



## 2F INSECTICIDE

For Foliar and systemic insect control in turf grass (including sod farms), landscape ornamentals, fruit and nut trees, interior plantscapes, nursery and greenhouse grown ornamental and vegetable plants.

### ACTIVE INGREDIENT

Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2 imidazolidinimine . . . . . 21.4%

OTHER INGREDIENTS . . . . . 78.6%

**Total:** . . . . . **100.0%**

Contains 2 pounds of imidacloprid per gallon.

**SHAKE WELL BEFORE USING**

## KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

SEE ADDITIONAL PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE INSIDE BOOKLET

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**EPA Est. No. 069821-CHN-005**

Manufactured for:

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**NET CONTENTS: 1.0 GALLON (3.78 LITERS)**



# TABLE OF CONTENTS

	PAGE
<b>PRECAUTIONARY STATEMENTS</b>	4
Engineering Control Statements	4
First Aid	5
Storage and Disposal	6
Environmental Hazards	6
<b>DIRECTIONS FOR USE</b>	7
Agricultural Use Requirements	7
<b>APPLICATIONS TO ORNAMENTALS AND VEGETABLE PLANTS</b>	8
<b>DRENCH AND IRRIGATION APPLICATIONS</b>	12
<b>APPLICATIONS FOR NURSERY, GREENHOUSE AND INTERIORSCAPE PLANTS</b>	17

## **TABLE OF CONTENTS** (Continued)

	<b>PAGE</b>
<b>EBB AND FLOOD APPLICATIONS</b>	21
<b>APPLICATIONS TO TURF GRASS</b>	24
<b>APPLICATIONS TO TREES, SHRUBS, FLOWERS AND GROUNDCOVERS</b>	27
<b>FRUIT TREE APPLICATIONS</b>	30
<b>VINE APPLICATIONS</b>	32
<b>CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY</b>	33

# PRECAUTIONARY STATEMENTS

## Hazards to Humans and Domestic Animals

### CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing.

#### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton.
- Shoes plus socks.

## ENGINEERING CONTROLS STATEMENTS

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**Important:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for **Applicators and Other Handlers** and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

### **User Safety Recommendations**

#### **Users should:**

- Wash hands thoroughly with soap and water after handling and 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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

# FIRST AID

(neonicotinoid)

<b>IF SWALLOWED</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. <b>For Medical Emergency treatment call your Local Poison Control Center for assistance.</b></p>	
<p><b>Note to Physician</b> (neonicotinoid): No specific antidote is available. Treat the patient symptomatically.</p>	

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** After removal of all PVA packets, dispose of empty container in a sanitary landfill, by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides above. In spill or leak incidents, keep unauthorized people away.

**FOR CHEMICAL EMERGENCY:** Spill, leak, fire, exposure, or accident, call CHEMTREC AT 1-800-424-9300.

## ENVIRONMENTAL HAZARDS

This product is highly toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on the foliage of blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

This chemical demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton
- Shoes plus socks

# APPLICATIONS TO ORNAMENTALS AND VEGETABLE PLANTS

**Including: nurseries, greenhouses and interior plantscapes**

## **General Information**

LADA 2F INSECTICIDE is for insect control on ornamental and vegetable plants in nurseries, greenhouses and interior plantscapes. LADA 2F INSECTICIDE is a systemic product and will be translocated upward within the plant. The addition of a nitrogen fertilizer, where applicable, into the solution may enhance the uptake of the active ingredient. Application can be made by foliar application or soil applications; including soil injection, drenches, chemigation and broadcast sprays. When making foliar applications on hard to wet foliage such as holly, pine, or ivy, the addition of a spreader/sticker is recommended. If concentrate or mist type spray equipment is used, an equivalent amount of product should be used on the area sprayed, as would be used in a dilute application.

**Resistance:** Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area. Consult your Cooperative Extension Service for resistance management strategies and pest management practices for your area. For resistance management purposes, a foliar application of any chloronicotinyl insecticide following a LADA 2F INSECTICIDE soil application in the same crop is not recommended.

**Incorporation:** Incorporation of LADA 2F INSECTICIDE can be achieved by cultivation, irrigation, rainfall, mechanical placement, soil injection, drenching, and broadcast sprays.

**Woody Perennials:** Onset of protection is slower than in herbaceous species. A delay of 2 or more weeks should be expected. Longer delays may be expected with larger plants. Application should therefore be made well in advance of expected insect activity.

**Bark Media:** Media with 30 to 50% or more bark content may confer a shorter period of protection when treated with LADA 2F INSECTICIDE.

# **APPLICATIONS TO ORNAMENTALS AND VEGETABLE PLANTS**

(Continued)

**Tank Mixes:** LADA 2F INSECTICIDE has been found to be compatible with commonly used liquid fertilizers, fungicides and insecticides. Check physical compatibility using the correct proportion of products in a small jar test if local experience is unavailable.

## **Application Through Irrigation Systems**

LADA 2F INSECTICIDE may be applied at rates recommended on this label either alone or in tank mixture with other pesticides and chemicals registered for application through irrigation systems. The normal dilution ratio is 1:10 to 1:200, depending on the system. Always meter the product into the irrigation water during the first part of the irrigation cycle. The product may be mixed separately prior to injection. Agitation may be necessary if the mixture is allowed to stand more than 24 hours.

Remove scale, pesticide residue and other foreign matter from the tank and entire irrigation system.

Apply LADA 2F INSECTICIDE only through microirrigation (individual spaghetti tube), drip irrigation, overhead irrigation, ebb and flood, or hand-held or motorized calibrated irrigation equipment.

Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or a person who is under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

# **APPLICATIONS TO ORNAMENTALS AND VEGETABLE PLANTS**

(Continued)

## **Safety Devices For Irrigation Systems Connected To Public Water Supply:**

If the source of water for your irrigation system is a public water supply, follow the instructions below.

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, water from the public water system should be 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 the top or over-flow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
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 contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system inter-lock 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, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

# **APPLICATIONS TO ORNAMENTALS AND VEGETABLE PLANTS**

(Continued)

## **Safety Devices For Irrigation Systems NOT Connected To Public Water Supply:**

1. 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 back flow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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 inter-lock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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 the pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

# DRENCH AND IRRIGATION APPLICATIONS

**For use only on ornamental and vegetable plants in greenhouses, nurseries and interior plantscapes using soil drenches, micro-irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held or motorized calibrated irrigation equipment.**

Pests	Crop	Dosage		Remarks	
		LADA 2F	INSECTICIDE		
Adelgids	Plants in containers	Herbaceous Species - including Vegetable Plants <sup>5</sup> (one or two plants per pot)	Container Size (inches)	No. pots treated with 1.7 fl oz (50 mL)	Evenly distribute one 1.7 fl oz (50 mL) of LADA 2F INSECTICIDE in the stated number of pots, using sufficient water volume to wet potting medium without loss of liquid through leaching.  Apply according to label directions.  Follow application with moderate irrigation. Irrigate carefully during the next 10 days in order to avoid loss of active ingredient due to leaching.
Aphids			2	3000	
Armored scale (suppression)			3	2000	
Fungus gnats <sup>1</sup> (larvae only)			4	1500	
Japanese Beetle (adults)			5	1200	
			6	1000	
			7	850	
Lacebugs			8	750	
			9	675	
Leaf beetles (including elm and viburnum leaf beetles)			10	600	
			11	550	
			12	500	
Leafhoppers (including glassy-winged sharpshooter)			Woody Perennial Species	2	
	3	1350			
	4	1000			
	5	800			
	6	650			
	7	550			
	8	500			
	9	450			
	10	400			
	11	350			
12	300				
Leafminers	Herbaceous Species - including Vegetable Plants <sup>5</sup> (three or more plants per pot)	Use the above Woody perennial Species rates			
Mealybugs					
Psyllids					
Root mealybugs <sup>2</sup> (Pest List continues on page 13)					

## DRENCH AND IRRIGATION APPLICATIONS (Continued)

Pests	Crop	Dosage		Remarks	
		LADA 2F INSECTICIDE	LADA 2F INSECTICIDE		
<i>(Pest List continued from page 12)</i> Root Weevil Complex (Such as Black Vine Weevil, Apopka Weevil, Citrus Root Weevil <sup>2</sup> ) Soft Scale Thrips (suppression) <sup>4</sup> White Grub larvae (such as Japanese Beetle, Masked Chafer, European Chafer, Oriental Beetle, Asiatic Garden Beetle) Whiteflies	Plants in containers	Herbaceous Species - including Vegetable Plants <sup>5</sup> (one or two plants per pot)	Container Size (inches)	No. pots treated with 1.7 fl oz (50 mL)	Evenly distribute one 1.7 fl oz (50 mL) of LADA 2F INSECTICIDE in the stated number of pots, using sufficient water volume to wet potting medium without loss of liquid through leaching.  Apply according to label directions.  Follow application with moderate irrigation. Irrigate carefully during the next 10 days in order to avoid loss of active ingredient due to leaching.
			2	3000	
			3	2000	
			4	1500	
			5	1200	
			6	1000	
			7	850	
			8	750	
			9	675	
			10	600	
			11	550	
			12	500	
		Herbaceous Species - including Vegetable Plants <sup>5</sup> (three or more plants per pot)	Use the above Woody perennial Species rates		

## DRENCH AND IRRIGATION APPLICATIONS (Continued)

Pests	Crop	Dosage LADA 2F INSECTICIDE		Remarks
Adelgids Aphids Armored scale (suppression) Fungus gnats <sup>1</sup> (larvae only) Japanese Beetle (adults) Lacebugs Leaf beetles (including elm and viburnum leaf beetles)	Ornamental and Vegetable Plants <sup>5</sup> grown in flats, benches or beds	1.7 fl oz (50 mL) per 3000 sq ft		Mix required amount in sufficient water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of mixture per 1000 sq. ft.  Apply as a broadcast treatment and incorporate into the medium before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if areas are lightly irrigated after application. Allow no leaching or run out for 10 days after application.
Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealybugs Psyllids Root mealybugs <sup>2</sup> (Pest List continues on page 15)	Containerized Plants	Container Size  1 gallon 2 gallon 3 gallon 5 gallon 7 gallon 10 gallon 15 gallon 20 gallon	No. pots treated with 1.7 fl oz (50 mL)  340 to 244 280 to 210 220 to 165 160 to 110 100 to 75 60 to 45 40 to 30 20 to 15	Apply in sufficient water to wet the potting medium. For optimum control, make applications prior to egg hatch of the target pest. Irrigate moderately after application to move the active ingredient into the root zone.

## DRENCH AND IRRIGATION APPLICATIONS (Continued)

<b>Pests</b>	<b>Crop</b>	<b>Dosage LADA 2F INSECTICIDE</b>		<b>Remarks</b>
<p><i>(Pest List continued from page 14)</i></p> <p>Root Weevil Complex (Such as Black Vine Weevil, Apopka Weevil, Citrus Root Weevil<sup>3</sup>)</p> <p>Soft Scale Thrips (suppression)<sup>4</sup></p> <p>White Grub larvae (such as Japanese Beetle, Masked Chafers, European Chafer, Oriental Beetle, Asiatic Garden Beetle)</p> <p>Whiteflies</p>	<p>Ornamental and Vegetable Plants<sup>5</sup> grown in flats, benches or beds</p>	<p>1.7 fl oz (50 mL) per 3000 sq ft</p>		<p>Mix required amount in sufficient water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of mixture per 1000 sq. ft.</p> <p>Apply as a broadcast treatment and incorporate into the medium before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if areas are lightly irrigated after application. Allow no leaching or run out for 10 days after application.</p>
	<p>Containerized Plants</p>	<p>Container Size</p> <p>1 gallon 2 gallon 3 gallon 5 gallon 7 gallon 10 gallon 15 gallon 20 gallon</p>	<p>No. pots treated with 1.7 fl oz (50 mL)</p> <p>340 to 244 280 to 210 220 to 165 160 to 110 100 to 75 60 to 45 40 to 30 20 to 15</p>	<p>Apply in sufficient water to wet the potting medium. For optimum control, make applications prior to egg hatch of the target pest. Irrigate moderately after application to move the active ingredient into the root zone.</p>

## DRENCH AND IRRIGATION APPLICATIONS (Continued)

Pests	Crop	Dosage LADA 2F INSECTICIDE	Remarks
White Grub larvae (such as Japanese Beetle, Masked Chafers, European Chafer, Oriental Beetle, Asiatic Garden Beetle)	Field and Forest Nurseries	Apply as a uniform band on either side of row using a band six (6) inches wider than the actual root ball diameter to be dug. Do not allow bands in adjacent rows to overlap. Use 1.7 fl oz (50 mL) per 1000 ft. of row or 3000 sq. ft.  For grub control in areas of turf, apply as a broadcast application using 1.35 to 1.7 fl oz (40 to 50 mL) per 3000 sq. ft.	Vegetation in the area to be treated should be mowed to a height of 3 inches or less prior to application. Mowing to the lowest possible height will insure greater consistency of control. Apply May through July. For optimum control, treatment should be followed by rainfall or irrigation. Do not use less than 2 gallons of spray volume per 1000 square feet.

<sup>1</sup> Fungus Gnat larvae in the soil will be controlled by drench or incorporation. No adult Fungus Gnat control. Other foliar insect control is achieved by the uptake of LADA 2F INSECTICIDE from a healthy root system translocating the active ingredient up into the plant.

<sup>2</sup> Root Mealybug control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. **Rate: 1.7 fl oz (50 ml) in 150 gallons of water.**

<sup>3</sup> Citrus Root Weevil: For use on non-bearing citrus nursery stock.

<sup>4</sup> Thrips suppression on foliage only. Thrips in buds and flowers will not be suppressed.

<sup>5</sup> **Note:** For use on vegetable plants intended for resale only including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohirabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets, Tomatillo, and Tomato.

# APPLICATIONS FOR NURSERY, GREENHOUSE AND INTERIORESCAPE PLANTS

## Pests

Adelgids	Lacebugs	Pine tip moth larvae
Aphids	Leaf beetles	Psyllids
Armored scales (suppression)	(including elm and viburnum leaf beetles)	Royal palm bugs
Black vine weevil larvae	Leafhoppers	Sawfly larvae
Eucalyptus longhorned borers	(including glassy-winged sharpshooter)	Soft scales
Flatheaded borers	Leafminers	Thrips (suppression)
(including bronze birch and alder borers)	Mealybugs	White grub larvae
Japanese beetles (adults)		Whiteflies

## Trees

0.1 to 0.2 fl oz (3 to 6 ml) per inch of cumulative trunk diameter

**Soil Injection:** GRID SYSTEM: Holes should be spaced on 2.5 foot centers, in a grid pattern, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle dependent upon the size of the tree) beneath the drip line of the tree extending in from that line. BASAL SYSTEM: Space injection holes evenly around the base of the tree trunk no more than 6 to 12 inches out from the base. Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. For optimum control, keep the treated area moist for 7 to 10 days.

Do not use less than 4 holes per tree.

**No Soil Injection Application Allowed in Nassau or Suffolk Counties of New York.**

**Soil Drench:** Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.

**For Control of Specified Borers:** Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress.

## **APPLICATIONS FOR NURSERY, GREENHOUSE AND INTERIOSCAPE PLANTS** (Continued)

<b>Shrubs</b>	0.1 to 0.2 fl oz (3 to 6 ml) per foot of shrub height
<p><b>Soil Injection:</b> Apply to individual plants using dosage indicated. Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. Do not use less than 4 holes per shrub.</p> <p><b>No Soil Injection Application Allowed in Nassau or Suffolk Counties of New York.</b></p> <p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p>	
<b>Flowers and Ground Covers</b>	0.45 to 0.6 fl oz (13 to 17 ml) per 1000 sq ft
<p>Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if area is irrigated thoroughly after application.</p>	

## **APPLICATIONS FOR NURSERY, GREENHOUSE AND INTERIOSCAPE PLANTS** (Continued)

### **Application to Grassy Areas in Nurseries:**

LADA 2F INSECTICIDE can be used for the control of soil inhabiting pests of grassy areas of nurseries, such as Northern and Southern masked chafers, *Cyclocephala borealis*, *C. immaculata*, and/or *C. lurida*; Asiatic garden beetle, *Maladera castanea*; European chafer, *Rhizotroqus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phylophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Spherophorus* spp.; Annual bluegrass weevil, *Hyperodes* spp.; Black turfgrass atanius, *Atanius spretulus* and *Aphodius* spp. and mole crickets, *Scapteriscus* spp. LADA 2F INSECTICIDE can also be used for suppression of cutworms and hairy chinchbugs. LADA 2F INSECTICIDE can be used as directed on nursery grass in sites such as under or around field or container grown plants, on roadways or other grassy areas in or around nurseries. LADA 2F INSECTICIDE cannot be used on commercial sod farms.

The active ingredient in LADA 2F INSECTICIDE has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. High levels of control can be achieved when applications are made preceding or during the egg laying period. The need for an application can be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Optimum control will be achieved when applications are made prior to egg hatch of the target pests, followed by sufficient irrigation or rainfall to move the active ingredient through the thatch. Applications should not be made when grassy areas are water-logged or the soil is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist. The treated grassy area must be in such a condition that the rainfall or irrigation will penetrate vertically in the soil profile. Application cannot exceed a total of 1.6 pint (0.4 lb of active ingredient) per acre per year. Refer to the **Application in Turf Grass** section for application rates.

## **APPLICATIONS FOR NURSERY, GREENHOUSE AND INTERIOSCAPE PLANTS** (Continued)

### **Application Equipment for Use on Grassy Areas in Nurseries:**

Apply LADA 2F INSECTICIDE in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for soil application of insecticides is required. Use equipment which will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off-target drift. Check calibration periodically to ensure that equipment is working properly.

# EBB AND FLOOD APPLICATIONS

LADA 2F INSECTICIDE may be applied through Ebb and Flood applications. To assure accurate uptake prior to treatment, a minimum of 10 plants should be brought up to a known field capacity and allowed to dry out for one or two days. Re-wet these plants to determine how much water on average each plant will absorb to bring it back at field capacity. Use the volume absorbed per plant (keeping pot sizes uniform) multiplied by the number of pots being treated. Add to this volume a required minimum to flood your smallest treatment area. This should minimize the return back to the storage tank. Reuse the returned volume with subsequent irrigation or nutrients on the same plants.

## Pests

Adelgids

Aphids

Armored scales  
(suppression)

Fungus Gnats  
(larvae only)<sup>1</sup>

Japanese Beetles  
(adults)

Lacebugs

Leaf beetles  
(including elm and  
viburnum leaf beetles)

Leafhoppers  
(including glassy-winged  
sharpshooter)

Leafminers

Mealybugs

Psyllids

Root mealybugs<sup>2</sup>

Root Weevil Complex:  
(such as Apopka Weevil, Black Vine  
Weevil, Citrus Root Weevil)<sup>3</sup>

Soft Scales

Thrips  
(suppression)<sup>4</sup>

Whiteflies

White Grub  
Larvae: (such as  
Japanese Beetle,  
Masked Chafer,  
European Chafer,  
Oriental Beetle,  
Asiatic Garden  
Beetle)

## EBB AND FLOOD APPLICATIONS (Continued)

Pot sizes (inches)	Number of pots treated	
	Herbaceous species including vegetable plants <sup>5</sup> (1 or 2 plants per pot)	Woody perennials, Herbaceous species including vegetable plants <sup>5</sup> (3 or more plants per pot)
	mL/100 plants	mL/100 plants
2	1.6	2.5
3	2.5	3.7
4	3.3	5.0
5	4.2	6.3
6	5.0	7.7
7	5.9	9.1
8	6.6	10.0
9	7.4	11.1
10	8.3	12.5
11	9.0	14.3
12	10.0	16.7

<sup>1</sup> Fungus gnat larvae in the soil will be controlled by drench or incorporation. No adult Fungus Gnat control. Other foliar insect control is achieved by the uptake of LADA 2F INSECTICIDE from a healthy root system translocating the active ingredient up into the plant.

<sup>2</sup> Root Mealybug control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. **Rate: 1.7 fl oz (50 mL) in 150 gallons of water.**

<sup>3</sup> Citrus Root Weevil: For use on non-bearing citrus nursery stock.

<sup>4</sup> Thrips suppression on foliage only. Thrips in buds and flowers will not be suppressed.

<sup>5</sup> **Note:** For use on vegetable plants intended for resale only including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets, Tomatillo, and Tomato.

## RESTRICTIONS

Do not graze treated areas or use clippings from treated areas for feed or forage.

Do not apply to soils that are water-logged or saturated, which will not allow the penetration of the insecticide into the root zone of the plants.

Do not allow leachate run out for the first 10 days after application, in order to retain the product and facilitate full plant uptake of the active ingredient.

For outdoor ornamentals grown in beds or turf, applications of LADA 2F INSECTICIDE cannot exceed a total of 1.6 Pints (0.4 lb of active ingredient) per acre per year.

On plants with a production cycle of less than one year, application is not to exceed a frequency of more than once each 16 weeks for a particular plant. On stock plants and woody crops with a production cycle of greater than one year, application may not exceed once a year.

**Food Crops:** Treated areas may be replanted with any crop specified on an imidacloprid label, or with any crop for which a tolerance exists for the active ingredient.

For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12 month plant-back interval should be observed.

## APPLICATIONS TO TURF GRASS

LADA 2F INSECTICIDE can be used for the control of soil inhabiting pests of turf grass, such as Northern & Southern masked chafers, *Cyclocephala borealis*, *C. immaculate*, and/or *C. lurida*; Asiatic garden beetle, *Maladera castanea*; European chafer, *Rhizotroqus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Sphenophorus* spp.; Annual bluegrass weevil, *Listronotus* spp.; Black turf grass ataenius, *Ataenius spretulus* and *Aphodius* spp ; European crane fly, *Tipula paludosa*; and mole crickets, *Scapteriscus* spp.. LADA 2F INSECTICIDE can also be used for suppression of cutworms and chinch bugs. LADA 2F INSECTICIDE can be used as directed on turfgrass in sites such as home lawns, business and office complexes, shopping complexes, multi-family residential complexes, golf courses, airports, cemeteries, parks, playgrounds, athletic fields and sod farms.

The active ingredient in LADA 2F INSECTICIDE has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. High levels of control can be achieved when applications are made preceding or during the egg laying period. The need for an application can be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Optimum control will be achieved when applications are made prior to egg hatch of the target pests, followed by sufficient irrigation or rainfall to move the active ingredient through the thatch.

Applications should not be made when turf grass areas are waterlogged or the soil is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist. The treated turf area must be in such a condition that the rainfall or irrigation will penetrate vertically in the soil profile. Applications cannot exceed a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

## TURF GRASS APPLICATIONS (Continued)

### Application Equipment for Use on Turf Grass

Apply LADA 2F INSECTICIDE in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for the application of turf grass insecticides is required. Use equipment that will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly. **Do not apply through any irrigation system.**

### Application Information and Use Rates for Turf Grass

<b>Crop</b>	<b>Pests</b>	<b>Dosage LADA 2F INSECTICIDE</b>	<b>Remarks</b>
Turf Grasses	<b>Larvae of:</b> Annual bluegrass weevil Asiatic garden beetle Billbugs Black turf grass ataenius Cutworm (suppression) European chafer European crane fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp. Southern masked chafer	1.25 to 1.6 pt per acre or 0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft	For optimum control of grubs, billbugs and annual bluegrass weevil, and European crane fly make application prior to egg hatch of the target pest. Be sure to read <b>Application Equipment</b> section of this label.

## TURF GRASS APPLICATIONS (Continued)

<b>Crop</b>	<b>Pests</b>	<b>Dosage LADA 2F INSECTICIDE</b>	<b>Remarks</b>
Turf Grasses	Chinchbugs (suppression) Mole crickets	1.6 pt per acre or 0.6 fl oz (17 mL) per 1000 sq ft	For suppression of chinchbugs, make application prior to or during the hatching of the first instar nymphs. For control of mole crickets make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, LADA 2F INSECTICIDE application should be accompanied by a curative insecticide. Follow label instructions for other insecticides when tank-mixing.
<p>Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.</p> <p><b>Note:</b> For optimum control, irrigation or rainfall should occur within 24 hours after application to move the active ingredient through the thatch. Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year. Avoid mowing turf or lawn area until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.</p>			

# APPLICATIONS TO TREES, SHRUBS, FLOWERS AND GROUNDCOVERS

**For use only in and around industrial and commercial buildings and residential areas.**

<b>Crop</b>	<b>Pests</b>	<b>Dosage LADA 2F INSECTICIDE</b>	<b>Remarks</b>
Trees Shrubs Evergreens Flowers Foliage Plants Groundcovers Interior Plantscapes	Adelgids Aphids Japanese beetles Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Mealybugs Psyllids Sawfly larvae Thrips (suppression) Whiteflies	1.5 fl oz (45 mL) per 100 gal of water	<b>Foliar Applications:</b> Start treatments prior to establishment of high pest populations and reapply on as needed basis.
	White grub larvae (such as Japanese beetle larvae, Chafers, <i>Phyllophaga</i> sp Asiatic garden beetle, Oriental beetle)	0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft	<b>Broadcast Applications:</b> Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of water per 1000 sq ft. For optimum control, irrigate thoroughly to incorporate LADA 2F INSECTICIDE into the upper soil profile. Refer to use direction specific for FLOWERS and GROUND COVERS concerning additional use directions.

## APPLICATIONS TO TREES, SHRUBS, FLOWERS AND GROUNDCOVERS (Continued)

**For use only in and around industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas for the insect pests listed below.**

Crop	Pests	Dosage LADA 2F INSECTICIDE	Remarks
Trees	Adelgids Aphids Japanese beetles Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Mealybugs Psyllids Sawfly larvae Thrips (suppression) Whiteflies	0.1 to 0.2 fl oz (3 to 6 mL) per inch of trunk diameter (D.B.H.)	<p><b>Soil Median:</b> GRID SYSTEM: Holes should be spaced on 2.5 foot centers, in a grid pattern, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle dependent upon the size of the tree) beneath the drip line of the tree extending in from that line. BASAL SYSTEM: Space injection holes evenly around the base of the tree trunk no more than 6 to 12 inches out from the base. Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. For optimum control, keep the treated area moist for 7 to 10 days. Do not use less than 4 holes per tree.</p> <p><b>No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</b></p> <p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p> <p><b>For Control of Specified Borers:</b> Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress.</p>

## APPLICATIONS TO TREES, SHRUBS, FLOWERS AND GROUNDCOVERS (Continued)

Crop	Pests	Dosage LADA 2F INSECTICIDE	Remarks
Shrubs	Adelgids Aphids Japanese beetles Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Mealybugs Psyllids Sawfly larvae Thrips (suppression) Whiteflies	0.1 to 0.2 fl oz (3 to 6 mL) per foot of shrub height	<p><b>Soil Injection:</b> Apply to individual plants using dosage indicated. Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. Do not use less than 4 holes per shrub.</p> <p><b>No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</b></p> <p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p>
Flowers and Groundcovers		0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft	Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if area is irrigated thoroughly after application.

# FRUIT TREE APPLICATIONS

**For use only in and around residential areas.**

Crop	Pests	Rate of Application	
Pome Fruits Apple Crabapple Loquat Mayhew Pear Pear (oriental) Quince	Aphids (except Woolly apple aphid)  Leafhoppers (including glassy-winged sharpshooter)  Leafminer  Mealybugs*  San Jose scale*	1.5 fl oz (45 mL) per 100 gal of water	6.0 fl oz/A <sup>1</sup>

\* Not for use in California for control on pears.

Apply specified dosage as foliar spray as needed after petal-fall is complete.

For control of rosy apple aphid, apply prior to leafrolling caused by the pest.

For first generation leafminer control, make first application as soon as petal-fall is complete. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, optimal control is obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only. LADA 2F INSECTICIDE will not control late stage larvae.

For San Jose Scale, time applications to the crawler stage. Treat each generation.

For late season (preharvest) control of leafhopper species, apply LADA 2F INSECTICIDE while most leafhoppers are in the nymphal stage.

For optimal control of mealybug, insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybug.

## FRUIT TREE APPLICATIONS (Continued)

Do not apply more than 6.0 fluid ounces per acre in a single application. Do not make more than 5 applications.

Allow 10 or more days between applications. Allow at least 7 days between last application and harvest.

<b>Crop</b>	<b>Pests</b>	<b>Rate of Application</b>	
Pecans*	Yellow pecan aphid Black margined aphid Pecan leaf phylloxera Pecan spittlebug Pecan stem phylloxera	1.5 fl oz (45 mL) per 100 gal of water	6.0 fl oz/A <sup>1</sup>

\* Use on pecans not permitted in California unless directed by specific supplemental labeling.

Make foliar applications as pests begin to build before populations become extreme. Two applications at a 10 to 14 day interval may be required to achieve control. Scout and retreat if needed.

Thorough uniform coverage of foliage is necessary for optimal control. Addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's recommended use rate may improve coverage.

Do not apply more than a total of 18.0 fluid ounces of LADA 2F INSECTICIDE per acre per year. Do not make more than 3 applications.

Allow 10 or more days between applications.

<sup>1</sup> The amount of LADA 2F INSECTICIDE required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.

# VINE APPLICATIONS

**For use only in and around industrial and commercial buildings and residential areas.**

<b>Crop</b>	<b>Pests</b>	<b>Rate of Application</b>	
Grapes	Leafhoppers (including glassy-winged sharpshooter)  Mealybugs	1.5 fl oz (45 mL) per 100 gal of water	3.0 fl oz/A (90 mL/A)

Apply specified dosage as a foliar spray using 200 gallons of water per acre. Do not apply more than a total of 6.0 ounces of LADA 2F INSECTICIDE per acre per year. Allow at least 14 days between applications. Applications may be applied up to and including day of harvest.

## RESTRICTIONS

Do not graze treated areas or use clippings from treated areas for feed or forage. Avoid runoff or puddling of irrigation water following application. Keep children and pets off treated area until dry. Avoid application of LADA 2F INSECTICIDE to areas that are water logged or saturated, which will not allow penetration into the root zone of the plant. Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year.

Treated areas may be replanted with any crop specified on an imidacloprid label, or with any crop for which a tolerance exists for the active ingredient.

For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval should be observed.

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