRL-AG2	NC	3.75-7.5 g per L	Botrytis cinerea	NS	4	For suppression. Use a quantity of spray solution to thoroughly cover foliage. Spray to wet, but avoid run-off. Use higher rates when conditions favour disease development or high disease pressure is anticipated.	EXEMPT	
			Drench: 55-110 g per m <sup>3</sup> using a suspension of 30-45 g in 100 L	Fusarium pythium, rhizoctonia			For suppression. Can be applied through low pressure watering nozzles such as fan nozzles or other watering systems.		



Rootshield granules	<i>Trichoderma harzianum</i> Rifai strain KRL-AG2	NC	600-750 g per cubic metre (loose) planting mix or soil	<i>Fusarium</i> spp, <i>pythium</i> spp, <i>rhizoctonia</i> spp.	NS	4	For suppression. For best results, thoroughly incorporate granules during mix preparation or pot filling, or incorporate into planting beds by raking or tilling.	EXEMPT	
RootShield® WP	<i>Trichoderma harzianum</i> rifai strain KRL-AG2	NC	Suspend this product in sufficient water (eg. 30-45 g/100L) to achieve uniform application and apply at the rate of 55-110 g per cubic metre (loose) of greenhouse potting mix, soil or planting beds.	<i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> spp.	NS	4	It can be applied through low pressure watering nozzles such as fan nozzles or other watering systems. Agitate to maintain suspension.  When incorporated into or applied to the media, the spores become active when media temperatures exceed 10C, and are more effective when the pH of the media is neutral or acidic.	EXEMPT	
Bartlett's Microscopic Sulphur 92%	sulphur		543-760 g/1,000 L ha	powdery mildew	1		Apply as required on a minimum of 14-day interval for up to 10 applications per crop cycle.	EXEMPT	
Serifel	<i>Bacillus subtilis</i> strain MBI 600	44	50 g in 12.5 L water per 21.9 m <sup>3</sup> growing media	<i>Fusarium</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia solani</i>	NS	NS	For suppression. While suspended apply as a spray onto 21.9 m <sup>3</sup> of plant growing media (potting soil, peat moss or peat based mixtures) prior to planting. Mix thoroughly to ensure adequate distribution of the product.		
Supra Captan 80W	Captan	M4	63-107 g/100 m <sup>2</sup> as a soil treatment	Damping off, fungus root rot diseases			Use 1.25 kg per 1000 L water and apply at rates of 50-85 L/100 m <sup>2</sup> . Work into the upper 7.5-10 cm of soil before planting. Re-entry interval is 48 hrs.	0.05	0.1
Palladium	Cyprodinil  Fludioxonil	9  12	775g/ha. Apply in sufficient water to ensure thorough coverage (475-2000 L/ha).	Suppression of Powdery Mildew ( <i>Leveillula taurica</i> )	1		Begin applications when conditions become favorable for disease but before infection. If favorable conditions persist, make additional application on a 7 to 10 day interval. Make no more than two sequential applications before using another registered fungicide. Do not make more than three (3) applications per crop cycle. Restricted entry interval is 24 hours.	1.5  0.5	1.5  0.5
Timorex Gold	Tea Tree Oil	46	1-1.5 L in 400-800 L water per ha	Control of Powdery Mildew ( <i>Leveillula taurica</i> )	2	4	Do not spray during the warm hours of the day and in hot seasons with temperatures above 35°C. Do not apply through any type of irrigation system. Good coverage and wetting of foliage is required. For preventative treatments, apply at 7 to 14 day intervals, depending on disease level. Use shorter application intervals under conditions that promote rapid disease development. Do not apply with captan or sulphur, which could cause phytotoxicity.	Non-crop use†	EXEMPT

The MRL (maximum residue limit) or tolerance is the maximum concentration of a pesticide that may remain in or on a food at the farm gate when the pesticide is used according to registered label directions (e.g. use pattern, PHI etc). The highlighted products are those that have a US tolerance lower than the Canadian MRL. In these cases, growers must use extreme caution when using these products, if they plan on selling their produce to the US, in order to ensure the US tolerance is not exceeded. Products with "NONE" as the US tolerance should be avoided.

\* Source: Product label, \*\* United States Federal Electronic Register, Title 40: Protection of the Environment, Part 180 - Tolerances and exemptions for pesticide chemicals in food

\*\*\* PMRA website

NC = not classified;

NS = not stated

† The EPA has classified Timorex Gold as a “non-crop use” in the United States because no tea tree oil residues were found on the crop beyond background levels after 48 hours.

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