

2024-1011  
2024-04-29

<b>GROUP</b>	<b>28</b>	<b>INSECTICIDE</b>
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**EXIREL® insecticide**

SUSPENSION

FOR SALE FOR USE ON POME FRUIT GROUP, STONE FRUIT GROUP, TREE NUTS GROUP, CORM AND TUBEROUS VEGETABLES, ROOT VEGETABLES (except sugar beet), BULB VEGETABLES, LEAFY VEGETABLES, CUCURBIT VEGETABLES, BRASSICA VEGETABLES, LEGUME VEGETABLES, FRUITING VEGETABLES, BUSH BERRIES, LOW GROWING BERRIES, PEANUTS, TOBACCO and GREENHOUSE TOMATOES, PEPPERS, EGGPLANTS, CUCUMBERS AND LETTUCE, CANEBERRIES STRAWBERRIES AND HOPS

AGRICULTURAL

READ THE LABEL AND ACCOMPANYING BOOKLET BEFORE USING

**ACTIVE INGREDIENT:** Cyantraniliprole 100 g/L

Contains 1,2-Benzisothiazolin-3-one at 0.0193 % as a preservative

-OR-

Contains 5-Chloro-2-methyl-2H-isothiazol-3-one at 0.00085%, 2-Methyl-2H-isothiazol-3-one at 0.00028% and Bronopol at 0.0088% as a preservative

Warning, contains the allergen soy.

REGISTRATION NO 30895 PEST CONTROL PRODUCTS ACT

WARNING - SKIN IRRITANT  
POTENTIAL SKIN SENSITIZER

**NET CONTENTS:** 0.5 - 3.79 - 100 LITRES

FMC of Canada Limited  
6755 Mississauga Road, Suite 204  
Mississauga, ON L5N 7Y2  
1-833-362-7722

IN CASE OF EMERGENCY, CALL 1-800-331-3148 (24 HOURS)

**PRECAUTIONS:**

- **KEEP OUT OF REACH OF CHILDREN.**
- Causes skin irritation. Do not get on skin.
- Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.
- See the Aerial Application Label Instructions section of this label for additional precautions specific to aerial application.
- Apply only to agricultural crops when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.
- When applied as a tank-mix combination, read and observe all label directions, including rates, and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures stated on both product labels for mixing, loading and applying.
- **DO NOT** apply using handheld mistblower/airblast or handheld fogging equipment.
- Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical resistant footwear during mixing, loading, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing and loading.
- For application using groundboom equipment: Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical resistant footwear. Gloves and coveralls are not required during application within a closed cab.
- For application using aerial equipment: Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Gloves are not required during application within a closed cockpit. Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system. It is desirable that the pilot have communication capabilities at each treatment site at the time of application. All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.
- For application using airblast equipment: Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical resistant footwear. In addition, wear chemical-resistant headgear during open-cab airblast application. Chemical-resistant headgear includes Sou'Wester hat, chemical-resistant rain hat or large brimmed waterproof hat and hood with sufficient neck protection. Gloves are not required during application within a closed cab.

**FIRST AID:**

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**IF SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice.

Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

For medical emergencies call **1-800-331-3148** (24 hours).

**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

**ENVIRONMENTAL PRECAUTIONS:**

- Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.
- Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland.
- Toxic to bees. This product is systemic and bees can be exposed to product residues in flower, leaves, pollen and/or nectar resulting from soil or foliar applications. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to the evening when most bees are not foraging. Avoid applications when bees are foraging in the treatment area in ground cover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying – Best Management Practices" on the Health Canada website ([www.canada.ca/pollinators](http://www.canada.ca/pollinators)).
- To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.
- Avoid application when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.
- Greenhouse use: Toxic to bees and other beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). May harm bees and other beneficial arthropods, including those used in greenhouse production. Avoid application when bees or other beneficial arthropods are in the treatment area.

**STORAGE:**

Store this product away from food or feed. Store product in original container only, away from other pesticides and fertilizer. Not for use or storage in or around the home. Keep container closed.

**DISPOSAL:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial/territorial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial/territorial regulatory agency in case of a spill, and for clean-up of spills.

**NOTICE TO USER:**

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

**EXIREL® insecticide**

SUSPENSION

FOR SALE FOR USE ON POME FRUIT GROUP, STONE FRUIT GROUP, TREE NUTS GROUP, CORM AND TUBEROUS VEGETABLES, ROOT VEGETABLES (except sugar beet), BULB VEGETABLES, LEAFY VEGETABLES, CUCURBIT VEGETABLES, BRASSICA VEGETABLES, LEGUME VGETABLES, FRUITING VEGETABLES, BUSH BERRIES, LOW GROWING BERRIES, PEANUTS , TOBACCO and GREENHOUSE TOMATOES, PEPPERS, EGGPLANTS, CUCUMBERS, AND LETTUCE CANEBERRIES, STRAWBERRIES, AND HOPS

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- Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.
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- See the Aerial Application Label Instructions section of this label for additional precautions specific to aerial application.
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- **DO NOT** apply using handheld mistblower/airblast or handheld fogging equipment.
- Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical resistant footwear during mixing, loading, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing and loading.
- For application using groundboom equipment: Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical resistant footwear. Gloves and coveralls are not required during application within a closed cab.
- For application using aerial equipment: Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Gloves are not required during application within a closed cockpit. Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system. It is desirable that the pilot have communication capabilities at each treatment site at the time of application. All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.
- For application using airblast equipment: Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical resistant footwear. In addition, wear chemical-resistant headgear during open-cab airblast application. Chemical-resistant headgear includes Sou'Wester hat, chemical-resistant rain hat or large brimmed waterproof hat and hood with sufficient neck protection. Gloves are not required during application within a closed cab.

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**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

**ENVIRONMENTAL PRECAUTIONS:**

- Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.
- Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland.
- Toxic to bees. This product is systemic and bees can be exposed to product residues in flower, leaves, pollen and/or nectar resulting from soil or foliar applications. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to the evening when most bees are not foraging. Avoid applications when bees are foraging in the treatment area in ground cover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying – Best Management Practices" on the Health Canada website ([www.canada.ca/pollinators](http://www.canada.ca/pollinators)).
- To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.
- Avoid application when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.
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- Greenhouse use: Toxic to bees and other beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). May harm bees and other beneficial arthropods, including those used in greenhouse production. Avoid application when bees or other beneficial arthropods are in the treatment area.

**STORAGE:**

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**DISPOSAL:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial/territorial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial regulatory/territorial agency in case of a spill, and for clean-up of spills.

## GENERAL INFORMATION

EXIREL® insecticide is a suspension that can be applied as a foliar spray, using ground or aerial application to control many important insect pests. EXIREL® insecticide is specially formulated for foliar application. EXIREL® insecticide is mixed with water for application. For greenhouse uses **DO NOT apply EXIREL® Insecticide in irrigation water.**

EXIREL® insecticide is a member of the anthranilic diamide class of insecticides, which act on insect ryanodine receptors. Although EXIREL® insecticide has contact activity, it is most effective through ingestion of treated plant material. After exposure to EXIREL® insecticide, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae or nymphs, before populations reach damaging levels. When pest populations are high, use the highest listed application rate for that pest. Use the higher rate and high spray volumes for large plants or dense foliage.

Apply at the labelled rates when insect populations reach locally determined economic thresholds. Consult your local extension specialist or certified crop advisor to determine appropriate threshold levels for treatment in your area.

Use sufficient water to obtain thorough, uniform coverage.

## DIRECTIONS FOR USE

As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.

**DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

**DO NOT** allow releases, effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.

## FIELD SPRAYER, AIRBLAST, AND AERIAL APPLICATION

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) fine classification. Boom height must be 60 cm or less above the crop or ground.

Airblast application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) fine classification. reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

Apply only by fixed-wing or rotary aircraft equipment, which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label. Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no

rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### Use Precautions for Aerial Application

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the **“National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides”**.

#### Operator Precautions for Aerial Application

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking.

Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

#### Product Specific Precautions for Aerial Application

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-833-362-7722 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following: Apply the recommended rate in a minimum spray volume of 50 litres per hectare.

### **Spray Buffer zones:**

Use of the following spray methods or equipment **DO NOT** require a spray buffer zone: hand-held or backpack sprayer and spot treatment.

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:		
		Freshwater Habitat of Depths:		Terrestrial habitat
		Less than 1 m	Greater than 1 m	
Field sprayer	Tub. Veg., bulb veg., leafy veg., cucurbits, brassica, fruiting veg., bushberries, root vegetables (except sugar beets), legume vegetables, low growing berries (except strawberry), peanuts, tobacco, caneberries, strawberries, hops	2	1	1

Airblast	Pome fruit, stone fruit, tree nuts, low growing berries strawberries, caneberries, hops	Early growth stage	5	2	2
		Late growth stage	3	1	1
Aerial	Tub. Veg., bulb veg., leafy veg., cucurbits, brassica, fruiting veg., bushberries, root vegetables (except sugar beets), legume vegetables	Fixed wing	5	1	15
		Rotary wing	2	1	15

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

#### **CHEMIGATION**

DO NOT apply EXIREL® insecticide by chemigation unless specified on this label. EXIREL® insecticide may be applied through a solid set overhead sprinkler irrigation system that will apply water uniformly and within the confines of a closed perimeter of dykes.

Do not apply this product through any other type of irrigation system. Sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units are not recommended. Non-uniform distribution of treated water may reduce effectiveness or result in illegal pesticide residues on the crop.

Proper calibration of the chemigation system is essential to deliver the desired rate per hectare in a uniform manner and to minimize wash-off time. If you have questions about calibration, contact the equipment manufacturer or other expert.

#### **Equipment Requirements:**

- The system must contain an air gap, or approved backflow prevention device, or approved functional check valve, vacuum relief valve (including inspection port), and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow unless the water is from a man-made self-contained source on private land.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve or one-way valve to prevent the flow of fluid back toward the injection pump. A secondary containment system around the injection port area must be in place.
- The pesticide injection pipeline must also contain a functional, normally closed, valve located on the intake side of the injection system to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pressure drops or water flow stops. Alternatively, in the absence of such an automatic system, the injection procedure must be continuously monitored by an operator who is able to manually shut off pesticide injection under the same circumstances.
- Systems must use a metering device, such as a positive displacement injection pump (or flow meter on eductor) effectively designed and compatible with pesticides and capable of being fitted with a system interlock.
- The tank holding the insecticide mixture should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injection point.

- To insure uniform mixing of the insecticide in the water line, inject the mixture in the center of the pipe diameter or just ahead of an elbow or tee in the irrigation line so the turbulence created at those points will assist in mixing. The injection point must be located after all back-flow prevention devices on the water line unless the water is from a man-made self-contained source on private land.

**Precautions:**

- DO NOT connect an irrigation system used for pesticide application to a public water system unless the required safety devices for public water systems are in place. Specific local regulations may apply and must be followed.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and shall shut the system down to make necessary adjustments should the need arise.
- DO NOT apply when wind speed causes non-uniform distribution and/or favours drift beyond the area intended for treatment.
- DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty.
- DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) fine classification. Applications must be conducted WITHOUT the use of end guns.
- DO NOT allow spray pattern to exceed the enclosed bed area.
- DO NOT apply by chemigation if the area to be treated is within 100 metres of a residential area or park.

**TUBEROUS AND CORM VEGETABLES – Crop Sub-Group 1C**

**Spray Volume for Tuberous and Corm Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE-APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
POTATO	Colorado potato beetle	500 to 1000	7-14	<p>Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.</p> <p>For optimum control of aphids, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.</p> <p>For Colorado potato beetle, use the lower rate under low pest pressure and use the higher rate under higher pest pressure, when large larvae are present, or when a longer duration of control is desired.</p> <p>Colorado potato beetle resistance management: DO NOT apply EXIREL® Insecticide for Colorado potato beetle control if any Group 28 insecticide was used at planting</p>
<b>TUBEROUS AND CORM VEGETABLES</b> Arrowroot; Artichoke, Chinese; Artichoke, Jerusalem; Chufa; Dasheen (taro); Ginger; Potato; Sweet potato	Cabbage looper	250 to 500	7	
	Armyworm Beet armyworm Fall armyworm	500		
	Variegated cutworm	500 to 750		
	Corn earworm Tobacco hornworm (suppression) Tomato hornworm (suppression)	750		
	European corn borer	500 to 750	5	
	Aphids	500 to 1500		
	Flea beetles	500 to 1000		

				<p>as an in-furrow, soil or seed-piece treatment.</p> <p>For control of the European corn borer, time the application to coincide with peak egg hatch. Scout for European corn borer by monitoring egg laying and egg hatch to determine application timing.</p>
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#### RESTRICTIONS AND PRECAUTIONS: Tuberous and Corm Vegetables

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 7 day before harvest. Observe a 7-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

#### ROOT VEGETABLES (except sugar beet) – Crop Sub-Group 1B

**Spray Volume for Root Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/H A	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>ROOT VEGETABLES (except sugar beet)</b> Beet, garden, Burdock, Carrot, Celeriac (celery root) Chervil, Chicory, Ginseng, Horse radish, Parsley, turnip- footed, Parsnip, Radish, Radish, oriental Rutabaga, Salsify, Salsify, black Salsify, spanish Skirret, Turnip	Cabbage looper	250 to 500	7	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.  For optimum control of aphids, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci- Tech* at an application rate of 0.5% v/v.
	Armyworm Beet armyworm Fall armyworm	500		
	Variegated cutworm	500 to 750		
	Corn earworm	750		
	European corn borer	500 to 750	5	For control of the European corn borer, time the application to coincide with peak egg hatch. Scout for European corn borer by monitoring egg laying and egg hatch to determine application timing.
	Aphids	500 to 1500		
	Flea beetles	500 to 1000		

**RESTRICTIONS AND PRECAUTIONS: Root Vegetables**

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 7 day before harvest. Observe a 7-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

**BULB VEGETABLES – Crop Group 3-07**

**Spray Volume for Bulb Vegetables:** Apply in a minimum finished spray volume of 200 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>BULB VEGETABLES</b> Chive, Chinese; Chive, fresh leaves; Daylily, bulb; Elegans hosta; Fritillaria; Garlic, bulb; Garlic, great-headed, bulb; Garlic, serpent, bulb; Kurrat; Lady's leek; Leek; Lily; Onion, Beltsville bunching; Onion, bulb; Onion, Chinese, bulb; Onion, fresh; Onion, green; Onion, macrostem; Onion, pearl; Onion, potato, bulb; Onion, tree, tops; Onion, Welsh, tops; Shallot, bulb; Shallot, fresh leaves; Wild leek	Thrips (suppression)	1000 to 1500	Begin applications when thrips populations are low. Thorough coverage is essential for optimum control.  For optimum control, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.  If thrips populations are high, use a registered insecticide with a different mode of action to reduce thrips populations before applying <sup>TM</sup> EXIREL <sup>TM</sup> insecticide.

**RESTRICTIONS AND PRECAUTIONS: Bulb Vegetables**

- For the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## LEAFY VEGETABLES (Except *Brassica* Vegetables) – Crop Group 4 and Cilantro (fresh leaves)

**Spray Volume for Leafy Vegetables and Cilantro:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS	
<b>LEAFY VEGETABLES</b> Amaranth (leafy amaranth, Chinese spinach, tampala); Arugula (Roquette); Cardoon; Celery; Celery, Chinese; Celtuce; Chervil; Chrysanthemum, edible- leaved; Chrysanthemum, garland; Corn salad; Cress, garden; Cress, upland (yellow rocket, winter cress); Dandelion; Dock (sorrel); Endive (escarole); Fennel, Florence (finocchio); Lettuce, head and leaf; Orach; Parsley; Purslane, garden; Purslane, winter; Radicchio (red chicory); Rhubarb; Spinach; Spinach, New Zealand; Spinach, vine; Swiss chard	Cabbage looper	250 to 500	7	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.  For optimum control of aphids and leafminers, apply Hasten NT Spray	
	Armyworm	500			
	Beet Armyworm				
	Fall Armyworm				
	Cutworms	500 to 750	5	Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.  For early season cutworm control, apply to foliage when rain is not expected in the next 24 hours. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage.	
	Corn earworm	750			
	Aphids	500 to 1500			
	Dipteran leafminers (larvae)	1000 to 1500			
	Flea beetles	500 to 1000			
Cilantro (fresh leaves)					

### RESTRICTIONS AND LIMITATIONS: Leafy Vegetables and Cilantro

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

### BRASSICA VEGETABLES – Crop Group 5

**Spray Volume for Brassica Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>BRASSICA VEGETABLES</b> Broccoli; Broccoli, Chinese; Broccoli raab; Brussels sprouts; Cabbage; Cabbage, Chinese (bok choy); Cabbage, Chinese (napa); Cabbage, Chinese, mustard (gai choy); Cauliflower; Cavolo broccolo; Collards; Kale; Kohlrabi; Mizuna; Mustard greens; Mustard spinach; Rape greens	Cabbage looper	250 to 500	7	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.  For optimum control, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.
	Imported cabbageworm			
	Diamondback moth			
	Beet Armyworm Fall Armyworm	500		
	Cutworms	500 to 750	5	For early season cutworm control, apply to foliage when rain is not expected in the next 24 hours. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage.
	Corn earworm	750		
	Swede midge	500 to 750		
	Aphids	500 to 1500		
	Dipteran leafminers (larvae)	1000 to 1500		
	Flea beetles	500 to 1000		

**RESTRICTIONS AND PRECAUTIONS: Brassica Vegetables**

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## LEGUME VEGETABLES - Crop Group 6

**Spray Volume for Legume Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>LEGUME VEGETABLES</b> Bean (Lupinus) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); Bean (Phaseolus) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); Bean (Vigna) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); Broad bean (fava); Chickpea (garbanzo); Guar; Jackbean; Lablab bean; Lentil; Pea (Pisum) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); Pigeon pea; Sword bean; Soybean	Cabbage looper	250 - 500	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.
	Armyworm	500	
	Beet armyworm		
	Fall armyworm		For cutworm control, apply to foliage when rain is not expected in the next 24 hours. For optimal control, apply to smaller plants or when lower portions of the plant can receive adequate coverage.
	Cutworms	500 - 750	
	European corn borer		
	Soybean aphid	750 - 1500	For optimum control of aphids apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.
	Bean Leaf Beetle (suppression)	1000 - 1500	

### RESTRICTIONS AND PRECAUTIONS: Legume Vegetables

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 1 day before harvest for succulent peas or beans. Observe a 1-day PHI.
- Do not apply less than 7 day before harvest for dried peas or beans. Observe a 7-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## FRUITING VEGETABLES (EXCEPT CUCURBITS) – Crop Group 8-09

**Spray Volume for Fruiting Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>FRUITING VEGETABLES</b> African eggplant; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Groundcherry; Martynia; Okra; Pea eggplant; Pepino; Pepper, bell; Pepper, non-bell; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Cultivars, varieties and/or hybrids of these	Cabbage looper	250 to 500	7	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.
	Armyworm Beet armyworm Fall armyworm	500		
	Cutworms	500 to 750		
	Tomato fruitworm (corn earworm) Tobacco hornworm (suppression) Tomato hornworm (suppression)	750		For optimum control of aphids, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.
	Colorado potato beetle	750 to 1000	7-14	Colorado potato beetle resistance management: DO NOT apply EXIREL® insecticide for Colorado potato beetle control if any Group 28 insecticide was used at planting as an in-furrow, soil or seed treatment.
	European corn borer	500 to 750	5	
	Aphids	500 to 1500		
	Flea beetles	500 to 1000		For early season cutworm control, apply to foliage when rain is not expected in the next 24 hours. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage.

### RESTRICTIONS AND PRECAUTIONS: Fruiting Vegetables

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## CUCURBIT VEGETABLES – Crop Group 9

**Spray Volume for Cucurbit Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>CUCURBIT VEGETABLES</b> Chinese waxgourd (Chinese preserving melon); Citron melon; Cucumber; Gherkin; Gourd, edible (includes Chinese okra, cucuzza, hechima, hyotan); <i>Momordica</i> spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber); Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon); Pumpkin; Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); Squash, winter (includes acorn squash, butternut squash, calabaza, hubbard squash, spaghetti squash); Watermelon	Cabbage looper	250 to 500	7	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.  For optimum control of aphids and leafminers, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.
	Armyworm Fall armyworm	500		
	Cutworms	500 to 750		
	Corn earworm	750		
	Aphids	500 to 1500	5	For early season cutworm control, apply to foliage when rain is not expected in the next 24 hours. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage.
	Dipteran leafminers (larvae)	750 to 1000		
	Flea beetles	500 to 1000		

### RESTRICTIONS AND PRECAUTIONS: Cucurbit Vegetables

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## POME FRUITS – Crop Group 11-09

**Spray Volume for Pome Fruits:** Apply in a minimum finished spray volume of 450 L/ha by ground.

SITE	PEST	RATE mL EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>POME FRUITS</b> Apple; Azarole; Crabapple; Mayhaw; Medlar; Pear; Pear, Asian; Quince; Quince, Japanese; Cultivars, varieties and/or hybrids of these	Codling moth Oriental fruit moth Spotted tentiform leafminer Western tentiform leafminer	500 to 750	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.  For optimum control of 1st generation codling moth, apply before first egg hatch (80 – 110 degree days Celsius after BIOFIX). Monitor populations and reapply 10 – 14 days later if required. For 2nd generation codling moth, timing of the first application is based on first egg hatch after establishing a new BIOFIX. Monitor populations and reapply 10 – 14 days later if required. BIOFIX is determined to be set when a first consistent moth catch has been attained within the orchard. For the determination of degree-days for codling moth, a lower and upper threshold of 10 and 31 degrees Celsius is used.
	Obliquebanded leafroller Threelined leafroller Fruittree leafroller European leafroller Eyespotted bud moth Tufted apple bud moth	500 to 1000	
	Green peach aphid Rosy apple aphid	750 to 1500	For optimum control of oriental fruit moth, Apply at 1st egg hatch of the targeted generation. Monitor populations using pheromone traps and reapply 10 – 14 days later if required.
	Apple maggot Plum curculio Japanese beetle	1000 to 1500	
	White apple leafhopper	750 to 1500	For optimum control of over-wintering generations of oblique-banded leafroller, monitor larval population in the spring, and apply when over-wintering larvae become active, from pink stage through petal fall. For summer generations, monitor adult moth flight, and apply at first egg hatch (170 – 240 degree days Celsius) after the first sustained moth catch. A repeat application approximately 10 days after the initial application may be needed to control the extended emergence of the small larvae.
	European apple sawfly	500 to 1000	For apple maggot control, apply 7-10 days after the first apple maggot fly is caught on the traps in orchard. Repeat in 10 -14 days if populations warrant.  For Japanese beetle, monitor adult populations and insect damage. Follow provincial guidelines for treatment thresholds.  For plum curculio, monitor trees along the edge of the orchard for the first sign of feeding damage after bloom. Repeat 10 – 14 days if population warrant.

### RESTRICTIONS AND PRECAUTIONS: Pome Fruits

- DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT.
- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.

- Do not apply more than once every 7 days.
- Do not apply less than 3 days before harvest. Observe a 3-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## STONE FRUITS – Crop Group 12-09

**Spray Volume for Stone Fruits:** Apply in a minimum finished spray volume of 450 L/ha by ground.

SITE	PEST	RATE mL EXIREL® insecticide/ HA	SPECIFIC DIRECTIONS
<b>STONE FRUITS</b> Apricot; Cherry, black; Cherry, Nanking; Cherry, sweet; Cherry, tart; Chokecherry; Nectarine; Peach; Plum; Plum, American; Plum, beach; Plum, Canada; Plum, cherry; Plum, Chickasaw; Plum, Damson; Plum, Japanese; Plum, Klamath; Plum, prune; Plumcot; Sloe; Cultivars, varieties and/or hybrids of these	Oriental fruit moth	500 to 750	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.
	Obliquebanded leafroller Threelined leafroller Fruittree leafroller European leafroller Eyespotted bud moth	500 to 1000	For optimum control of green peach aphid, plum aphid, cherry fruit fly, western cherry fruit fly, and spotted wing drosophila, tank mix EXIREL® Insecticide with Xiameter® OFX-0309 Fluid at 0.03 % v/v. It is recommended that a small area be tested to demonstrate safety to fruit and leaves before using in large areas. Do not tank mix EXIREL® Insecticide with any surfactant except as directed on this label.
	Green peach aphid Plum aphid Cherry fruit fly Western cherry fruit fly	750 to 1500	For optimum control of oriental fruit moth, apply at 1st egg hatch of the targeted generation. Monitor populations using pheromone traps and reapply 7 – 10 days later if required.  For optimum control of over-wintering generations of oblique-banded leafroller, monitor larval population in the spring, and apply when over-wintering larvae become active, from pink stage through petal fall. For summer generations, monitor adult moth flight, and apply at first egg hatch (170 – 240 degree days Celsius) after the first sustained moth catch. A repeat application approximately 10 days after the initial application may be needed to control the extended emergence of the small larvae.
	Plum curculio  Japanese beetle  Spotted Wing Drosophila	1000 to 1500	
	Peach twig borer	750 to 1000	For optimal control of peach twig borer, use pheromone traps to monitor the male moth activity. Follow local recommendations for thresholds information. For spring/overwintering or first summer generation larvae: Apply within 7 days of first trap catch of adult male moths. For second summer generation larvae: To ensure good crop protection, continue monitoring for second brood moths until at least mid-August. If required, apply a second spray within 7 days of first trap catch of adult male moths.  For Japanese beetle, monitor adult populations and insect damage. Follow provincial guidelines for treatment thresholds.

			<p>For plum curculio, monitor trees along the edge of the orchard for the first sign of feeding damage after bloom. Repeat 10 – 14 days if population warrant.</p> <p>For Spotted wing drosophila, begin applications when populations are low. EXIREL® insecticide targets the adult life stage of Spotted wing drosophila. If Spotted wing drosophila populations are high, use a registered insecticide with a different mode of action to reduce the pest populations. Apply a subsequent application of EXIREL® insecticide if required.</p>
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**RESTRICTIONS AND PRECAUTIONS: Stone Fruits**

- DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT.
- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 7 days.
- Do not apply less than 3 day before harvest. Observe a 3-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## BUSHBERRIES – Crop Sub-Group 13-07B

**Spray Volume for Bushberries:** Apply in a minimum finished spray volume of 200 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/ HA	RE-APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>BUSHBERRIES</b> Aronia berry; Blueberry, highbush; Blueberry, lowbush; Buffalo currant; Currant, black; Currant, red; Elderberry; European barberry; Gooseberry; Highbush cranberry; Honeysuckle, edible; Huckleberry; Jostaberry; Juneberry (Saskatoon berry); Lingonberry; Native currant; Salal; Sea buckthorn; Cultivars, varieties and/or hybrids of these	Blueberry gall midge	750 to 1000	5	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.  For optimum control of blueberry aphid, spotted wing drosophila, blueberry maggot, and blueberry gall midge, tank mix EXIREL® Insecticide with an MSO surfactant at 0.5-1.0% v/v. It is recommended that a small area be tested to demonstrate safety to fruit and leaves before using in large areas. Do not tank mix EXIREL® Insecticide with any surfactant except as directed on this label.
	Blueberry maggot (suppression)	1000 to 1500		
	Plum curculio			
	Japanese beetle			
	Spotted wing drosophila			
	Flea beetles	500 to 1000	7	For blueberry maggot, begin applications when populations are low. If blueberry maggot populations are high, use a registered insecticide with a different mode of action to reduce the pest populations before applying EXIREL® insecticide.  For Spotted wing drosophila, begin applications when populations are low. EXIREL® insecticide targets the adult life stage of Spotted wing drosophila. If Spotted wing drosophila populations are high, use a registered insecticide with a different mode of action to reduce the pest populations. Apply a subsequent application of EXIREL® insecticide if required.
	Cranberry fruitworm	500 to 1000		
	Obliquebanded leafroller			
	Threelined leafroller			
	Fruittree leafroller			
	European leafroller			
	Eyespotted bud moth			
	Blueberry aphid	750 to 1500		

### RESTRICTIONS AND PRECAUTIONS: Bushberries

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 3 days before harvest. Observe a 3-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## LOW GROWING BERRIES (except strawberry) – Crop Sub-Group 13-07H

**Spray Volume for Low Growing Berries:** Apply in a minimum finished spray volume of 200 L/ha by ground or up to 3000 L/ha by overhead chemigation.

SITE	PEST	RATE mL EXIREL® insecticide/HA	SPECIFIC DIRECTIONS
<b>Low Growing berries (except Strawberry)</b> Bearberry, Bilberry, Lowbush blueberry, Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry,  Cultivars, varieties and/or hybrids of these	Cranberry fruitworm  Black headed fire worm  Sparganothis Fruitworm	750 to 1500	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.

**RESTRICTIONS AND PRECAUTIONS: Low Growing Berries**

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 7 days.
- Do not apply less than 14 days before harvest. Observe a 14-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## TREE NUTS – Crop Group 14-11

**Spray Volume for Tree Nuts Group:** Apply in a minimum finished spray volume of 450 L/ha by ground.

SITE	PEST	RATE mL EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>TREE NUTS</b> Almond; Beech nut; Bur oak; Butternut; Chestnut; Chinquapin; Ginkgo; Hazelnut (Filbert); Heartnut; Hickory nut; Monkey puzzle nut; Pecan; Walnut, black; Walnut, English	Codling moth	500 to 750	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.
	Oriental fruit moth		
	Obliquebanded leafroller	500 to 1000	For optimum control of 1st generation codling moth, apply before first egg hatch (80 – 110 degree days Celsius after BIOFIX). Monitor populations and reapply 10 – 14 days later if required. For 2nd generation codling moth, timing of the first application is based on first egg hatch after establishing a new BIOFIX. Monitor populations and reapply 10 – 14 days later if required. BIOFIX is determined to be set when a first consistent moth catch has been attained within the orchard. For the determination of degree-days for codling moth, a lower and upper threshold of 10 and 31 degrees Celsius is used.
	Threelined leafroller		
	Fruittree leafroller		
	European leafroller		
	Eyespotted bud moth		
	Peach twig borer	750 to 1000	<p>For optimum control of oriental fruit moth, apply at 1st egg hatch of the targeted generation. Monitor populations using pheromone traps and reapply 7 – 10 days later if required.</p> <p>For optimum control of over-wintering generations of oblique-banded leafroller, monitor larval population in the spring, and apply when over-wintering larvae become active, from pink stage through petal fall. For summer generations, monitor adult moth flight, and apply at first egg hatch (170 – 240 degree days Celsius) after the first sustained moth catch. A repeat application approximately 10 days after the initial application may be needed to control the extended emergence of the small larvae.</p> <p>For optimal control of peach twig borer, use pheromone traps to monitor the male moth activity. Follow local recommendations for thresholds information.</p> <p>For spring/overwintering or first summer generation larvae: Apply within 7 days of first trap catch of adult male moths.</p> <p>For second summer generation larvae: To ensure good crop protection, continue monitoring for second brood moths until at least mid-August. If required, apply a second spray within 7 days of first trap catch of adult male moths.</p>

### RESTRICTIONS AND PRECAUTIONS: Tree Nuts

- DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT.
- For any of the pests listed above, use the high rate under heavy pest pressure.

- Do not make more than 4 applications per season.
- Do not apply more than once every 7 days.
- Do not apply less than 5 days before harvest. Observe a 5-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## PEANUTS

**Spray Volume for Peanuts:** Apply in a minimum finished spray volume of 200 L/ha by ground.

SITE	PEST	RATE mL EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>Peanuts</b>	Armyworm	500	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.
	Fall armyworm		
	Cutworms	500 to 750	
	Corn earworm	750	

### RESTRICTIONS AND PRECAUTIONS: Peanuts

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 7 days.
- Do not apply less than 14 days before harvest. Observe a 14-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## TOBACCO

**Spray Volume for Tobacco:** Apply in a minimum finished spray volume of 200 L/ha by ground.

SITE	PEST	RATE mL EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>Tobacco</b>	Tobacco hornworm (suppression)	750	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.
	Tomato hornworm (suppression)		
	Flea beetles	500-1000	

### RESTRICTIONS AND PRECAUTIONS: Tobacco

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 7 days before harvest. Observe a 7-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

**FOR USE ON GREENHOUSE CUCUMBERS, GREENHOUSE PEPPERS, GREENHOUSE EGGPLANT AND GREENHOUSE TOMATOES**

**Recommended Spray Volume for Greenhouse Vegetables: .**

SITE	PEST	RATE EXIREL® Insecticide / Hectare	SPECIFIC DIRECTIONS
<b>GREENHOUSE CUCUMBERS;</b>	Cabbage looper	250 ml	Begin applications when treatment thresholds have been reached. Thorough coverage is required to obtain optimum control. 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. Repeat applications if monitoring indicates it is necessary.  For optimum control of thrips and whiteflies, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.  If thrips populations are above threshold, use a registered knockdown product before applying EXIREL® Insecticide.
<b>GREENHOUSE PEPPERS;</b>	Thrips (Suppression)	500 - 1000 ml	
<b>GREENHOUSE TOMATOES</b>  <b>GREENHOUSE EGGPLANT</b>	Whiteflies	750 – 1000 ml	

**RESTRICTIONS AND PRECAUTIONS: Greenhouse Vegetables**

- **Foliar use only. DO NOT apply in irrigation water.**
- Use of mist blowers, thermal foggers, ultra-low volume (ULV) and electrostatic sprayers is not permitted
- Do not make more than 4 applications per crop cycle.
- Do not apply more than once every 7 days.
- Minimum time (PHI) between application and harvest is 1 day for peppers, eggplant and tomatoes and 0 days for cucumbers.
- **For use only on tomatoes, peppers, eggplants and cucumbers being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses or greenhouses by commercial transplant producers on plants being grown for transplanting**
- Do not allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

**NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS:**

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than FMC under the User Requested Minor Use Label Expansion program. For these uses FMC has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

**BUSHBERRIES – Crop Sub-Group 13-07B**

**Spray Volume for Bushberries:** Apply in a minimum finished spray volume of 200 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>BUSHBERRIES</b> Aronia berry; Blueberry, highbush; Blueberry, lowbush; Buffalo currant; Currant, black; Currant, red; Elderberry; European barberry; Gooseberry; Highbush cranberry; Honeysuckle, edible; Huckleberry; Jostaberry; Juneberry (Saskatoon berry); Lingonberry; Native currant; Salal; Sea buckthorn; Cultivars, varieties and/or hybrids of these	Black Vine Weevil adults  Clay Coloured Weevil adults	1000-1500 ml	5	<p>Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.</p> <p>Clay coloured: Begin application when damage to buds is first detected (in the spring).</p> <p>Black Vine: Apply when most of adults have emerged but before they begin to lay eggs (early summer).</p>

**RESTRICTIONS AND PRECAUTIONS: Bushberries**

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 3 days before harvest. Observe a 3-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

## CANEBERRIES – Crop Sub-Group 13-07A

**Spray Volume for Caneberries:** Apply in a minimum finished spray volume of 500 L/ha by ground.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>CANEBERRIES</b> Blackberry (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); Loganberry; Raspberry, black and red; Wild raspberry; Cultivars, varieties and/or hybrids of these	Black Vine Weevil adults  Obscure root weevil adults  Spotted Wing Drosophila  Japanese Beetle	1000-1500 ml	5	<p>Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.</p> <p>Obscure Root Weevil: Begin applications when adults are observed.</p> <p>Black Vine: Apply when most of adults have emerged but before they begin to lay eggs (early summer)</p> <p>Japanese Beetle: Begin applications when thresholds have been reached</p> <p>For optimum control of spotted wing drosophila, black vine weevil and obscure root weevil tank mix EXIREL® Insecticide with Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v. It is recommended that a small area be tested to demonstrate safety to fruit and leaves before using in large areas.</p> <p>For Spotted wing drosophila, begin applications when populations are low. EXIREL® insecticide targets the adult life stage of Spotted wing drosophila. If Spotted wing drosophila populations are high, use a registered insecticide with a different mode of action to reduce the pest populations. Apply a subsequent application of EXIREL® insecticide if required.</p>

**RESTRICTIONS AND PRECAUTIONS: Caneberries**

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
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**STRAWBERRIES**

**Spray Volume for Strawberries:** Apply in a minimum finished spray volume of 325 L/ha by ground sprayer.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE-APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Strawberries	Aphids	500 – 1500 ml	5	Begin applications when treatment thresholds have been reached. Thorough coverage is essential for optimum control.
	Thrips (Suppression)	1000-1500 ml		
	Spotted Wing Drosophila	1000-1500 ml		For optimum control of Spotted Wing Drosophila, aphids and thrips, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v. It is recommended that a small area be tested to demonstrate safety to fruit and leaves before using in large areas.
	Japanese beetle			If thrips populations are high, use a registered insecticide with a different mode of action to reduce thrips populations before applying <sup>TM</sup> EXIREL® insecticide
	Black vine weevil adults			For Spotted Wing Drosophila begin applications when populations are low. EXIREL® insecticide targets the adult life stage of Spotted Wing Drosophila. If Spotted Wing Drosophila populations are high, use a registered insecticide with a different mode of action to reduce the pest populations. Apply a subsequent application of EXIREL® insecticide if required.
				For Japanese beetle, monitor adult populations and insect damage. Follow provincial guidelines for treatment thresholds.

**RESTRICTIONS AND PRECAUTIONS: Strawberries**

- For any of the pests listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.

**FOR USE ON GREENHOUSE PEPPERS**

SITE	PEST	RATE EXIREL® Insect Control / Hectare	SPECIFIC DIRECTIONS
<b>GREENHOUSE PEPPERS</b>	Pepper Maggot  Pepper Weevil (suppression)	1000 to 1500 ml/ha	<p>Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.</p> <p>Pepper maggot must be controlled at the adult life stage. Control may not be possible once oviposition has occurred. Proper scouting and application timing is key to controlling pepper maggot. Be sure to follow approved scouting and application timing recommendations for optimal control of this pest.</p> <p>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</p>

**RESTRICTIONS AND PRECAUTIONS: Greenhouse Peppers**

- **Foliar use only. DO NOT apply in irrigation water.**
- Use the high rate under heavy pest pressure.
- Do not make more than 4 applications per crop cycle.
- Do not apply more than once every 7 days.
- Minimum time (PHI) between application and harvest is 1 day for peppers
- **For use only on peppers being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses or greenhouses by commercial transplant producers on plants being grown for transplanting**
- Do not allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

## FRUITING VEGETABLES (EXCEPT CUCURBITS) – Crop Group 8-09

**Spray Volume for Fruiting Vegetables:** Apply in a minimum finished spray volume of 300 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL® insecticide/HA	SPECIFIC DIRECTIONS
<b>FRUITING VEGETABLES</b> African eggplant; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Groundcherry; Martynia; Okra; Pea eggplant; Pepino; Pepper, bell; Pepper, non-bell; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Cultivars, varieties and/or hybrids of these	Pepper Maggot  Pepper Weevil (suppression)	1000 to 1500 ml/ha	<p>Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.</p> <p>Pepper maggot must be controlled at the adult life stage. Control may not be possible once oviposition has occurred. Proper scouting and application timing is key to controlling pepper maggot. Be sure to follow approved scouting and application timing recommendations for optimal control of this pest.</p>

### RESTRICTIONS AND PRECAUTIONS: Fruiting Vegetables

- Use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 7 days.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 450 g of cyantraniliprole per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

**ROOT VEGETABLES (except sugar beet) – Crop Sub-Group 1B**

**Spray Volume for Root Vegetables:** Apply in a minimum finished spray volume of 200 L/ha by ground.

SITE	PEST	RATE mL EXIREL™ insecticide/HA	RE- APPLICATIO N INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>ROOT VEGETABLES (except sugar beet)</b> Beet, garden, Burdock, edible, Carrot, Celeriac (celery root), Chervil, turnip- rooted Chicory, Ginseng, Horseradish, Parsley, turnip- rooted, Parsnip, Radish, Radish, oriental (daikon), Rutabaga, Salsify (oyster plant), Salsify, black, Salsify, Spanish, Skirret, Turnip	Carrot Weevil	1,000 to 1,500	7	<p>Begin applications at the 2-3 leaf stage or when scouting indicates the presence of weevils. Consult local agricultural authorities to determine appropriate threshold levels for carrot weevil in your area.</p> <p>Use sufficient water volume to ensure thorough coverage. Recommended minimum water volume of 200L/ha for control of carrot weevil. Use the higher rate and a higher water volume when pest pressure is high.</p>

**RESTRICTIONS AND PRECAUTIONS: Root Vegetables**

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 7 days.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 450 g of cyantraniliprole per ha per season.
- Do not make a foliar application of EXIREL™ insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## FOR USE ON GREENHOUSE LETTUCE

SITE	PEST	RATE EXIREL® Insect Control / Hectare	SPECIFIC DIRECTIONS
GREENHOUSE LETTUCE;	Whiteflies	750 to 1000 mL/Ha	<p>Begin applications when treatment thresholds have been reached. Thorough coverage is required to obtain optimum control.</p> <p>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. Repeat applications if monitoring indicates it is necessary</p>

### RESTRICTIONS AND PRECAUTIONS: Greenhouse Lettuce

- **Foliar use only. DO NOT apply in irrigation water.**
- Use the high rate under heavy pest pressure.
- Do not make more than 3 applications per crop cycle.
- Do not apply more than once every 5 days.
- Minimum time (PHI) between application and harvest is 1 day for lettuce
- **For use only on lettuce being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses or greenhouses by commercial transplant producers on plants being grown for transplanting**
- Do not allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

## CELERY

**Spray Volume for Celery:** Apply in a minimum finished spray volume of 100 L/ha by ground.

SITE	PEST	RATE mL EXIREL™ insecticide/HA	RE-APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Celery	Carrot Weevil	1,000 to 1,500	5	<p>Begin applications when scouting indicates that treatment thresholds have been reached. Consult local agricultural authorities to determine appropriate threshold levels for carrot weevil in your area.</p> <p>Use sufficient water volume to ensure thorough coverage. Use the higher rate and a higher water volume when pest pressure is high.</p>

### RESTRICTIONS AND PRECAUTIONS: Celery

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.

- Do not apply less than 1 day before harvest. Observe a 1-day PHI. Do not exceed a total of 450 g of cyantraniliprole per ha per season. Do not make a foliar application of EXIREL™ insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## BRASSICA HEAD AND STEM VEGETABLES - Crop Group 5-13

**Spray Volume for Brassica head and stem Vegetables:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha by air.

SITE	PEST	RATE mL EXIREL® insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
BRASSICA VEGETABLES  Broccoli; Brussels sprouts; Cabbage; Cabbage, Chinese (napa); Cauliflower;  Cultivars, varieties and/or hybrids of these	Thrips (suppression)	1000-1500 ml	5	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.  For optimum control, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v.  If thrips populations are high, use a registered insecticide with a different mode of action to reduce thrips populations before applying EXIREL insecticide.

### RESTRICTIONS AND PRECAUTIONS: Brassica head and stem Vegetables

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## PARSLEY (fresh leaves)

**Spray Volume for parsley:** Apply in a minimum finished spray volume of 100 L/ha by ground. Apply in a minimum finished spray volume of 50 L/ha using aerial application equipment.

SITE	PEST	RATE mL EXIREL™ insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS

<b>Parsley</b>	Carrot Weevil	1,000 to 1,500	7	<p>Begin applications when scouting indicates the presence of weevils. Consult local agricultural authorities to determine appropriate threshold levels for carrot weevil in your area.</p> <p>Use sufficient water volume to ensure thorough coverage. Recommended minimum water volume of 100L/ha for control of carrot weevil. Use a higher rate and a higher water volume when pest pressure is high.</p>
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**RESTRICTIONS AND PRECAUTIONS: Parsley**

- For pests with a range of application rates, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

**CRANBERRY**

**Spray Volume for cranberry:** Apply in a minimum finished spray volume of 200 L/ha by ground.

SITE	PEST	RATE ml EXIREL™ insecticide/HA	RE- APPLICATION INTERVAL (DAYS)	SPECIFIC DIRECTIONS
<b>Cranberry</b>	Cranberry Weevil ( <i>Anthonomus musculus</i> )	750-1500 ml	14	<p>Begin applications when scouting indicates the presence of cranberry weevils. Consult local agricultural authorities to determine appropriate threshold levels for cranberry weevil in your area.</p> <p>Use sufficient water volume to ensure thorough coverage. Recommended minimum water volume of 200L/ha for control of cranberry weevil. Use the high rate and a higher water volume when pest pressure is high.</p>

**RESTRICTIONS AND PRECAUTIONS: Cranberry**

Do not make more than 4 applications per year.

Do not exceed a total of 4.5 L EXIREL Insecticide/ha/year.

Do not apply less than 14 days before harvest. Observe a 14-day PHI.

**ALLIUM BULB VEGETABLES**

For control of Allium leafminer on *Allium* bulb vegetables, as listed below.

SITE	PEST	RATE mL EXIREL® insecticide /HA	SPECIFIC DIRECTIONS
<b>BULB VEGETABLES</b> Chive, Chinese; Chive, fresh leaves; Garlic, bulb; Garlic, great-headed, bulb; Garlic, serpent, bulb; Kurrat; Lady's leek; Leek; Onion, Beltsville bunching; Onion, bulb; Onion, Chinese, bulb; Onion, fresh; Onion, green; Onion, macrostem; Onion, pearl; Onion, potato, bulb; Onion, tree, tops; Onion, Welsh, tops; Shallot, bulb; Shallot, fresh leaves; Wild leek	Allium leafminer	1000 to 1500	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control.  Use sufficient water to obtain thorough, uniform coverage.  For optimum control, apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Contentrate with Leci-Tech* at an application rate of 0.5% v/v.

**RESTRICTIONS AND PRECAUTIONS: Allium Bulb Vegetables**

- For the pest listed above, use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 5 days.
- Do not apply less than 1 day before harvest. Observe a 1-day PHI.
- Do not exceed a total of 4.5 litres EXIREL® insecticide per ha per season.
- Do not make a foliar application of EXIREL® insecticide for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

## HOPS

SITE	PEST	RATE EXIREL® Insect Control / Hectare	SPECIFIC DIRECTIONS
HOPS	Flea Beetles	500 to 1000 mL/Ha	Begin applications when treatment thresholds have been reached. Thorough coverage is required to obtain optimum control.
	Aphids and Potato Leafhopper	750 to 1500 mL/Ha	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. Repeat applications if monitoring indicates it is necessary.
	Japanese Beetle, Black Vine Weevil, and Strawberry Root Weevil	1000 to 1500 mL/Ha	

### RESTRICTIONS AND PRECAUTIONS: Hops

- Foliar use only. DO NOT apply in irrigation water.
- Use the high rate under heavy pest pressure.
- Do not make more than 4 applications per season.
- Do not apply more than once every 4-5 days.
- Minimum time (PHI) between application and harvest is 1 day for Hops
- Do not exceed a total of 450 g of cyantraniliprole per ha per season.

### MIXING INSTRUCTIONS:

Spray equipment must be clean and free of previous pesticide deposits before applying EXIREL® insecticide. Fill spray tank 1/4 to 1/2 full of water. Add EXIREL® insecticide directly to spray tank. Mix thoroughly to fully disperse the insecticide; once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Spray mix should not be stored overnight in spray tank.

### TANK MIXES:

This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact FMC of Canada Limited at 1-833-362-7722 for information before applying any tank mix that is not specifically recommended on this label.

Tank mix and crop tolerance – EXIREL® insecticide is a suspo-emulsion. Tank mixing EXIREL® insecticide with some products formulated as emulsifiable concentrates (EC) and certain fungicides can result in crop injury. Strobilurin (Group 11) fungicides and copper- and captan-containing fungicides applied in tank mixes with EXIREL® insecticide, or applied close in time to application of EXIREL® insecticide, have been shown to cause crop injury under laboratory settings. Tank mixes of EXIREL®

with some products formulated as emulsifiable concentrates (EC), strobilurin (Group 11) fungicides (for example Cabrio and Quadris), copper and sulfur based fungicides, chlorothalonil based fungicides (for example, Bravo Weather Stik), and the fungicides Captan, Tanos®, Rally and Manzate may result in adverse crop response. Some materials including oils, surfactants, adjuvants, nutritionals and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury. The application of strobilurin (Group 11) fungicides in a short time sequence (i.e., seven days apart or less between applications) before or after EXIREL® may also result in adverse crop response. Applying EXIREL® with any product that produces adverse crop response in a tank mixture, specifically including, but not limited to, those listed above, may also cause adverse crop response when applied in a short time sequence. Such uses should be tested as described below before broad application is made.

Crop varieties can differ in their responsiveness, and environmental conditions can have an influence. It is not possible to test EXIREL® insecticide alone or with all possible tank mix combinations on all crop varieties under all environmental conditions. To prevent potential crop injury, test the mixture in a limited area in accordance with label directions prior to using EXIREL® insecticide with any tank mix partner on a wide area. When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on EXIREL® product labeling or in other product use instruction, or when applying any of the aforementioned products in close sequence with EXIREL®, it is important to check crop safety first. Follow the most restrictive label. Consult a representative for more information regarding use of EXIREL® insecticide in tank mixtures

#### Acidification of Spray Tank

If the pH of the final spray solution is high (pH >8) and the spray solution is not going to be sprayed within 4 hours, then a spray tank acidifier should be added to the tank to adjust the pH to 7.5 or less. Spray tanks of approximately pH 8 or less can be held for up to 8 hours before spraying. Do not store the spray mixture overnight in the spray tank.

#### **SPRAYER CLEANUP:**

Prior to application, start with clean, well-maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits, which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

#### **ROTATIONAL CROP RESTRICTIONS:**

##### **Recommended Plant-Back Intervals (PBI) for Rotational Crops**

PBI	CROPS
0 days	Crop Group 1C (Tuberous and corm vegetables); Crop 1B (root vegetables (except sugar beet), Crop Group 2 (Leaves of root and tuber vegetables; Crop Group 3-07 (Bulb vegetables); Crop Group 4 (Leafy vegetables; except <i>Brassica</i> vegetables); Crop Group 5 ( <i>Brassica</i> (Cole) leafy vegetables); Crop Group 6 (Legume Vegetables succulent or dried); Crop Group 8-09 (Fruiting vegetables); Crop Group 9 (Cucurbit vegetables); Crop Group 13-07B (Bushberry subgroup); Crop Group 13-07G (Lowgrowing berry subgroup – except strawberry); Crop Group 20 (Oilseed); peanuts; cilantro (fresh leaves)
30 days	Crop Group 1A (Root and tuber vegetables); Crop Group 7 (Foliage of legume vegetables); Crop Group 15 (Cereal grains); Crop Group 16 (Forage, fodder, and straw of cereal grains); Crop Group 17 (Grass forage, fodder, and hay); Crop Group 18 (Nongrass animal feeds: Forage, fodder, straw and hay)
365 days	Other crops

**RESISTANCE-MANAGEMENT RECOMMENDATIONS:**

For resistance management, please note that EXIREL® insecticide contains a Group 28 insecticide. Any insect population may contain individuals naturally resistant to EXIREL® insecticide and other Group 28 insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of EXIREL® insecticide or other Group 28 insecticides with different groups that control the same pests.
- Make no more than 2 applications of EXIREL® insecticide or other group 28 insecticides per generation to the same insect species on a crop. The following application to the target pest(s) must be with a registered product with a different mode of action.
- Avoid using the same mode of action (same IRAC group number) on consecutive generations of insect pests.
- Use tank mixtures with insecticides from a different group when such use is permitted.
- Insecticide use should be based on an IPM program that includes scouting and record keeping, and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area. For further information or to report suspected resistance contact FMC at 1-833-362-7722.

**NOTICE TO USER:**

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

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