

228-486

8/29/2007

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

George Meindl
Registration Manager
Nufarm Americas, Inc.
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527

AUG 29 2007

SUBJECT: Applications for Pesticide Notification – Request for Primary Brand Name Change
Mantra™ 2F Greenhouse and Nursery Insecticide EPA Reg. No. 228-486
Mantra™ 1G Greenhouse and Nursery Insecticide EPA Reg. No. 228-523
Applications Dated August 6, 2007

Dear Mr. Meindl:

The Agency is in receipt of your Applications for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above products. The Registration Division (RD) has conducted a review of these requests for their applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The labels submitted with the applications have been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Terri Stowe of my staff at 703-305-6117.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs

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Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

	United States Environmental Protection Agency Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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Application for Pesticide - Section I

1. Company/Product Number 228-486	2. EPA Product Manager Venus Eagle	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Mantra 2F Greenhouse and Nursery Insecticide	PM#: 1	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas, Inc. 150 Harvester Drive Suite 200 Burr Ridge, IL 60527 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	NOTIFICATION AUG 29 2007
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Label notification consistent with PRN98-10, see cover letter for detailed explanation. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Unit Packaging wgt. No. per container	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Package wgt No. per container	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> _____	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other _____ <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name George Meindl george.meindl@us.nufarm.com	Title Registration Manager	Telephone No. (Include Area Code) 630.455.2017
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Registration Manager	
4. Typed Name George Meindl	5. Date 8/6/2007	



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Nufarm Americas, Inc.
George Meindl
Registration Manager
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527
Phone: 630.455-2017 Fax: 630.455.2030
george.meindl@us.nufarm.com

August 6, 2007

Via Overnight Courier

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U. S. Environmental Protection Agency
Room S4900, One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202

NOTIFICATION

AUG 29 2007

Subject: Mallet® 2F Greenhouse and Nursery Insecticide
EPA Reg. No. 228-486
Change primary brand name to
Mantra™ 2F Greenhouse and Nursery Insecticide

Dear Ms. Hobgood:

Nufarm Americas Inc. would like to make a change to the primary brand name for the subject registration. We would like the primary brand name for subject registration to be: Mantra™ 2F Greenhouse and Nursery Insecticide. We feel that this label change is permitted and consistent with PRN98-10 section II (Labeling notifications) part A (Changing primary brand name). The new primary brand name is not false and misleading.

To process this request please find enclosed the following:

- Application for Pesticide Registration (EPA form 8570-1)
- Final print labeling with new primary brand name (1 copy)

If you should have any questions regarding this matter, please feel free to contact me at 630.455.2017 or email at george.meindl@us.nufarm.com.

Sincerely,

George Meindl
Registration Manager
Nufarm Americas, Inc.

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NOTIFICATION

AUG 29 2007

Mantra™ 2F

Greenhouse and Nursery Insecticide

FOR FOLIAR AND SYSTEMIC INSECT CONTROL ON ORNAMENTALS,
FRUIT AND NUT TREES, AND VEGETABLE PLANTS IN GREENHOUSES,
NURSERIES, AND INTERIOR PLANTSCAPES.

ACTIVE INGREDIENT:	
Imidacloprid	21.4%
OTHER INGREDIENTS:	78.6%
TOTAL:	100.0%

Contains 2 pounds of imidacloprid per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 228-486
EPA EST. NO.

MANUFACTURED FOR
NUFARM AMERICAS INC.
BURR RIDGE, IL 60527



NET CONTENTS

000228-00486.20070806.NAME

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION

Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A).

PERSONAL PROTECTIVE EQUIPMENT (PPE):

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

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

Engineering controls statement: When handlers use closed systems, enclosed cabs, or aircraft 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	
User should:	
<ul style="list-style-type: none"> • 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. • 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	
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center 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 center or doctor. • Do not give anything by mouth to an unconscious person.
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> • 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. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center, or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
No specific antidote is available. Treat the patient symptomatically.	

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 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 (REI) of 12 hours following application. Earlier entry by exception.

Exception: If the product is drenched, soil-injected or soil-incorporated, workers may enter the treated area at any time 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

APPLICATION TO ORNAMENTALS AND VEGETABLE PLANTS

This product is for insect control on ornamental and vegetable plants in nurseries and greenhouses and interior plantscapes. This product is a systemic product and will be translocated upward into the plant system. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. The addition of a nitrogen containing 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, and broadcast sprays.

When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. For this reason, applications should be made prior to anticipated pest infestation to achieve optimum levels of control.

For outdoor ornamentals, broadcast applications cannot exceed a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

Bark Media: Media with 30% or more bark content may confer a shorter period of protection when treated with this product.

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. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state pest management authorities for details.

APPLICATION EQUIPMENT FOR ORNAMENTALS AND VEGETABLE PLANTS

Mix product with the required amount of water and apply as desired dependent upon the selected use pattern.

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.

This product has been found to be compatible with commonly used fungicides, miticides, liquid fertilizers, and other commonly used insecticides. The physical compatibility of this product may vary with different sources of pesticide products and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

APPLICATION THROUGH IRRIGATION SYSTEMS

This product may be applied at rates recommended on the label either alone or in tank mixtures with other pesticides and chemicals registered for application through irrigation systems. The normal dilution ratio is 1:100 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.

Only use this product through micro irrigation (individual spaghetti tubes), 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 non uniform distribution of treated water.

If you have any questions about calibration, contact your State Extension Service specialist, equipment manufacturers or other experts in this area.

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.

SAFETY DEVICES FOR IRRIGATION SYSTEMS CONNECTED TO PUBLIC WATER SUPPLIES

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 overflow 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 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, 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.

SAFETY DEVICES FOR IRRIGATION SYSTEMS NOT CONNECTED TO A 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 backflow.
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 interlock 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 material that is 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.

APPLICATION TO GRASSY AREAS IN NURSERIES

This product 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 chaffer, *Rhizotrogus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Spherophorus* spp.; Annual bluegrass weevil, *Hyperodes* spp.; Black turfgrass ataenius, *Ataenius spretulus* and *Aphodius* spp. and mole crickets, *Scapteriscus* spp. This product can also be used for suppression of cutworms and chinchbugs. This product can be used as directed on nursery grass in sites such as under or around field crop container grown plants, on roadways or other grassy areas in or around nurseries. This product can not be used on commercial sod farms.

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The active ingredient in this product has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. 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. To optimize control when applications are made prior to egg hatch of the target pests, sufficient irrigation or rainfall is needed to allow the movement of the active ingredient through the thatch.

Applications should not be made when grassy 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 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 pints (0.4 lb of active ingredient) per acre per year.

Application Equipment for Use on Grassy Areas in Nurseries

Apply this product in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for the application of soil 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.

RECOMMENDED APPLICATIONS		
CROP	PEST	DOSAGE
Grassy areas of Field & Forest Nurseries	Larvae of: Annual bluegrass weevil Asiatic garden beetle Billbugs Black turfgrass atenioides Cutworms (suppression) European chafer Green June beetle Japanese beetle Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp. Southern masked chafer	19.2 to 25.6 oz. per acre or 0.45 to 0.6 fl oz (13 to 17 mL) per 1,000 sq ft
	Chinchbugs (suppression) Mole crickets	25.6 oz. per acre or (17 mL) per 1,000 sq ft
For optimum control of grubs, billbugs and annual bluegrass-weevil, make application prior to egg hatch of the target pest. Be sure to read "APPLICATION EQUIPMENT" section of this label.		
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, an application should be accompanied by a curative insecticide. Follow label instructions for other insecticides when tank-mixing.		
Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application. NOTE: 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.		

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RECOMMENDED APPLICATIONS FOR USE ON OR IN ORNAMENTALS		
For foliar and systemic insect control in and around field-grown nursery and containers stock, indoor and outdoor ornamentals (including both greenhouse and interior plantscapes) and ornamentals grown in flats, benches or beds.		
CROP	PEST	DOSAGE
Trees (including non-bearing fruit and nut) Shrubs Evergreens Flowers Foliage Plants Groundcovers Interior Plantscapes Vegetable plants*	Adelgids Aphids Japanese beetles (adults) Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealy bugs Sawfly larvae Thrips (suppression) Whiteflies	1.7 fl oz (50 mL) per 100 gallons of water
	Foliar Applications: Start treatments prior to establishment of high pest populations and reapply on an as needed basis. For resistance management purposes, an imidacloprid foliar application following a soil application in the same crop is not recommended.	
	White grub larvae (such as Japanese beetle larvae, Chafer, <i>Phyllophaga</i> spp., Asiatic garden beetle, Oriental beetle)	0.45 to 0.6 fl oz (13 to 17 mL) per 1,000 sq ft
	Broadcast Applications: 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 1,000 square feet. For optimum control, irrigate thoroughly to incorporate this insecticide into the upper soil profile. Refer to use directions specific for Flowers and Ground Covers concerning additional use directions. *Only for use on vegetable plants intended for resale including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussel Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets Tomatillo, and Tomato.	

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RECOMMENDED APPLICATIONS FOR NURSERY, GREENHOUSE AND INTERIORSCAPE PLANTS			
CROP	PEST	DOSAGE	REMARKS
Trees	Adelgids Aphids Armored scales (suppression) Black vine weevil larvae Eucalyptus longhorned borer Flatheaded borers (including bronze birch and alder borer) Japanese beetles (adults) Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealybugs Pine tip moth larvae Psyllids Royal palm bugs Sawfly larvae Soft scales Thrips (suppression) White grub larvae Whiteflies	0.1 to 0.2 fl oz (3 to 6 mL) per inch of trunk diameter (D.B.H.)	<p>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.</p> <p>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>No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</p> <p>Soil Drench: Uniformly apply the dosage in no less than 10 gallons of water per 1,000 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>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.</p>
Shrubs		0.1 to 0.2 fl oz (3 to 6 mL) per foot of shrub height	<p>Soil Injection: 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>No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</p> <p>Soil Drench: Uniformly apply the dosage in no less than 10 gallons of water per 1,000 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		0.45 to 0.6 fl oz (13 to 17 mL) per 1,000 sq ft	Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. To optimize control immediate irrigation is recommended when application is made to established plants.

EBB & FLOOD APPLICATION

This product may be applied through Ebb and Flood applications. To assure accurate uptake it is recommended that prior to treatment, a minimum of 10 plants be brought up to a known field capacity and allowed to dry out for one or two days. Re-wet these plant 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. Re-use the returned volume with subsequent irrigation or nutrients on the same plants.

EBB & FLOOD APPLICATIONS			
PEST	Pot size (inches)	Herbaceous species including vegetable plants² (one or two plants per pot)	Woody perennials, Herbaceous species including vegetable plants⁵ (3 or more per pot)
		mL per 100 Plants	mL per 100 plants
Adelgids	2	1.6 mL	2.5 mL
Aphids			
Armored scales (suppression)	3	2.5 mL	3.7 mL
Fungus Gnats (larvae only) ¹			
Japanese Beetles (adults)	4	3.3 mL	5 mL
Lacebugs			
Leaf Beetles (including elm and viburnum leaf beetles)	5	4.2 mL	6.3 mL
Leafhoppers (including glassy-winged sharpshooter)			
Leafminers	6	5 mL	7.7 mL
Mealybugs			
Psyllids	7	5.9 mL	9.1 mL
Root mealybugs ²			
Root Weevil Complex: (such as Apoka Weevil, Black vine Weevil, Citrus Root Weevil ³)	8	6.6 mL	10 mL
Soft Scales			
Thrips (suppression) ⁴	9	7.4 mL	11.1 mL
Whiteflies			
White Grub larvae (such as Japanese Beetle, Masked Chafer, European Chafer, Oriental Beetle, Asiatic Garden Beetle)	10	8.3 mL	12.5 mL
	11	9 mL	14.3 mL
	12	10 mL	16.7 mL

1 **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 this product from a healthy root system translocating the active ingredient up into the plant.

2 **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 fluid ounces (50 mL) in 150 gallons of water.

3 **Citrus Root Weevil:** For use on non-bearing citrus nursery stock.

4 **Thrips** suppression on foliage only. Thrips in buds and flowers will not be suppressed.

5 **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.

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RECOMMENDED DRENCH AND IRRIGATION APPLICATIONS					
For use only on greenhouse and nursery ornamentals, vegetable plants, and interiorscape plants using soil drenches, micro-irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held or motorized calibrated irrigation equipment.					
PEST	USE PATTERN		DOSAGE		REMARKS
Adelgids	Plants in Containers	Herbaceous Species - including vegetable plants ⁵ (one or two plants per pot)	Container size (inches)	No. pots treated with 1.7 fl oz (50 mL)	Use sufficient volume to wet most of the potting medium without loss of liquid from the bottom of the container. 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	
Fungus Gnats ¹ (larvae only)			3	2000	
Japanese Beetles (adults)			4	1500	
Lacebugs			5	1200	
Leaf beetles			6	1000	
Leaf beetles (including elm and viburnum leaf beetles)			7	850	
Leafhoppers			8	750	
Leafhoppers (including glassy-winged sharpshooter)			9	675	
Leafminers			10	600	
Mealybugs			11	550	
Psyllids			12	500	
Root mealybugs ²	Woody Perennials		2	2000	
Root Weevil Complex (such as Apopka Weevil, Black vine Weevil, Citrus Root Weevil ³)			3	1350	
Soft Scale			4	1000	
Thrips (suppression) ⁴			5	8000	
Whiteflies			6	650	
White Grub larvae (such as Japanese Beetle, Masked Chafer, European Chafer, Oriental Beetle, Asiatic Garden Beetle)			7	550	
			8	500	
			9	450	
			10	400	
			11	350	
			12	300	
			Herbaceous Species including vegetable plants ⁵ (three or more plants per pot)		
	Ornamental and vegetable plants ⁵ grown in flats, benches, or beds		1.7 fl. oz. (50 mL) per 3,000 square feet		Mix required amount in sufficient water to uniformly cover the area being treated. Do not use less than 2 gallons of mixture per 1,000 square feet. Apply as a broadcast treatment and incorporate into the medium before planting or apply after plants are established. To optimize control lightly water the treated areas if application is made to established plants. Allow no leaching or runoff for 10 days after application.

1 **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 this product from a healthy root system translocating the active ingredient up into the plant.

2 **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 fluid ounces (50 mL) in 150 gallons of water.

3 **Citrus Root Weevil:** For use on non-bearing citrus nursery stock.

4 **Thrips** suppression on foliage only. Thrips in buds and flowers will not be suppressed.

5 **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.

RECOMMENDED DRENCH AND IRRIGATION APPLICATIONS

For use only on greenhouse and nursery ornamentals, vegetable plants, and interiorscape plants using soil drenches, micro-irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation; or hand-held or motorized calibrated irrigation equipment.

APPLICATION INSTRUCTIONS: Use 1.7 fl oz (50 mL) of product in an appropriate amount of water to avoid leaching to treat the number of pots based on pot size in the table below.

PEST	USE PATTERN	DOSAGE		REMARKS
Adelgids Aphids Fungus Gnats ¹ (larvae only) Japanese Beetles (adults) Lacebugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy- winged sharpshooter) Leafminers Mealybugs Psyllids Root mealybugs ² Root Weevil Complex (such as Apopka Weevil, Black vine Weevil, Citrus Root Weevil ³) Soft Scale Thrips (suppression) ⁴ Whiteflies White Grub larvae (such as Japanese Beetle, Masked Chafers, European Chafer, Oriental Beetle, Asiatic Garden Beetle)	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 185 160 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.
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 the row using a band width 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 fluid ounces (50 mL) per 1,000 feet of row or 3,000 square feet. For grub control in areas of turf, apply as a broadcast application using 1.35 to 1.7 fluid ounces (40 to 50 mL) per 3,000 square feet.		Mowing of the vegetation in the area to be treated to a height of 3 inches or less prior to application will improve the 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 1,000 square feet.
1 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 this product from a healthy root system translocating the active ingredient up into the plant. 2 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 fluid ounces (50 mL) in 150 gallons of water. 3 Citrus Root Weevil: For use on non-bearing citrus nursery stock. 4 Thrips suppression on foliage only. Thrips in buds and flowers will not be suppressed.				

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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. Do not apply this product to soils which are water logged or saturated, which will not allow penetration 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 this product cannot exceed a total of 1.6 pt (0.4 lb of active ingredient) per acre per 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.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: 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 below. In spill or leak incidents, keep unauthorized people away.

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: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities by burning. If burned, stay out of smoke.

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