

GROUP	28	INSECTICIDE
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## FERENCE™ Insecticide

INSECTICIDE

COMMERCIAL

SUSPENSION

Broad spectrum insecticide for control of listed insect pests in turf (on golf courses and sod farms only), greenhouse and outdoor ornamentals.

**ACTIVE INGREDIENT:**

Cyantraniliprole ..... 200 g/L

Contains 1,2-benzisothiazolin-3-one at 0.019% and 2-bromo-2-nitropropane-1,3-diol at 0.030% as preservatives.

**READ THE LABEL AND PAMPHLET BEFORE USING  
KEEP OUT OF REACH OF CHILDREN**

REGISTRATION NUMBER: **33656**  
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **1 to 1050 L**

**Syngenta Canada Inc.**  
140 Research Lane, Research Park  
Guelph, Ontario N1G 4Z3  
Telephone: 1-877-964-3682

[Label]

## 1.0 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.

## 2.0 FIRST AID

**IN CASE OF POISONING**, contact a doctor or a poison control centre **IMMEDIATELY**. 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.

## 3.0 TOXICOLOGICAL INFORMATION

There is no specific antidote. Treat symptomatically.

## 4.0 PRECAUTIONS

### **KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS.**

**Restricted Entry Intervals (REI): DO NOT** enter or allow worker entry into treated areas (sod farms and where ornamentals are grown) during the REI of 12 hours. For golf courses, **DO NOT** enter or allow entry into treated areas until sprays have dried.

Avoid inhalation of vapours/dust and spray mist, and working in spray mist.

Apply only when the potential for drift to areas of human habitation and human activity (other than golf courses) such as houses, cottages, schools, recreational areas including parks and playing fields is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

Not for use on other residential turf sites including residential lawns, gardens, playing fields, cemeteries and schools.

Read and follow all tank mix partner labels and observe the most stringent label restrictions, precautions and instructions for each tank mixture.

**DO NOT** apply using aerial application equipment.

If this pest control product is to be used on a commodity that may be exported to other countries in the world and you require information on acceptable residue levels in these countries, please contact Syngenta Canada Inc. at 1-87-SYNGENTA / 1-877-964-3682.

## **5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab. For handheld application, wear eye, head and respiratory protection when applying above waist height, including overhead. Wear chemical-resistant gloves if contact with spray nozzles is necessary.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Wash splashes from skin IMMEDIATELY with plenty of water. Remove PPE immediately after handling this product. Wash the outside of gloves with soap and water before removing. As soon as possible, wash thoroughly and change into clean clothing. After spraying, wash hands and shower thoroughly with soap and water.

Heavily contaminated or drenched clothing and other absorbent materials contaminated with this product should be discarded. Do not reuse them.

Users should wash hands and exposed skin before eating, drinking, chewing gum, using tobacco, applying cosmetics or using the toilet.

While using product, do not eat, drink or use tobacco (including smoking).

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Wear freshly laundered clothes daily.

Do not wear contaminated shoes.

Store and wash all protective clothing separately from household laundry.

## **6.0 ENVIRONMENTAL PRECAUTIONS**

Toxic to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects 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 early morning or 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 strip between the treated area and the edge of the water body.

## 7.0 STORAGE

Keep in original container, tightly closed, during storage. Store in a cool, dry, well-ventilated secure area away from other pesticides, feed, foodstuffs, beverages and tobacco, and out of the reach of children, unauthorized persons and animals. To prevent contamination store this product away from seed, food, feed or fertilizer.

Not for use or storage in or around the home.

## 8.0 SPILL CLEANUP

Wear appropriate protective equipment when attempting to clean up the spill. If the container is leaking, secure leak and place the container into a drum or heavy gauge plastic bag. Contact Syngenta Canada Inc. (See EMERGENCY NUMBER) for further information.

For spills and leaks - contain the liquid with dikes of inert material (soil, clay, kitty litter, etc.). Absorb the spill onto inert material and shovel into a sealable waste container.

On hard surfaces - sprinkle spill area with detergent and scrub in a small quantity of water with a coarse broom. Let stand 10 minutes then absorb onto an inert material and shovel into the waste container. Dispose of all waste, including broom, in accordance with provincial requirements.

On soil - remove the top 15 cm of soil in the spill area and replace with fresh soil. Dispose of all waste in accordance with provincial requirements. For more information on the disposal of waste and the clean-up of spills, contact the provincial regulatory agency and the manufacturer.

## 9.0 DISPOSAL

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

### **For Recyclable Containers:**

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.

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### **For Returnable Containers:**

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***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,  
CALL 1-800-327-8633 (FASTMED)***

FERENCE™ is a trademark of a Syngenta Group Company.

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*[Pamphlet]*

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CALL 1-800-327-8633 (FASTMED)***

## 10.0 PRODUCT INFORMATION

REFERENCE Insecticide is a suspension concentrate that may be applied for insect control and suppression on turf (golf courses and sod farms only), greenhouse and outdoor ornamentals.

Not for use on other residential turf sites including residential lawns, gardens, playing fields, cemeteries, and schools.

## 11.0 DIRECTIONS FOR USE

### 11.1 General Information

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 effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

**DO NOT** apply using aerial application equipment.

## 11.2 Ground Application

### 11.2.1 Mixing Instructions

#### Mixing Steps:

1. Ensure that the sprayer interior is clean, then fill the spray tank with ½ the required amount of water and engage gentle agitation. Good agitation is indicated by a rippling or rolling action on the surface of the water.
2. Add FERENCE Insecticide and agitate to ensure complete mixing.
3. Finish filling the sprayer with water, maintaining good agitation.
4. After any break in spraying operations, agitate thoroughly before spraying again.
5. Spray the pesticide suspension the same day as mixing.

### 11.2.2 Field Sprayer 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) medium classification. Boom height must be 60 cm or less above the crop or ground.

#### **Spraying Instructions:**

1. Water Volume: Apply in the volume given in the crop and pest specific instructions tabulated below.
2. Sprayer Agitation: Use a jet agitator or liquid sparge tube which recirculates 7-10% of the tank per minute. **DO NOT** use an air sparger.
3. Pump: Screens should be used to protect the pump and prevent clogging. Use 16 mesh or *coarser* screens on the suction side of the pump. **DO NOT** place a screen in the recirculation line. Use 50 mesh or *coarser* screens between the pump and boom unless directed otherwise by the sprayer manufacturer.
4. Spray Nozzles: 110° drift reducing flat fan (e.g. those with a pre-orifice or turbulence chamber) or air induction nozzles are recommended. Use 50 mesh nozzle screens or as recommended by the nozzle manufacturer. **DO NOT** use flood type nozzles, controlled droplet application equipment, spray foils or hollow cone nozzles.
5. Pressure: As recommended by the nozzle manufacturer to achieve the target spray quality. **DO NOT** apply a spray finer than ASABE medium.
6. Apply at uniform speed and avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to avoid potential crop injury from over application.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). **DO NOT** apply during periods of dead calm or when wind

velocity and direction pose a risk of spray drift. **DO NOT** spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

### **Sprayer Clean-Up**

#### Before Spraying:

Prior to using FERENCE Insecticide, ensure that the hopper, chemical handling equipment, lines and filter are thoroughly cleaned.

#### After Spraying:

Thoroughly clean application equipment immediately after spraying. **DO NOT** allow FERENCE Insecticide residue to dry within application equipment.

When using tank mixes, consult the tank-mix partner label for additional clean-up instructions. The following recommendations are provided:

1. Drain and flush tank walls, boom and all hoses for ten minutes with a clean water/detergent mixture. Rinse with clean water. **DO NOT** clean application equipment near desirable vegetation, wells or other water sources.
2. Remove all nozzles and screens and wash separately.
3. Dispose of all rinsate in accordance with provincial regulations.

### **11.2.3 Backpack Application (Wand and/or Boom Equipped)**

Backpack and other handheld applications can be made through most types of low pressure handheld application equipment. **DO NOT** apply using handheld mist blower/airblast or handheld fogging equipment.

### **11.2.4 Soil Drench Application**

It is critical to ensure that FERENCE Insecticide is drenched into the root zone to optimize product uptake, system translocation and pest protection.

#### Application Instructions:

1. Prepare drench solution as per the crop and pest of interest (section 12).
2. Apply to moist media. Apply enough product to thoroughly wet growth medium, without overflow or leaching from container.
3. Irrigate carefully for at least 7 days following application to avoid loss of active ingredient from the container.

### **11.2.5 Airblast Application**

Airblast 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 and Biological Engineers fine classification (ASABE Standard S-572.1). **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.

### Spraying Instructions:

1. Water Volume: Apply in the volume given in the crop and pest specific instructions tabulated below. Water volume should exceed the minimum recommendation at later stages of fruit development.
2. Spray Quality: Select nozzles and pressure to achieve ASABE fine sized droplets.
3. Spray Distribution: Select nozzles, orient deflectors, and adjust air speed and volume to ensure only the canopy is sprayed. Spray should just reach the top of the target. Account for the shape and canopy density of the target when setting spray distribution.
4. Apply at uniform speed and avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to avoid potential crop injury from over application.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in overly fine particles (mist). **DO NOT** apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. **DO NOT** spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

#### 11.2.6 Application Through Irrigation Equipment (CHEMIGATION)

This product MAY ONLY be applied through lower pressure micro sprinklers and surface laid drip irrigation AND ONLY at rates specified on this label. **DO NOT** apply this product through any other type of irrigation system, including permanent sub-surface drip irrigation system (ie drip tape buried beneath more than 15 cm of soil). This product MAY BE applied through surface type drip irrigation tape buried up to 15 cm of soil. **DO NOT** apply FERENGE Insecticide through any irrigation system which is physically connected to a public water system. FERENGE Insecticide may be applied through irrigation systems, which may be **supplied** by a public water system **only if** the water is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The irrigation system **must provide uniform distribution of treated water**. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system **must be calibrated to uniformly apply the rates specified**. If you have questions about calibration, contact your equipment manufacturers or distributor. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Dilute FERENGE Insecticide in the solution tank at a ratio of at least 5 parts of water to one part of FERENGE Insecticide. Injecting a larger volume of a more dilute solution will usually allow a more accurate calibration of the metering equipment. Meter the pesticide into the irrigation water during the irrigation cycle.

#### Operating Instructions for All Labeled Types of Irrigation Systems

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact the equipment manufacturer.
2. The system must contain a functional check-valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.

4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump or Venturi injector), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Do not apply when wind speed favors drift beyond the area intended, except in drip chemigation.
9. The pesticide injection pipeline must be on the downstream (field) side of the system filters to avoid potential pesticide off-site contamination or misapplication as a result of the filter backflushing process.
10. Have a dedicated pesticide injection tank for chemigation purposes rather than tank-mixing pesticides with fertilizers or other non-pesticide chemigation products. This reduces the potential for incompatibility issues which could result in misapplication.
11. Make FERENGE Insecticide injections into the center of the water pipe for a thorough and quick mix. This can be accomplished with an "injection tube" which should contain a check valve.

Specific LOW PRESSURE MICRO SPRINKLERS AND DRIP IRRIGATION Instructions:

FERENGE Insecticide must be applied on the schedule specified in the tabulated crop and pest specific directions for use, not according to the irrigation schedule. The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through low-pressure microsprinkler or drip type irrigation equipment. Check with provincial and other applicable regulatory agencies for potential use restrictions before applying any agricultural chemicals through irrigation equipment.

1. Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
2. Use only pressure injection or Venturi equipment.
3. Determine the area to be treated in each irrigation run.
4. Measure the output of each of the emitters or drip tubes closest to and farthest from the injection point.
5. For calibration, substitute a concentrated laundry detergent for the FERENGE Insecticide mixture in the injector (solution) tank. It is important to use the same volume of soap solution as the planned volume of FERENGE Insecticide solution when calibrating the system. The detergent will bubble as it leaves the emitters. Check the time period over which the bubbles occur for both the closest and farthest emitters. If these times are not within 2 minutes of each other, adjust the dilution ratio and/or the injection rate.

Step-by-Step Calibration and Application Instructions

1. Before starting to calibrate, operate the system until all of the emitters are putting out at equal flow rates or until the system is operating at full pressure.

2. Make up an indicator solution of detergent, using the same rate of indicator as the planned volume of FERENCE Insecticide to be used in the mix.
3. Set the injector to apply the indicator solution at the injection rate to be used in the actual FERENCE Insecticide application.
4. Attach a 30 cm length of flexible tubing over the emitter closest to the injection point, another 30 cm length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solution is observed.
5. Begin injecting the indicator solution. Direct the flow from the flexible tubes into a small container. Begin timing when the indicator solution is first detected. Stop timing when the indicator solutions are no longer detected in the container.
6. If the period of detection of the indicator solution between the near and far emitter is within 2 minutes, comparable coverage will be obtained. If they are not, make adjustments by increasing the dilution ratio, ie using more than a 5:1 ratio of water to FERENCE Insecticide, or adjust the injector to a slower flow rate.
7. Once the system is calibrated, dilute the needed amount of FERENCE Insecticide with water and any other tank mix partners in the injection tank at a minimum dilution of 5 parts water to 1 part FERENCE Insecticide. Follow the directions for mixing and equipment set up in the **Mixing Instructions** section of this label for complete details.
8. Do not begin to inject FERENCE Insecticide into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
9. Inject the FERENCE Insecticide solution into the system at the beginning of the irrigation set in 1.5-2.5 cm of irrigation water.

### 11.3 Buffer Zones

Spot treatments using hand-held equipment do not require a buffer zone. Use of low-clearance hooded or shielded sprayers that prevent spray contact with crop, fruit or foliage, and soil drench or soil incorporation do not require a buffer zone.

The 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		Buffer Zones (metres) Required for the Protection of:		
			Freshwater Habitats of Depths:		Terrestrial Habitats
			Less than 1 m	Greater than 1 m	
Field sprayer	Turf and ornamentals		1	1	1
Airblast	Ornamentals	Early Growth Stage	3	1	2
		Late Growth Stage	2	1	1

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) 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 buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

#### 11.4 Spray Drift Management and Application Requirements

Apply only when the potential for drift to areas of human habitation and human activity (other than golf courses) such as houses, cottages, schools, recreational areas including parks and playing fields is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

For the protection of non-target habitats, over-spray or drift to any body of water or other environmentally sensitive habitat must be avoided. The interaction of equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

## 12.0 CROP USE DIRECTIONS

### 12.1 Turf (Golf Courses and Sod Farms Only)

<b>TURF (golf courses and sod farms only)</b>	
<b>PEST</b>	Control of annual bluegrass weevil
<b>RATE (mL/ha)</b>	877-1462
<b>APPLICATION TIMING</b>	<p>For preventive control of annual bluegrass weevils, apply FERENCE Insecticide when early instar larvae are hatching and penetrating into the turfgrass sheaths.</p> <p>For curative control of summer annual bluegrass weevils, FERENCE Insecticide can be applied to any asynchronous larval stage. Applications at higher rates may be required to control late instar larvae.</p> <p>Use FERENCE Insecticide as part of a season-long program to prevent turf damage from overwintering and following generations of annual bluegrass weevil larvae. Consult your local Syngenta representative, extension specialist or pest control advisor for the latest information on using FERENCE Insecticide to control annual bluegrass weevil larvae.</p>
<b>PEST</b>	Control of billbugs and European crane fly
<b>RATE (mL/ha)</b>	585-1169
<b>APPLICATION TIMING</b>	<p>Apply FERENCE Insecticide when overwintered adult billbugs are first observed. Applications at higher rates may be required in late spring.</p> <p>Apply FERENCE Insecticide between midsummer and fall to control the fall generation of European crane fly larvae in turfgrass. Application at higher rates may be required to achieve European crane fly control when fall applications are made.</p>

<b>TURF (golf courses and sod farms only)</b>	
<b>PEST</b>	Suppression of chinch bugs
<b>RATE (mL/ha)</b>	1462
<b>APPLICATION TIMING</b>	For suppression of chinch bugs, apply FERENGE Insecticide before eggs hatch.
<b>PEST</b>	Suppression of larvae of European chafer, Japanese beetle and June beetle
<b>RATE (mL/ha)</b>	585-1169
<b>APPLICATION TIMING</b>	Apply FERENGE Insecticide for preventative and early curative suppression of larvae of European chafer, Japanese beetle and June beetle. For optimum control, treat from peak adult flight through peak egg hatch of the primary beetle species targeted. The need for an application may be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Application at higher rates may be required for curative suppression when less sensitive mid-instar larvae are present. Irrigate turf immediately after application or allow rainfall to move the product into the soil.
<b>PEST</b>	Suppression of fall armyworm and black cutworm
<b>RATE (mL/ha)</b>	585-875
<b>APPLICATION TIMING</b>	<p>FERENGE Insecticide will provide curative and residual fall armyworm and black cutworm suppression in turfgrass. To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application.</p> <p>When the area being treated is maintained at a mowing height of greater than 2.5 cm, application at higher rates may be required during periods of high pest pressure. FERENGE Insecticide provides long term residual suppression of fall armyworm and black cutworm and the duration of control increases with the application rate. For golf course green, tee and fairway applications, extend the treatment one boom length around the perimeter of the treated area to minimize subsequent movement of large fall armyworms and black cutworms onto the treated area.</p>
<b>APPLICATION METHOD</b>	Foliar spray
<b>MAXIMUM NUMBER OF APPLICATIONS/YEAR</b>	2
<b>APPLICATION INTERVAL</b>	Allow a minimum of 7 days between applications.
<b>NOTES</b>	<p>Apply in a spray volume of 400 L/ha to 1600 L/ha.</p> <p>Do not exceed 2.25 L product/ha per year (450 g ai/ha per year).</p>

## 12.2 Outdoor Ornamentals (Including Cut Flowers) – Foliar Application

<b>OUTDOOR ORNAMENTS (including cut flowers) – FOLIAR APPLICATION</b>	
<b>PEST</b>	Control of aphids, lace bugs and soft scales Suppression of thrips
<b>RATE (mL product/100 L)</b>	37.5-75
<b>APPLICATION TIMING</b>	Make the first application before pest populations cause significant damage to the host plant.
<b>APPLICATION METHOD</b>	Foliar spray
<b>MAXIMUM NUMBER OF APPLICATIONS/YEAR</b>	2
<b>APPLICATION INTERVAL</b>	Allow a minimum of 7 days between applications.
<b>NOTES</b>	<p>Apply higher concentrations for longer control or suppression or high insect populations.</p> <p>Apply in a sufficient spray volume to provide thorough coverage, up to a maximum of 1000 L/ha at the high concentration, 2000 L/ha at the low concentration.</p> <p>Apply as a full-coverage foliar spray to control the selected target pest prior to establishment of high pest pressure and re-apply as needed. Foliar applications offer locally systemic activity against insect pests. Make a second application to maintain control using higher listed application rates as pest pressure and foliage area increases while following resistance management recommendations.</p> <p>Certain plant species or cultivars may be sensitive to the final spray solution. If local experience is not available, then a small number of plants should be treated and observed for phytotoxicity for at least one week before making an application to the entire planting. When making foliar applications to plants or crop with dense canopy or with hard-to-wet foliage the addition of a non-ionic surfactant at 0.125-0.25% v/v is recommended. Use sufficient water volume to provide thorough and uniform coverage. Avoid making applications where uniform coverage cannot be obtained or where excessive spray drift can occur. If concentrate or mist type spray equipment is used, an equivalent amount of product should be used on the spray areas as would be used in a dilute solution.</p>

### 12.3 Greenhouse Ornamentals (Including Cut Flowers) – Foliar Application

<b>OUTDOOR ORNAMENTALS (including cut flowers) – FOLIAR APPLICATION</b>	
<b>PEST</b>	Control of aphids, lace bugs and soft scales Suppression of thrips
<b>RATE (mL product/100 L)</b>	37.5-75
<b>APPLICATION TIMING</b>	Make the first application before pest populations cause significant damage to the host plant.
<b>APPLICATION METHOD</b>	Foliar spray
<b>MAXIMUM NUMBER OF APPLICATIONS/YEAR</b>	2
<b>APPLICATION INTERVAL</b>	Allow a minimum of 7 days between applications.
<b>NOTES</b>	<p>Apply higher concentrations for longer control or suppression or high insect populations.</p> <p>Apply in a sufficient spray volume to provide thorough coverage, up to a maximum of 1000 L/ha at the high concentration, 2000 L/ha at the low concentration.</p> <p>Apply as a full-coverage foliar spray to control the selected target pest prior to establishment of high pest pressure and re-apply as needed. Foliar applications offer locally systemic activity against insect pests. Make a second application to maintain control using higher listed application rates as pest pressure and foliage area increases while following resistance management recommendations.</p> <p>Certain plant species or cultivars may be sensitive to the final spray solution. If local experience is not available, then a small number of plants should be treated and observed for phytotoxicity for at least one week before making an application to the entire planting. When making foliar applications to plants or crop with dense canopy or with hard-to-wet foliage the addition of a non-ionic surfactant at 0.125-0.25% v/v is recommended. Use sufficient water volume to provide thorough and uniform coverage. Avoid making applications where uniform coverage cannot be obtained or where excessive spray drift can occur. If concentrate or mist type spray equipment is used, an equivalent amount of product should be used on the spray areas as would be used in a dilute solution.</p>

## 12.4 Greenhouse Ornamentals (Including Cut Flowers) – Drench/Chemigation Application

<b>GREENHOUSE ORNAMENTALS (including cut flowers) – DRENCH / CHEMIGATION APPLICATION</b>	
<b>PEST</b>	Control of aphids, soft scale and whiteflies Suppression of thrips
<b>RATE (mL product/100 L)</b>	50-75
<b>APPLICATION METHOD</b>	Soil drench
<b>APPLICATION TIMING</b>	Apply before pest populations cause significant damage to the host plant.
<b>APPLICATION INTERVAL</b>	Allow a minimum of 7 days between applications.
<b>NOTES</b>	<p>Apply higher concentrations for longer control or suppression or high insect populations.</p> <p>Apply in sufficient water volume to wet potting medium, without loss of liquid from bottom of container.</p> <p>When applying through irrigation equipment (chemigation), ensure the irrigation cycle is long enough to ensure the full rate of FERENGE Insecticide has been flushed from the system. Growers may choose to follow FERENGE Insecticide with a dye test. Complete flushing is indicated when the dye reaches the furthest emitter.</p> <p>Do not exceed 2.25 L product/ha per year (450 g ai/ha per year) for all greenhouse uses regardless of the application method.</p> <p>It is recommended to only apply to moist soil media and not apply to dry or saturated soil media. Apply sufficient volume of the product solution to wet the potting medium, without the loss of liquid from bottom of container. Follow application with moderate irrigation. Irrigate carefully during the next 10 days in order to avoid loss of active ingredient from the bottom of the container.</p> <p>For optimal performance, do not apply drench to soil media until roots from transplanting have grown. Do not leach treated soil media for at least 7 days after application or performance may be reduced. Excessive irrigation after application could reduce insect control performance.</p> <p>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.</p>

## 13.0 RESISTANCE MANAGEMENT

For resistance management, FERENGE Insecticide contains a Group 28 insecticide. Any insect population may contain individuals naturally resistant to FERENGE 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 FERENCE Insecticide or other Group 28 insecticides with different groups that control the same pests.

Use tank mixtures with insecticides from a different group that is effective on the target pest 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 and to report suspected resistance, contact Syngenta Canada Inc. company representatives at 1-87-SYNGENTA (1-877-964-3682) or at [www.syngenta.ca](http://www.syngenta.ca).

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