34704-893 10/19/2012 1/48

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

OCT 19 2012

Dr. Premjit Halarnkar, Ph.D.
Loveland Products, Inc.
P.O. Box 1286
Greeley, CO 80632-1286

Subject: Addition of an Alternate Brand Name

Dear Dr. Halamaker:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated September 28, 2012 for:

EPA Registration 34704-893

Widow Insecticide (Primary Brand Name will be : Malice 2F Insecticide)

The Registration Division (RD) has conducted a review of this request of applicability under PRN 98-10 and finds that the label changes(s) requested falls within the scope of PRN 98-10. The label has been date-stamped "Notification" and will be placed in our records.

If you have any questions, call me at 703 305-5409 or electronically at daniel.dani@epa.gov.

Sincerely,

Dani Daniel

Dani Daniel
Registration Division (7504P)
Insecticide/Rodenticide Branch

NOTIFICATION

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060

EPA **United States Environmental Protection Agency** Washington, DC 20460

OCT 19 2012

☐ Registration ☐ Amendment ☑ Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number	2. EPA Product Manager	3. Proposed Classification
34704-893	Venus Eagle	☑ None ☐ Restricted
4. Company/Product (Name) WIDOW INSECTICIDE	PM# 1	

5. Name and Address of Applicant (Include ZIP Code)
Loveland Products Inc.
P.O. Box 1286
Greeley, CO 80632-1286
☐ *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

☐ Amendment - Explain below.
☐ Resubmission in response to Agency letter dated _____
☑ Notification - Explain below.
☐ Final printed labels in response to Agency letter dated _____
☐ "Me Too" Application.
☐ Other - Explain below.

Explanation : Use additional page(s) if necessary. (For Section I and Section II.)
Primary Brand Name change.

Section - III

1. Material This Product Will Be Packaged In:

Child Resistant Packaging	Unit Packaging		Water Soluble Packaging		2. Type of Container
☐ Yes* ☑ No	☐ Yes* ☑ No		☐ Yes* ☑ No		☐ Metal ☑ Plastic ☐ Glass ☐ Paper ☐ Other (Specify) _____
** Certification must be submitted*	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt N/A	No. per container N/A	

3. Location of Net Contents Information	4. Size(s) RetailContainer	5. Location of Label Directions
☑ Label ☐ Container	1 GAL	☑ On Label ☐ On Label accompanying product

6. Manner in Which Label is Affixed to Product ☐ Lithograph ☐ Paper glued ☐ Stenciled ☑ Other — Self-Adhesive

Section - IV

1. Contact Point ***(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)***

Name	Title	Telephone No. (Include Area Code)
Premjit Halarnkar, Ph.D., MPA premjit.halarnkar@cpsagu.com	Manager of Registrations	(970) 685-3579

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 statements may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received (Stamped)

2. Signature	3. Title	4. Typed Name	5. Date
	Manager of Registrations	Premjit Halarnkar, Ph.D., MPA premjit.halarnkar@cpsagu.com	9/28/2012

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

Loveland
PRODUCTS
Get Growing

September 28, 2012

Venus Eagle (PM 1)
Insecticide-Rodenticide Branch/Registration Division
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504C)
U.S. Environmental Protection Agency
Room S4900, One Potomac Yard
2777 S Crystal Drive
Arlington, VA 22202

Subject: **Widow Insecticide (EPA Reg. No. 34704-893)**
Primary Brand Name Change

Dear Ms. Eagle:

Loveland Products is submitting this notification regarding Primary Brand Name for **Widow Insecticide (EPA Reg. No. 34704-893)**. The Primary Brand Name will be **Malice 2F Insecticide** and the Alternate Brand Name will be **Widow Insecticide.**

Attached, please find the following documents in support of this application.

1. Form 8570-1 Application
2. One copy of the Malice 2F Insecticide label.

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 any false statement 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.

If you have any questions, please contact me at (970) 685-3579 or by email: premjit.halarnkar@cpsagu.com

Sincerely,

Premjit Halarnkar, Ph.D., MPA
Registration Manager

4/48

Loveland PRODUCTS

Malice® 2F INSECTICIDE

NOTIFICATION
OCT 19 2012

For uses in pest management and suppression of listed insects that may vector plant diseases and maintenance of plant health.

ACTIVE INGREDIENT:	
Imidacloprid: 1-[(6-Chloro-3-pyridinyl)methyl]-*N*-nitro-2-imidazolidinimine	**21.4%**
OTHER INGREDIENTS	**78.6%**
TOTAL	**100.0%**

Contains 2.0 pounds of Imidacloprid per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SHAKE WELL BEFORE USING

FIRST AID	
If Swallowed:	• Call a poison 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 in Eyes:	• 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.
If on Skin or Clothing:	• 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.
Have a product container or label with you when calling a poison control center or doctor, or going for treatment. **FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.** **Note To Physician:** No specific antidote is available. Treat the patient symptomatically.	

EPA REG. NO. 34704-893

EPA EST. NO. 34704-MS-001

NET CONTENTS 1.0 GAL (3.78 L)

080812 V1D 08R12

MALICE® 2F INSECTICIDE
EPA REG. NO. 34704-893

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, and
- 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 STATEMENTS

When handlers use closed systems or enclosed cabs in a manner that meet 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.

USER SAFETY RECOMMENDATIONS

User should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, 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 product is toxic to wildlife and highly toxic to aquatic invertebrates.

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. 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.

MALICE® 2F INSECTICIDE
EPA REG. NO. 34704-893

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, and
- Shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.
Keep children and pets off treated areas until dry.

FOLLOW THE RESTRICTIONS BELOW WHEN MIXING AND APPLYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Runoff Management

Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When using Malice® 2F Insecticide on erodible soils, employ the Best Management Practices for minimizing runoff. Consult your local Natural Resources Conservation Service for recommendations in your use area.

No-Spray Zone Requirements for Soil/Foliar Applications

Do not apply within 25 feet of lakes; reservoirs; rivers; permanent streams, marshes or natural ponds; estuaries and commercial fish farm ponds.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

Importance of Droplet Size

An important factor influencing drift is droplet size. Small droplets (<150 – 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, make applications to deliver the largest droplet spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection.

Wind Speed Restrictions

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph.

However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Restrictions During Temperature Inversions

Do not make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

Mixing and Loading Requirements

To avoid potential contamination of groundwater, the use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is strongly encouraged. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading area and potential surface groundwater conduits such as field sumps, uncased well heads, sinkholes, or field drains.

ENDANGERED SPECIES NOTICE

Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species. Consult your local county bulletin, County Extension Agent, or Pesticide State Lead Agency for information concerning endangered species in your area.

RESISTANCE MANAGEMENT

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.

Malice 2F Insecticide contains a Group 4A insecticide. Insect biotypes with acquired or inherent resistance to Group 4A may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species.

The active ingredient in Malice 2F Insecticide belongs to the neonicotinoid chemical class. Insect pests resistant to other chemical classes have not shown cross-resistance to Imidacloprid. In order to maintain susceptibility to this class of chemistry in insect species with high resistance development potential, it is recommended that for each crop season: 1) only a single, soil application of Malice 2F Insecticide be made; 2) foliar applications of products from this same class not be made following a long residual, soil application of Malice 2F Insecticide, or other neonicotinoid products.

Other Group 4A, neonicotinoid products used as foliar treatments include: Actara®, Assail®, Calypso®, Centric®, Intruder®, Leverage®, Provado® and Trimax™.

Other Group 4A, neonicotinoid products used as soil treatments include: Platinum®

Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at http://www.irac-online.org/.

MALICE® 2F INSECTICIDE
EPA REG. NO. 34704-893

APPLICATION INSTRUCTIONS

Apply Malice 2F Insecticide as a directed or broadcast foliar spray using properly calibrated ground application equipment as allowed in the specific application section. For insecticidal efficacy, thorough coverage of all target foliage with runoff is necessary. To obtain thorough coverage, use adequate spray volumes, properly calibrated application equipment and a spray adjuvant if necessary. Failure to provide adequate coverage and retention of this product on leaves and fruit, if present, may result in loss of insect control or delay in onset of activity. Minimum spray volumes, unless otherwise specified on crop specific application sections, are 10.0 gallons per acre by ground. This product may be applied by chemigation (see Chemigation section) if allowed in the specific application section.

Restrictions
Do not apply with aerial application equipment.
Do not apply more than 0.50 pound active ingredient per acre, per year, regardless of formulation or method of application, unless specified within a crop-specific, Application Instructions section for a given crop.

Apply Malice 2F Insecticide directly into the seed or root-zone of crop. Failure to place Malice 2F Insecticide into root-zone may result in loss of control or delay in onset of activity. Apply Malice 2F Insecticide with ground or chemigation equipment. Broadcast, foliar applications are only to be used for seedling flats or trays, or where product is intended to be washed from foliage to soil prior to drying on foliage.

Optimum activity of Malice 2F Insecticide results from applications to the root-zone of plants to be protected. The earlier Malice 2F Insecticide is available to a developing plant, the earlier the protection begins. Malice 2F Insecticide is continuously taken into the roots over a long period of time and the systemic nature of Malice 2F Insecticide allows movement from roots through the xylem tissue to all vegetative parts of the plant. This results in extended residual activity of Malice 2F Insecticide, the control of insects and the prevention and/or reduction of virus transmission or symptom expression, and plant health benefits. The rate of Malice 2F Insecticide applied affects the length of the plant protection period. Use the higher rate within the specified rate range when infestations occur later in crop development, or where pest pressure is continuous. Malice 2F Insecticide will generally not control insects infesting flowers, blooms or fruit. Additional crop protection may be required for insects feeding in, or on these plant parts and for insects not listed in the crop-specific, pests controlled sections of this label. Additional, specific Malice 2F Insecticide application instructions are also provided in the crop-specific sections of this label.

Suppression, or less than complete control of certain diseases and insect pests including reduced feeding, may also result from a Malice 2F Insecticide application. Residual control of these pests/diseases may require supplemental control measures.

Malice 2F Insecticide use on crops grown for production of true seed intended for private or commercial planting is not permitted unless it is allowed under State specific, supplemental labeling. As with any insecticide, care must be taken to minimize exposure of Malice 2F Insecticide to honey bees and other pollinators. Additional information on Malice 2F Insecticide uses for these crops and other questions, may be obtained from the Cooperative Extension Service, PCAs, consultants or local Loveland Products, Inc. representatives.

Pre-mix Malice 2F Insecticide with water or other appropriate diluent prior to application. Keep Malice 2F Insecticide and water suspension agitated to avoid settling.

Mixing Instructions
To prepare the application mixture, add a portion of the required amount of water to the tank and with agitation add Malice 2F Insecticide. Complete filling tank with balance of water needed. Maintain sufficient agitation during both mixing and application. Malice 2F Insecticide may also be used with other pesticides and/or fertilizer solutions. Please see Compatibility section below. When tank mixtures of Malice 2F Insecticide and other pesticides are involved, prepare the tank mixture as specified above and follow the Mixing Order described below.

Mixing Order
When pesticide mixtures are needed, add wettable powders first, Malice 2F Insecticide and other flowable (suspension concentrate) products second, and emulsifiable concentrates last. Ensure good agitation as each component is added. Do not add an additional component until the previous is thoroughly mixed. If a fertilizer solution is added, a fertilizer/pesticide compatibility agent may be needed. Maintain constant agitation during both mixing and application to ensure uniformity of spray mixture.

Compatibility
Test compatibility of the intended mixture before adding Malice 2F Insecticide to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order, to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Poor mixing or formation of precipitates that do not readily redisperse indicates an incompatible mixture, DO NOT USE. For further information, contact your local Loveland Products, Inc. representative.

CHEMIGATION – DIRECTIONS FOR USE

Malice 2F Insecticide may be applied at rates specified 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 1:100 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.

- **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.
- Apply this product only through micro-irrigation (individual spaghetti tube), drip irrigation, overhead irrigation, and ebb and flood or hand held or motorized calibrated irrigation equipment and only as specified in the use directions. **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.
- Be sure to remove scale, pesticide residue and other foreign matter from the tank and entire irrigation system prior to application.
- If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Types of Irrigation Systems
Chemigation applications of Malice 2F Insecticide may only be made to crops through chemigation systems as specified in crop-specific Application sections and only through low-pressure systems unless specifically instructed for a given crop. Do not apply Malice 2F Insecticide through any other type of irrigation system.

Uniform Water Distribution and System Calibration
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, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Chemigation Monitoring
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.

Drift
Do not apply when wind speed favors drift beyond the area intended for treatment.

Required System Safety Devices
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. The pesticide injection

pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. 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. 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.

Using Water from Public Water Systems

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. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the 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. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection. 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 interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection 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. 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.

ROTATIONAL CROPS*

Treated areas may be replanted with any crop specified on a Malice 2F Insecticide label, or any crop for which a tolerance exists for the active ingredient, as soon as practical following the last application. For crops not listed on a Malice 2F Insecticide label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval must be observed.

IMMEDIATE PLANT-BACK

All crops on this label plus the following crops not on this label: barley, canola, corn (field, pop & sweet), rapeseed, sorghum, sugar beet and wheat.

30-DAY PLANT-BACK

Cereals (including buckwheat, millet, oats, rice, rye, and triticale), soybeans and safflower

12-MONTH PLANT-BACK

All Other Crops

*Cover crops for soil building or erosion control may be planted any time, but do not graze or harvest for food or feed.

HERBS

Angelica, Balm (lemon balm), Basil (fresh and dried), Borage, Burnet, Camomile, Catnip, Chervil (dried), Chinese chive, Chive, Clary, Coriander (cilantro or Chinese parsley leaves), Costmary, Culantro (leaf), Curry (leaf), Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage (leaf), Marigold, Marjoram, Nasturtium, Parsley (dried), Pennyroyal, Rosemary, Rue, Sage, Savory (summer and winter), Sweet bay (bay leaf), Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood.

Herbs cont'd.:

Pests Controlled	Rate Fl Ozs/Acre
Aphids	16.0 to 24.0
Flea beetles	
Leafhoppers	
Whiteflies	
Pests/Diseases Suppressed#	
Thrips (foliage-feeding thrips only)	16.0 to 24.0

Restrictions:
Pre-Harvest Interval (PHI): **14 days**
Maximum Malice 2F Insecticide allowed per crop season: **24.0 fl ozs/acre** (0.38 lb AI/acre)
#Controls pests that may vector plant diseases.

Instructions
Apply specified dosage in one of the following methods:
1. In-furrow spray during planting directed on or below seed;
2. In-furrow spray or transplant-water drench during setting or transplanting;
3. Shanked-into or below eventual seed-line;
4. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, Loveland Products, Inc. strongly recommends that only small areas or numbers of plants of each be treated and evaluated prior to commercial use.

FIELD CROPS
Application Instructions – Malice 2F Insecticide

COTTON

Pests Controlled	Rate Fl Ozs/1000 row-feet	Rate Fl Ozs/Acre
Cotton aphid Plant bugs Thrips Whiteflies	1.3	17.0 to 21.1 (Depending on row-spacing)

Restrictions
Maximum Malice 2F Insecticide allowed per crop season: **21.1 fl ozs/acre** (0.33 lb AI/acre)

Regardless of formulation or method of application, apply no more than 0.5 pound active ingredient of Malice 2F Insecticide, Provado, Trimax or Leverage per acre per year, including seed treatment as Gaucho®, soil and foliar uses. Do not apply more than a total of 6 applications of the active ingredient per season. Do not graze treated fields after any application of Malice 2F Insecticide. Please see Resistance Management section of this label.

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. In-furrow spray during planting directed on or below seed;
2. In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting;
3. Chemigation into root-zone through low-pressure drip or trickle irrigation.

MALICE® 2F INSECTICIDE
EPA REG. NO. 34704-893

POTATO

Pests Controlled	Rate Fl Ozs/1000 row-feet	Rate Fl Ozs/Acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Potato psyllid	0.9 to 1.3	13.0 to 20.0
Pests/Diseases Suppressed#		
Symptoms of: Potato leaf roll virus (PLRV) Potato yellows Net necrosis (PLRV) Wireworms (with in-furrow spray at-planting)	0.9 to 1.3	13.0 to 20.0

Restrictions
Maximum Malice 2F Insecticide allowed per crop season: **20.0 fl ozs/acre** (0.31 lb AI/acre)
#Controls pests that may vector plant diseases.

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. In-furrow spray during planting directed on seed pieces or seed potatoes;
2. Subsurface side-dress on both sides on the row covered with 3 or more inches of soil;
3. Narrow band spray at ground cracking directly over the row during hilling covered with 3 or more inches of soil;
4. Narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting. For effective pest control or suppression, Malice 2F Insecticide applications must be placed below soil-surface and in contact with seed piece or within root-zone. For potatoes grown on highly permeable soils with shallow water table, at-plant applications of Malice 2F Insecticide may be made in a 2- to -4 inch band (width of planter shoe opening) and completely covered.

POTATO*
(Seed Piece Treatment)

Pests Controlled	Rate Fl Oz/100 lbs seed	Rate Fl Ozs/Acre**
Aphids Colorado potato beetle Flea beetles Leafhoppers Potato psyllid Wireworms (seed-piece protection)	0.4 to 0.8	8.0 to 16.0
Pests/Diseases Suppressed#		
Symptoms of: Potato leaf roll virus (PLRV) Potato yellows Net necrosis (PLRV)	0.8	16.0

Restrictions
Maximum Malice 2F Insecticide allowed per crop season: **20.0 fl ozs/acre** (0.31 lb AI/acre)
Do not use treated seed-pieces for food, feed, or fodder. Do not apply any subsequent application of Malice 2F Insecticide (in-furrow), Gaucho, Leverage or Provado following a Malice 2F Insecticide seed-piece treatment.
#Controls pests that may vector plant diseases.

MALICE® 2F INSECTICIDE
EPA REG. NO. 34704-893

Potato*
(Seed Piece Treatment) cont'd.:

Instructions

Apply specified dosage as a diluted spray onto seed-pieces using a shielded spray system. Dilute with 3 parts water, or less, to 1 part Malice 2F Insecticide. Agitate or stir spray solution as needed. Fungicidal or inert absorbent dusts may be applied after Malice 2F Insecticide application. Apply only in areas with adequate ventilation or in areas that are equipped to remove spray mist or dust. Plant seed-pieces as soon as possible after treating avoiding prolonged exposure of Malice 2F Insecticide treated seed-pieces to sunlight and in accordance with the directions of your local Extension specialist.

Consult your local Loveland Products, Inc. representative or crop protection product dealer for information relevant to your area.

*Use not permitted in CA unless otherwise directed by supplemental labeling.
**Based on a seeding rate of 2000 pounds per acre.

TOBACCO

Pests Controlled	**Rate Fl Ozs/1000 plants (as seedling tray drench)**	**Rate Fl Ozs/1000 plants (in-furrow or transplant-water)**
Aphids Flea beetles	1.0	1.4
Mole crickets Whiteflies	1.4 to 2.8	1.8 to 2.8
Wireworms		
Pests/Diseases Suppressed#		
Cutworms Symptoms of: Tomato spotted wilt virus (TSWV)	1.4 to 2.8	1.8 to 2.8

Restrictions

Pre-Harvest Interval (PHI): **14 days**
Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.50 lb AI/acre)
#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. Uniform, broadcast foliar spray to seedlings in trays (tray drench) not more than 7 days prior to transplanting followed immediately by overhead irrigation to wash Malice 2F Insecticide from foliage into potting media. Failure to wash Malice 2F Insecticide from foliage may result in reduction in pest control. Transplants must be handled carefully during setting to avoid dislodging treated potted media from roots.
2. In-furrow spray or transplant-water drench during setting.
3. Chemigation into root-zone through low-pressure drip, trickle, micro sprinkler or equivalent equipment.

Note: Proper tray drench applications of Malice 2F Insecticide have been shown to be the most efficacious method of application. However, the specified rate of Malice 2F Insecticide may be applied as a combination of the tray drench in the planthouse and/or transplant-water drench in field. Adverse growing conditions may cause a delay in uptake of Malice 2F Insecticide into the plant and a delay in control.

MALICE® 2F INSECTICIDE
EPA REG. NO. 34704-893

VEGETABLE and SMALL FRUIT CROPS
Application Directions – Malice 2F Insecticide

Restrictions
Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

CUCURBIT VEGETABLES
Including: Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cuban pumpkin, Cucumber, Gherkin, Gourd (edible, includes hyotan, cucuzza, hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo* including true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon, and Winter melon), Pumpkin, Squash (includes summer squash types such as: butternut squash, calabaza, crookneck squash, Hubbard squash, scallop squash, straightneck squash, vegetable marrow and zucchini, and winter squash types such as acorn squash and spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus)*

Field application instructions. See details below for additional planthouse instructions.

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids Cucumber beetles Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	16.0 to 24.0
Pests/Diseases Suppressed#	
Bacterial wilt (as vectored by various cucumber beetles)	
Leaf silvering resulting from whitefly feeding	16.0 to 24.0

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Malice 2F Insecticide allowed per application: **24.0 fl ozs/acre** (0.38 lb AI/acre)
#Controls pests that may vector plant diseases.

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 1/2" with sufficient irrigation within 24 hours of application;
4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
5. Post-seeding drench, transplant-water drench, or hill drench;
6. Subsurface side-dress on both sides of each row. Malice 2F Insecticide must be incorporated into root-zone.

Planthouse Application Instructions

Pests Controlled	**Rate Fl Oz/1000 Plants**
Aphids Whiteflies	0.1

Restrictions
Maximum amount of Malice 2F Insecticide applied in the planthouse: **0.1 fl oz** (0.00156 lb AI) **per 1000 plants.**
Maximum number Malice 2F Insecticide applications in planthouse: **1**

Instructions
Apply specified dosage to seedlings in trays in the planthouse, targeting soil media (tray drench), not more than 7 days prior to transplanting, in one of the following manners:

Cucurbit Vegetables cont'd.:

1. Uniform, broadcast high-volume foliar spray, followed immediately by sufficient overhead irrigation to wash Malice 2F Insecticide from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Malice 2F Insecticide from foliage may result in reduced pest control;
2. Injection into overhead irrigation system, using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray.

The application made in the planthouse will only provide short-term protection and is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. DO NOT apply higher rates or increased number of applications in planthouse. Transplants must be handled carefully during setting to avoid dislodging treated potting media from roots.

Not all varieties of cucurbit vegetables have been tested for tolerance to Malice 2F Insecticide applied to seedling flats. Therefore, treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

GREENHOUSE VEGETABLES
(Mature plants in production greenhouses)
Cucumber, Tomato, only

Pests Controlled	**Rate Fl Ozs/1000 plants**
Aphids Whiteflies	1.4

Restrictions
Pre-Harvest Interval (PHI): **0 days**
Maximum number of Malice 2F Insecticide applications per crop season: **1**

Instructions
Apply specified dosage in a minimum of 16.0 gallons of water for tomatoes and 21.0 gallons of water for cucumbers using soil drenches, micro-irrigation, drip irrigation, or hand-held or motorized calibrated irrigation equipment. Do not apply to immature plants since phytotoxicity may occur.

Apply when infestation pressure surpasses threshold and beneficials are not able to maintain pest populations below damage thresholds. Repellency of bumble bee pollinators and negative effects on some beneficials (*Orius* sp.) can occur when Malice 2F Insecticide is applied.
Many varieties of vegetables have been tested for tolerance to Malice 2F Insecticide and show good safety. However, certain varieties may show more sensitivity to Malice 2F Insecticide. Therefore, treat a few plants before treating the whole greenhouse.

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FRUITING VEGETABLES

Including: Eggplant, Ground cherry, Okra, Pepper (including bell, chili, cooking, pimento and sweet) Tomato, Pepinos, Tomatillo

Field application instructions. See details below for additional planthouse instructions.

Pests Controlled	Rate Fl Ozs/Acre
Aphids	Okra and Pepper
Colorado potato beetle	16.0 to 32.0
Flea beetles	
Leafhoppers	Other Crops
Thrips (foliage-feeding thrips, only)	16.0 to 24.0
Whiteflies	
Pests/Diseases Suppressed#	
Symptoms of:	Okra and Pepper
Tomato mottle virus	16.0 to 32.0
Tomato spotted wilt virus	Other Crops
Tomato yellow leaf curl virus	16.0 to 24.0

Restrictions

Pre-Harvest Interval (PHI): **21 days**

Maximum Malice 2F Insecticide allowed on pepper and okra crops per application: **32.0 fl ozs/acre** (0.50 lb AI/acre)

Maximum Malice 2F Insecticide allowed on other fruiting crops per application: **24.0 fl ozs/acre** (0.38 lb AI/acre)

#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 1/2" with sufficient irrigation within 24 hours of application;
4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
5. Post-seeding drench, transplant-water drench, or hill drench;
6. Subsurface side-dress on both sides of each row. Malice 2F Insecticide must be incorporated into root-zone.

Planthouse Application Instructions

Pests Controlled	Rate Fl Oz/1000 plants
Aphids	
Whiteflies	0.1

Restrictions

Maximum amount of Malice 2F Insecticide applied in the planthouse: **0.1 fl oz** (0.0156 lb AI) **per 1000 plants.**

Maximum number Malice 2F Insecticide applications in planthouse: **1**

Instructions

Apply specified dosage to seedlings in trays in the planthouse, targeting soil media (tray drench), not more than 7 days prior to transplanting, in one of the following manners:

1. Uniform, broadcast high-volume foliar spray, followed immediately by sufficient overhead irrigation to wash Malice 2F Insecticide from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Malice 2F Insecticide from foliage may result in reduced pest control;
2. Injection into overhead irrigation system, using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray.

Fruiting Vegetables cont'd.:

The application made in the planthouse will only provide short-term protection and is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection.

DO NOT apply higher rates or increased number of applications in planthouse. Transplants must be handled carefully during setting to avoid dislodging treated potted media from roots.

Not all varieties of fruiting vegetables have been tested for tolerance to Malice 2F Insecticide applied to seedling flats. Therefore treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

Use not permitted in CA unless otherwise directed by supplemental labeling.

HEAD and STEM BRASSICA VEGETABLES

Including: Broccoli, Broccoli raab (*rapini*), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (*gai lon*) broccoli, Chinese (*bok choy*) cabbage, Chinese (*napa*) cabbage, Chinese mustard (*gai choy*) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip tops (leaves)

AND

LEAFY VEGETABLES

Including: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Cilantro, Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Raddicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian Spinach)), Watercress (commercial production only, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	**Rate Fl Ozs/Acre (on 36 inch rows)**
Aphids Whiteflies	10.0 to 24.0

Restrictions

Pre-Harvest Interval (PHI): **21 days**

Maximum Malice 2F Insecticide allowed per application: **24.0 fl ozs/acre** (0.38 lb AI/acre)

Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 1/2" with sufficient irrigation within 24 hours of application;
4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
5. Post-seeding drench, transplant-water drench, or hill drench;
6. Subsurface side-dress on both sides of each row. Malice 2F Insecticide must be incorporated into root-zone.

LEAFY PETIOLE VEGETABLES

Including: Cardoon, Celery, Celtuce, Chinese celery (fresh leaves and stalk only), Florence fennel (including sweet anise, sweet fennel, Finocchio), Rhubarb, Swiss chard

Pests Controlled	Rate Fl Ozs/Acre
Aphids Leafhoppers Whiteflies	10.0 to 24.0

Restrictions

Pre-Harvest Interval (PHI): **45 days**

Maximum Malice 2F Insecticide allowed per application: **24.0 fl ozs/acre** (0.38 lb AI/acre)

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 1/2" with sufficient irrigation within 24 hours of application;
4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
5. Post-seeding drench, transplant-water drench, or hill drench;
6. Subsurface side-dress on both sides of each row. Malice 2F Insecticide must be incorporated into root zone.

LEGUME VEGETABLES except soybean, dry

Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean

Bean (*Lupinus* spp., includes grain lupin, sweet lupin, white lupin, and white sweet lupin)

Bean (*Phaseolus* spp., includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean)

Bean (*Vigna* spp., includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, yardlong bean)

Pea (*Pisum* spp., includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea)

Other Beans and Peas [Broad bean (fava), Chickpea (garbanzo bean), Guar, Jackbean, Lablab bean (hyacinth bean), Lentil, Pigeon pea, Soybean (immature seed), Sword bean]

Pests Controlled	Rate Fl Ozs/Acre
Aphids Leafhoppers Thrips (foliage feeding thrips, only) Whiteflies	16.0 to 24.0
Pests/Diseases Suppressed#	
Symptoms of: Bean common mosaic virus (BCMV) Bean golden mosaic virus (BGMV) Beet curly top hybrigeminivirus (BCTV)	16.0 to 24.0

Restrictions

Pre-Harvest Interval (PHI): **21 days**

Maximum Malice 2F Insecticide allowed per crop season: **24.0 fl ozs/acre** (0.38 AI/acre)

#Controls pests that may vector plant diseases.

Legume Vegetables except soybean, dry cont'd.:

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.
2. In-furrow spray at planting directed on or below seed;
3. In a narrow (2" or less) surface band over seed-line during planting incorporated to a depth of 1 to 1 1/2" with sufficient irrigation within 24 hours following application;
4. In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting;
5. As a post-seeding drench, transplant drench, or hill drench.

ROOT VEGETABLES

Including: Beet (garden)[1], Burdock (edible)[1], Carrot[1], Celeriac[1], Chervil (turnip-rooted)[1], Chicory[1], Ginseng, Horseradish, Parsley (turnip-rooted), Parsnip[1], Radish[1], Oriental radish (diakon)[1], Rutabaga[1], Salsify (oyster plant), Salsify (black)[1], Salsify (Spanish), Skirret and Turnip[1].

Pests Controlled	Rate Fl Ozs/1000 row-feet	Rate Fl Ozs/Acre
Aphids Flea beetles Leafhoppers Whiteflies	0.7 to 1.7	10.0 to 24.0

Restrictions

Pre-Harvest Interval (PHI): **21 days**
Maximum Malice 2F Insecticide allowed per crop season: **24.0 fl ozs/acre** (0.38 lb AI/acre)
Maximum Malice 2F Insecticide applications per crop season: **1**

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray (rate specified per 1000 row-feet) or, shanked-in 1 to 2 inches below seed depth during planting;
3. In a narrow (2 inches or less) band directly (1 to 2 inches) below the eventual seed row in a bedding operation 14 or fewer days before planting.

Note: The rate applied affects the length of control. Use higher rates where infestations occur later in crop development, or where pest pressure is continuous. Malice 2F Insecticide rates less than 0.7 fluid ounce per 1000 row-feet will not provide adequate residual pest control. Malice 2F Insecticide treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

[1]Tops or greens from these crops may be utilized for food or feed.

TUBEROUS and CORM VEGETABLES

Including: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible, Queensland arrowroot), Cassava (bitter & sweet)[1], Chayote (root), Chufa, Dasheen (taro)[1], Ginger, Leren, Sweetpotato, Tanier (cocoyam)[1], Turmeric, Yam bean (jicama, manioc pea), Yam (true)[1] (For application instructions on potato see Field Crops section)

Pests Controlled	Rate Fl Ozs/1000 row-feet	Rate Fl Ozs/Acre
Aphids Flea beetles Leafhoppers Whiteflies	0.7 to 1.7	10.0 to 24.0

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Tuberous and Corm Vegetables cont'd.:

Restrictions
Pre-Harvest Interval (PHI) from planting application: **3 days** (leaves); **125 days** (corms)
Maximum Malice 2F Insecticide allowed per crop season: **24.0 fl ozs/acre** (0.38 lb AI/acre)
Maximum Malice 2F Insecticide applications per crop season: **1**

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. In-furrow spray (rate specified/1000 row-feet) over planting material (hulis) or shanked-in 1 to 2 inches below hulis depth at planting;
2. Side-dress not more than 0.6 fluid ounce per 1000 row-feet no later than 45 days after planting. Observe same PHI as above.

Important: The rate applied affects the length of control. Use higher listed rates where infestations occur later in crop development, or where pest pressure is continuous. Malice 2F Insecticide rates less than 0.7 fluid ounce per 1000 row-feet may not provide adequate residual pest control. Malice 2F Insecticide treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

[1]Tops or greens from these crops may be utilized for food or feed.

STRAWBERRY[1]
Annual And Perennial Crops

Pests Controlled	**Rate Fl Ozs/A**
Aphids Whiteflies	24.0 to 32.0

Restrictions
Pre-Harvest Interval (PHI): **14 days**
Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.50 lb AI/acre)

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening;
2. As a plant material or plant hole treatment just prior to, or during transplanting.

The rate applied affects the length of control. Use higher rates where infestations may occur later in crop development or where pest exposure is continuous.
[1]Malice 2F Insecticide can not be used pre and post harvest on the same crop with any other imidacloprid treatment.

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SUGAR BEET
(for use only in CA)

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids Flea beetles Leafhoppers Whiteflies	6.0 to 12.0
Pests/Diseases Suppressed#	
Symptoms of: Western yellows/Beet curly top hybrigeminivirus (BCTV)	6.0 to 12.0

Restrictions
Maximum Malice 2F Insecticide allowed per crop season: **12.0 fl ozs/acre** (0.18 lb AI/acre)
Maximum imidacloprid allowed per season: **0.18 lb AI/acre** (from any formulation) on any row spacing
#Controls pests that may vector plant diseases.

Instructions
Apply specified dosage of Malice 2F Insecticide in the following method:
1. Apply specified dosage in sufficient carrier volume to insure uniform application. Apply directly below each seed furrow either during the bedding operation immediately prior to planting or at the time of planting.

The lower listed rate may be applied to aid establishment of stands in whitefly areas, or for early season control of the other pests listed.

Malice 2F Insecticide Conversion Chart for Linear Application

Rate Fl Ozs/Acre	**Rate Fl Ozs/1000 row-feet Based on *average* row spacing (in inches):**							
	10	15	20	25	30	35	40	45
10	*0.19*	*0.29*	*0.38*	*0.48*	*0.57*	*0.67*	0.76	0.86
12	*0.23*	*0.34*	*0.46*	*0.57*	*0.69*	0.80	0.92	1.03
14	*0.27*	*0.40*	*0.54*	*0.67*	0.80	0.94	1.07	1.21
16	*0.31*	*0.46*	*0.61*	0.77	0.92	1.07	1.22	1.38
18	*0.34*	*0.52*	*0.69*	0.86	1.03	1.21	1.38	1.55
20	*0.38*	*0.57*	0.76	0.96	1.15	1.34	1.53	1.72
22	*0.42*	*0.63*	0.84	1.05	1.26	1.47	1.68	1.89
24	*0.46*	*0.69*	0.92	1.15	1.38	1.61	1.84	2.07
26	*0.50*	0.75	0.99	1.24	1.49	1.74	1.99	2.24
28	*0.54*	0.80	1.07	1.34	1.61	1.87	2.14	2.41
30	*0.57*	0.86	1.15	1.43	1.72	2.01	2.29	2.58
32	*0.61*	0.92	1.22	1.52	1.84	2.14	2.45	2.75

Important: The Malice 2F Insecticide rate applied affects the length of control and to a considerable extent, the degree of control or effect. Row-spacing X Malice 2F Insecticide rate combinations in italics may not provide adequate residual pest control and are not suitable for long-term, residual control. Use higher labeled rates where infestations may occur later in crop development or where pest pressure is continuous. Loveland Products, Inc. offers no warranty for use of Malice 2F Insecticide at rates below 0.7 fluid ounce per 1000 row-feet.

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TREE, BUSH and VINE CROPS

Application Directions – Malice 2F Insecticide

BANANA AND PLANTAIN

Pests Controlled	Rate Fl Ozs/Acre
Aphids	16.0 to 32.0
Leafhoppers	
Pests/Diseases Suppressed#	
Scales	16.0 to 32.0

Restrictions
Pre-Harvest Interval (PHI): **0 day**
Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.5 lb AI/acre)
#Controls pests that may vector plant diseases.

Instructions
Apply specified dosage of this product in the following method:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

BUSHBERRY

Including: Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Ligonberry, Salal

Pests Controlled	Rate Fl Ozs/Acre
Japanese beetle (adults, feeding on foliage)	
White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and Oriental beetle)	16.0 to 32.0

Restrictions
Pre-Harvest Interval (PHI): **7 days**
Maximum Malice 2F Insecticide allowed per season: **32.0 fl ozs/acre** (0.50 lb AI/acre)

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. 18-inch band on each side of the row followed with 0.25 inch of irrigation immediately after application.

For optimal grub control, apply Malice 2F Insecticide to control 1st or 2nd instar larvae. Application may be made post-bloom up to 7 days prior to harvest, or post-harvest until October 1. For optimum control of Japanese beetle larvae, make applications from June 1 to July 15. Do not apply during bloom.

Application to grass covered rows, row middles, drive lanes, headlands, and other grassy areas in and around the berry field will control resident grub populations. Applications directed to the root-zone will help protect berry plant roots from grub feeding.
Apply Malice 2F Insecticide to moist soil. If necessary, apply 1 hour of irrigation water immediately before application of Malice 2F Insecticide. To facilitate movement of Malice 2F Insecticide into the soil and root-zone, 1/2 to 1 inch of irrigation water or rainfall must be applied or received within 24 hours of application.

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CITRUS (Containerized)
Including: Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor). Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Tangelo, Satsuma mandarin, White sapote (*Casimiroa* spp.), and other cultivars and/or hybrids of these.

Pests Controlled	**Rate mL/ft ^{3} Container Media**
Aphids Asian citrus psyllid Black fly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Whiteflies	0.75
Citrus root weevil (larval complex)	1.25 to 2.50
Pests/Diseases Suppressed#	
Citrus thrips	2.50

Instructions
Determine volume of container and calculate dosage necessary to treat container. Apply calculated dosage of Malice 2F Insecticide per container as a soil drench or through low-pressure drip or trickle irrigation water. Use sufficient carrier volume to ensure thorough uniform distribution throughout the media without loss of gravitational water from the container. For optimal results, treatment should be made at planting prior to insect infestation. Retreat if necessary. For control of larvae of the citrus root weevil complex, application should be made prior to neonate larvae entering potting media. Utilize higher dosage for heavy infestations.
#Controls pests that may vector plant diseases.

CITRUS (Field)
Including: Calamondin, Citrus, Citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Tangelo, Satsuma mandarin, White sapote (*Casimiroa* spp.), and other cultivars and/or hybrids of these.

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids Asian citrus psyllid Black fly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Termites (FL only) Whiteflies	16.0 to 32.0
Pests/Diseases Suppressed#	
Symptoms of: Citrus tristeza virus CTV through vector control Citrus yellows	32.0
Thrips (foliage feeding thrips only)	

Restrictions
Pre-Harvest Interval (PHI): **0 day**
Maximum Malice 2F Insecticide allowed per season **32.0 fl ozs/acre** (0.50 lb AI/acre)
#Controls pests that may vector plant diseases.

Citrus (Field) cont'd.:

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to newly planted trees or those previously trained to drip, trickle or micro-sprinkler irrigation. To break soil surface tension, lightly pre-wet soil prior to applications of Malice 2F Insecticide. Chemigation application can be made separate to normal irrigation but followed by 10 to 20 minutes of additional watering to move Malice 2F Insecticide into root-zone. Allow 24 hours before initiating subsequent irrigations;
2. Soil surface band spray on both sides of the tree. Overlap bands at the base of the tree to create a continuous band within the drip-line area of the tree, to be followed immediately with light sprinkler irrigation sufficient to move the product into the upper portion of the root-zone. This method is suitable for very coarse soils with 0.75% organic matter or less;
3. Drench to base of tree not exceeding one-quart total solution per tree immediately around trunk of tree and extending outward covering the entire fibrous root system of the tree. Only suitable for trees up to 8 feet tall;
4. For control of existing termite infestations, apply specified dosage in 1.0 to 4.0 quarts of total solution volume, depending on size of tree, as a drench application to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk.

COFFEE

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids	16.0 to 32.0
Leafhoppers	
Leafminer	
Pests/Diseases Suppressed#	
Scales	16.0 to 32.0

Restrictions

Pre-Harvest Interval (PHI): **7 days**
Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.5 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.
2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;
3. Basal, soil drench in sufficient water to insure incorporation into the root-zone followed by irrigation.

CRANBERRY

Pests Controlled	**Rate Fl Ozs/Acre**
Rootgrubs (Scarabaeidae)	
Rootworms (Chrysomelidae)	16.0 to 32.0

Restrictions

Pre-Harvest Interval (PHI): **30 days**
Maximum Malice 2F Insecticide allowed per season: **32.0 fl ozs/acre** (0.50 lb AI/acre)
Do not apply during bloom.

CRANBERRYcont'd.:

Instructions

Apply Malice 2F Insecticide to moist soil. Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. As a soil spray (ground application) directed to the root and crown area using a minimum of 20.0 gallons of water per acre;
2. As a chemigation application with 600 to 1000 gallons water.

Immediately upon application, Malice 2F Insecticide must be incorporated into root-zone by 0.1 to 0.3 inch water per acre, either with the chemigation application or through irrigation/rainfall if not applied through chemigation. Inadequate incorporation within 24 hours of application may result in reduced control.

Rootgrubs and Rootworms

Best control may be achieved when application is made post-bloom immediately after bees are removed. Applications should target early instar larvae.

Malice 2F Insecticide has not been tested for crop response in tank mixes with other registered fungicides or insecticides. If tank mixing is desired, premix a sample of the Malice 2F Insecticide and the desired fungicide or insecticide partner at labeled rates and apply to a small area. Evaluate crop response within 48 hours and for at least 2 weeks prior to utilizing the tank mix on larger acreage. If crop injury results from the premix test, do not apply the tank mix to larger acreage.

GRAPE

Including: American bunch grape, Muscadine grape and Vinifera grape

Pests Controlled	**Rate Fl Ozs/Acre**
Mealybugs Leafhoppers/Sharpshooters *Phylloxera** spp.	16.0 to 32.0
Pests/Diseases Suppressed#	
Pierce's disease	24.0 to 32.0

Restrictions

Pre-Harvest Interval (PHI): **30 days**

Maximum Malice 2F Insecticide allowed per season: **32.0 fl ozs/acre** (0.50 lb AI/acre)

#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage of Malice 2F Insecticide in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;
3. Hill drench in sufficient water to insure incorporation into the root-zone followed by irrigation.

For optimum results, make application(s) between bud-break and the pea-berry stage.

*Repeated and regular use of Malice 2F Insecticide over several, consecutive growing seasons controls existing *Phylloxera* infestations over time or prevents *Phylloxera* from becoming established.

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HOP

Pests Controlled	Rate Fl Ozs/Acre
Aphids	19.2

Restrictions
Pre-Harvest Interval (PHI): **60 days**
Maximum Malice 2F Insecticide allowed per season: **19.2 fl ozs/acre** (0.3 lb AI/acre)
Use not permitted in California unless otherwise directed by supplemental labeling.

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;
3. Hill drench in sufficient water to insure incorporation into the root-zone followed by irrigation.

PECAN

Pests Controlled	Rate Fl Ozs/Acre
Aphids Twolined spittlebug	16.0 to 32.0
Pests/Diseases Suppressed#	
Pecan scab (from reduction in honeydew deposition)	16.0 to 32.0

Restrictions
Maximum Malice 2F Insecticide allowed per season: **32.0 fl ozs/acre** (0.50 lb AI/acre)
#Controls pests that may vector plant diseases.

Applications can be made from May 15 up to July 15. Applications made later in the season may result in reduced efficacy.

Apply product to slightly moist soil and allow soil to dry prior to additional irrigation.

Instructions
Apply specified dosage of Malice 2F Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. Emitter or spot application in a minimum of 4.0 fluid ounces of mixture per emitter site;
3. Subsurface side-dress shanked into the root-zone near emitter line. Treat distance, wetted by the emitter set of each tree.

POME FRUIT
Including: Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

Pests Controlled	Rate Fl Ozs/Acre
Aphids (including woolly apple aphid) Leafhoppers	16.0 to 24.0

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Malice 2F Insecticide allowed per season: **24.0 fl ozs/acre** (0.38 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Use not permitted in California unless otherwise directed by supplemental labeling.

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POME FRUIT cont'd.:

Instructions
Apply specified dosage of Malice 2F Insecticide in the following method:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

POMEGRANATE

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids Leafhoppers/Sharpshooters Whiteflies	16.0 to 32.0

Restrictions
Pre-Harvest Interval (PHI): **0 day**
Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.5 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Instructions
Apply specified dosage of this product in the following method:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

STONE FRUIT
Including: Apricot, Cherry (including sweet and tart), Nectarine, Peach, Plum (including Chickasaw, Damson, and Japanese), Plumcot, Prune (fresh and dried)

In-field, Soil Application

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids (including woolly apple aphid) Leafhoppers	16.0 to 24.0

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Malice 2F Insecticide allowed per season: **24.0 fl ozs/acre** (0.38 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Use not permitted in California unless otherwise directed by supplemental labeling.

Instructions
Apply specified dosage of Malice 2F Insecticide in the following method:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

Pre-plant, Root Dip Application

Pests Controlled	**Rate Fl Ozs/10.0 gals root-dip solution**
Black peach aphid (infesting roots)	2.0

Mix Malice 2F Insecticide at 2.0 fluid ounces per 10.0 gallons of water. Thoroughly wet bare-root transplant to slightly above the graft union by soaking roots in the Malice 2F Insecticide solution for up to 5 minutes. Allow solution to dry on roots and transplant trees as soon as possible following treatment.

TROPICAL FRUIT

Including: Acerola, Atemoya, Avocado, Birida, Black sapote, Canistel, Cherimoya, Custard apple, Feijoa, Guava, Jaboticaba, Llama, Longan, Lychee, Mamey sapote, Mango, Papaya, Passionfruit, Persimmon, Pulasan, Rambutan, Sapodilla, Soursop, Spanish lime, Star apple, Starfruit, Sugar apple, Wax jambu

Pests Controlled	Rate Fl Ozs/Acre
Aphids Leafhoppers Whiteflies	24.0 to 32.0
Pests/Diseases Suppressed#	
Scales	32.0

Restrictions

Pre-Harvest Interval (PHI): **6 days**
Maximum Malice 2F Insecticide allowed per application: **32.0 fl ozs/acre** (0.50 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Use not permitted in California unless otherwise directed by supplemental labeling.
#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage of Malice 2F Insecticide in the following method:
1. Chemigation through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

TREE NUTS

Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut (black and English)

Pests Controlled	Rate Fl Ozs/Acre
Aphids Leafhoppers/Sharpshooters Mealybugs Spittlebugs Termites Whiteflies	16.0 to 32.0
Pests/Diseases Suppressed#	
Pecan scab (from reduction in honeydew deposition)	24.0 to 32.0
Thrips (foliage-feeding thrips only)	32.0

Restrictions

Pre-Harvest Interval (PHI): **7 days**
Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.50 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage prior to or at onset of pest infestation in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. Pre-wet soil prior to applications of this product and allow soil to dry following application and prior to subsequent irrigation;
2. Emitter or spot application in a minimum of 4.0 fluid ounces of mixture per emitter site;
3. Shank or subsurface side-dress, injected to a depth just above or just within the root zone and between the trunk and drip line of the tree canopy. Apply product in a minimum of 10.0 gallons per acre using multiple shanks on both sides of trees. Ensure product placement is below sod or orchard floor debris. Follow with irrigation over entire treated area within 48 hours to promote uptake by root system.

TREE NUTS cont'd.:

4. For control of termites, apply specified dosage to slightly moist soil as a high-volume drench to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk. Utilize sufficient carrier volume to penetrate the soil to a depth of 18 to 24 inches to obtain optimum control. Allow soil to dry following treatment and prior to applying any irrigation.

Use the higher listed rates when applied by shank or subsurface side-dress, used on larger trees, soils are high in clay content, high plant populations exist, and/or where extended control is desired. Under some conditions, control may not occur for 14 or more days or until two (2) irrigations have been made. Applications made later in the season may result in reduced efficacy.

CHRISTMAS TREE

Pests Controlled	**Rate Fl Ozs/Acre**
White grub complex (damage from grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and Oriental beetle)	16.0 to 32.0

Restrictions

Maximum Malice 2F Insecticide allowed per crop season: **32.0 fl ozs/acre** (0.5 lb AI/acre)

Instructions

Soil incorporation and movement of this product to the root-zone is required for activity. This product can be incorporated most readily when applied to moist soil. Apply specified dosage in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. 18-inch band on each side of the row (small trees) to full broadcast application (large trees) followed by rainfall or 0.25 to 1 inch of irrigation within 12 hours after application.

For optimal grub control, apply this product during adult flight activity, or up to mid-July, when first instar larvae are present.

POPLAR/COTTONWOOD

(Includes members of the genus *Populus* grown for pulp or timber)

Pests Controlled	**Rate Fl Ozs/Acre**
Aphids Cottonwood leaf beetle	16.0 to 32.0
Pests/Diseases Suppressed#	
Phylloxerina popularia	16.0 to 32.0

Restrictions

Maximum Malice 2F Insecticide allowed at-plant per crop season: **32.0 fl ozs/acre** (0.50 lb AI/acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Use not permitted in California unless otherwise directed by supplemental labeling.
#Controls pests that may vector plant diseases.

Instructions

Apply specified dosage of Malice 2F Insecticide in the following method:

1. Chemigation through low-pressure drip irrigation.

For Cottonwood leaf beetle, protection against damage will occur when application is made early, when the beetles first begin feeding. Larger trees may require earlier treatment as a result of slower uptake.

For *Phylloxerina*, apply early in the year, from break of dormancy through May.

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APPLICATION TO TURFGRASS

Use Malice 2F Insecticide for the control of listed soil inhabiting pests of turfgrass, including Northern & 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, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Sphenophorus* spp.; Annual bluegrass weevil, *Listronotus* spp,; Black turfgrass ataenius, *Ataenius spretulus* and *Aphodius* spp.; European crane fly, *Tipula paludosa*; and mole crickets, *Scapteriscus* spp. Use this product for suppression of cutworms and chinch bugs. Use as directed on turfgrass on residential lawns, business and office complexes, shopping complexes, multi-family residential complexes, golf courses, airports, cemeteries, parks, playgrounds, and athletic fields.

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. Base the need for an application on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Make applications prior to egg hatch of the target pests, followed by sufficient irrigation or rainfall to move the active ingredient through the thatch.

RESTRICTIONS

- **DO NOT** make applications when turfgrass 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 AI) per acre per year.

Application Methods

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 turfgrass 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.

TURFGRASS

PEST	USE RATE	REMARKS
Larvae of: Annual bluegrass weevil Asiatic garden beetle Billbugs Black turfgrass ataenius Cutworms (suppression) European chafer European crane fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle *Phyllophaga* spp. Southern masked chafer	1.25 to 1.6 pts/A OR 0.46 to 0.6 fl oz (14.0 to 17.0 mL)/ 1000 sq ft	For control of grubs, billbugs, annual bluegrass weevil, and European crane fly make application prior to egg hatch of the target pest. Read "**Application Methods**" section for Application to Turfgrass.
Chinchbugs (suppression) Mole crickets	1.6 pts/A OR 0.6 fl oz (17.0 mL)/ 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, accompany the application of this product with a remedial insecticide. Follow the most restrictive label instructions when tank mixing.

Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.

RESTRICTIONS:

- **DO NOT** apply more than 25.6 fl ozs (1.6 pts) (0.4 lb AI) per acre per year.
- **DO NOT** mow turf or lawn area until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.
- Irrigation or rainfall must occur within 24 hours after application to move the active ingredient through the thatch.

APPLICATION TO LANDSCAPE ORNAMENTALS

Use this product on ornamentals in and around the perimeter of commercial and residential landscapes and interior plantscapes. It is a systemic product and will be translocated upward into the plant system from root uptake. Apply this product to areas 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 has been shown to enhance the uptake of the active ingredient. Application can be made by foliar application or soil applications; including soil injection, drenches, and broadcast sprays. Foliar applications offer locally systemic activity against insect pests.

When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. In some cases, this translocation delay could take 60 days or longer. For this reason, make applications prior to anticipated pest infestation to achieve control.

Outdoor applications cannot exceed a total of 25.6 fluid ounces (1.6 pints) (0.4 pound of active ingredient) per acre per year.

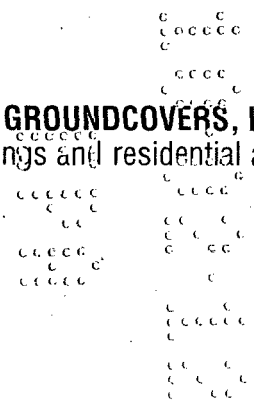
Ant Management Programs

Use this product to control aphids, scale insects, mealybugs and other sucking pests on ornamentals to limit the honeydew available as a food source for ant populations. Applications can then be supplemented with residual sprays, bait placements or other ant control tactics to further reduce the pest population.

Application Methods

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 will improve coverage. If concentrate or mist type spray equipment is used, apply an equivalent amount of product on the area sprayed, as would be used in a dilute application. This insecticide 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. Prepare, on a small scale (pint or quart jar), any tank mixture which has not been previously tested by using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

RESTRICTION: DO NOT apply through any irrigation system.



ORNAMENTAL TREES, SHRUBS, EVERGREENS, FLOWERS, FOLIAGE PLANTS, GROUNDCOVERS, INTERIOR PLANTSCAPES (in and around the perimeter of industrial and commercial buildings and residential areas)

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FOLIAR APPLICATIONS

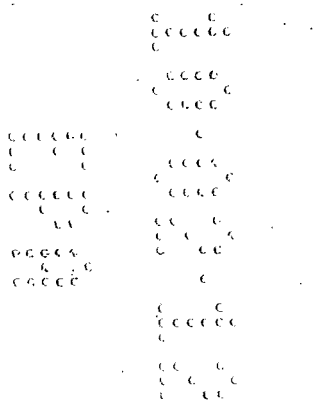
PEST	USE RATE	REMARKS
Adelgids Aphids Asian longhorned beetle Japanese beetles (adults) Lace bugs Leaf beetles (including Elm and Viburnum leaf beetles) Leafhoppers (including Glassy-winged sharpshooter) Leafminers Mealy bugs Sawfly larvae Thrips (suppression) Whiteflies	1.7 fl ozs (50.0 mL) /100 gals of water	Start treatments prior to establishment of high pest populations and reapply on an as needed basis. For resistance management purposes, do not follow an imidacloprid foliar application with a soil application in the same crop.

BROADCAST APPLICATIONS

PEST	USE RATE	REMARKS
White grub larvae (such as Japanese beetle larvae, chafers, *Phyllophaga* spp., Asiatic garden beetle; Oriental beetle)	0.46 to 0.6 fl oz (14 to 17.0 mL) /1000 sq ft	Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. **DO NOT** use less than 2.0 gals of water/1000 sq ft. Irrigate thoroughly to incorporate this insecticide into the upper soil profile. Refer to use directions (found below) specific for Flowers and Ground Covers.

RESTRICTIONS:

- **DO NOT** apply more than 25.6 fl ozs (1.6 pts) (0.4 lbs AI) per acre per year.
- **DO NOT** harvest or consume fruits or nuts from trees that have been treated within 1 year of application.
- **DO NOT** apply through any irrigation system



ORNAMENTAL TREES, SHRUBS, FLOWERS AND GROUNDCOVERS (in and around the perimeter of industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas for the insect pests listed below)

PEST	USE RATE	APPLICATION SITE
	TREES	
Adelgids Alder borer Aphids Armored scales (suppression) Black vine weevil larvae Bronze birch borer Eucalyptus longhorned borer Flatheaded borers (including Bronze birch and Alder) Japanese beetles 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	**For TREES:** Use the following rates as a function of tree diameter at breast height (DBH): Apply 0.1 to 0.4 fl oz (3.0 to 6.0 mL)/inch of trunk diameter (DBH). You may use the higher rate (0.3 to 0.4 fl oz) only for trees >15 inches (DBH) to control: Eucalyptus longhorned borer, Bronze birch borer, and Alder borer **RESTRICTION: DO NOT** apply more than 25.6 fl ozs (0.4 lb AI)/A/year. Diameter at Breast Height (DBH) is measured at 4.5 ft from the ground.	**Soil Injection: GRID SYSTEM:** Holes must be spaced on 2.5 ft 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. Keep the treated area moist for 7 to 10 days. **DO NOT** use less than 4 holes/tree. **NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.** **Soil Drench:** Uniformly apply the dosage in no less than 10.0 gals of water/1000 sq ft 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. **Basal Drench using Slow Release Irrigation Bags (such as Treegator® 15, 20, or 50 Gallon capacity):** Follow manufacturer's instructions for installation and setup of drip irrigation water bag. Fill bag to 1/4 capacity with irrigation water. Add the specified rate of this product for the tree diameter to which the bag is attached. Add remaining volume of water needed to fill bag.

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Ornamental Trees, Shrubs, Flowers and Groundcovers *(in and around the perimeter of industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas for the insect pests listed below)* ***cont'd.:***

PEST	USE RATE	APPLICATION SITE
	SHRUBS	
Adelgids Alder borer Aphids Armored scales (suppression) Black vine weevil larvae Bronze birch borer Eucalyptus longhorned borer Flatheaded borers (including Bronze birch and Alder) Japanese beetles 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 (3.0 to 6.0 mL)/ft of shrub height	**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/shrub. **NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.** **Soil Drench:** Uniformly apply the dosage in no less than 10.0 gals of water/1000 sq ft 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. **Basal Drench using Slow Release Irrigation Bags (such as Treegator 15, 20, or 50 Gallon capacity):** Follow manufacturer's instructions for installation and setup of drip irrigation water bag. Fill bag to 1/4 capacity with irrigation water. Add the specified rate of this product for the shrub height to which the bag is attached. Add remaining volume of water needed to fill bag.
	FLOWERS & GROUNDCOVERS	
	0.46 to 0.6 fl oz (14.0 to 17.0 mL)/1000 sq ft	Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. Irrigate immediately following application to established plants.

REMARKS

*Pine sawfly larvae feed on mature foliage beginning in early spring. Make treatments in the fall before pine sawfly emergence in spring to allow adequate time for imidacloprid translocation into mature foliage.

RESTRICTIONS:

- **DO NOT** apply more than 25.6 fl ozs (1.6 pts) (0.4 lb AI) per acre per year.
- **DO NOT** harvest or consume fruits or nuts from trees that have been treated within 1 year of application.
- **DO NOT** apply through any irrigation system.

POME FRUITS: Apple, Crabapple, Loquat, Mayhaw, Pear, Pear (oriental), Quince (around perimeter of industrial and commercial buildings and on residential areas)

PEST		USE RATE
Aphids (except Wooly apple aphid) Leafhoppers (including Glassy-winged sharpshooter) Leafminer Mealybugs* San Jose scale*	1.5 fl ozs (45.0 mL) /100 gals of water	6.0 fl ozs/A[1]

REMARKS

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. This product 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 this product while most leafhoppers are in the nymphal stage.
For control of mealybugs, insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybugs.
[1]The amount of this product 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.

RESTRICTIONS:

- **DO NOT** apply more than 25.6 fl ozs per acre per crop season.
- **DO NOT** apply more than 6.0 fl ozs per acre in a single application.
- **DO NOT** make more than 4 applications per year.
- Allow 10 or more days between applications.
- Allow at least 7 days between last application and harvest.

*Not for use in California for control on pears.

PECANS* (around perimeter of industrial and commercial buildings and on residential areas)

PEST		USE RATE
Black margined aphid Pecan leaf phylloxera Pecan spittlebug Pecan stem phylloxera Yellow pecan aphid	1.5 fl ozs (45.0 mL) /100 gals of water	6.0 fl oz/A[1]

REMARKS

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 control. Addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's specified use rate may improve coverage.
[1]The amount of this product 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.

RESTRICTIONS:

- Pre-Harvest Interval (PHI): **7 days**
- **DO NOT** apply more than a total of 18.0 fl ozs of this product per acre per year.
- **DO NOT** make more than 3 applications per year.

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PECANS* *(around perimeter of industrial and commercial buildings and on residential areas) cont'd.:*

- Allow 10 or more days between applications.
- **DO NOT** apply through any irrigation system.

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

GRAPES: (around perimeter of industrial and commercial buildings and on residential areas)

PEST	USE RATE	
Leafhoppers (including Glassy-winged sharpshooter) Mealybugs*	1.5 fl ozs (45 mL) /100 gals of water	3.0 fl oz/A[1]

REMARKS

[1]Apply specified dosage as a foliar spray using 200 gallons of water per acre.

RESTRICTIONS:

- **DO NOT** apply more than a total of 6.0 fl ozs of this product per acre per year.
- Allow at least 14 days between applications.
- Applications may be applied up to and including day of harvest.
- **DO NOT** apply through any irrigation system.

CITRUS: Citrus and Citrus hybrids, Orange (sweet and sour), Calamondin, Grapefruit, Kumquat, Lemon, Lime, Pummelo, Tangerine, Tangelo (around perimeter of industrial and commercial buildings and on residential areas)

PEST	USE RATE	
Aphids Asian citrus psyllid Black fly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Termites (FL only) Whiteflies	1.5 fl ozs (45.0 mL) /100 gals of water	6.0 fl oz/A[1]

REMARKS

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

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. This product will not control late stage larvae.

For late season (preharvest) control of leafhopper species, apply this product while most leafhoppers are in the nymphal stage.

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

[1]The amount of this product 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.

RESTRICTIONS:

- **DO NOT** apply more than 32.0 fl ozs (0.5 lb AI) per acre per season.
- **DO NOT** apply more than 6.0 fl ozs per acre in a single application.
- **DO NOT** make more than 5 applications per year.
- Allow 10 or more days between applications.
- Allow at least 7 days between last application and harvest.
- **DO NOT** apply through any irrigation system.
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

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AVOCADO: (around perimeter of industrial and commercial buildings and on residential areas)

PEST	USE RATE	
Aphids Avocado lacebug Leafhoppers Whiteflies	1.5 fl ozs (45.0 mL) /100 gals of water	6.0 fl oz/A[1]

REMARKS

[1]The amount of this product 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.

RESTRICTIONS:

- **DO NOT** apply more than a total of 6.0 fl ozs of this product per acre per year.
- Allow at least 14 days between applications.
- Allow at least 7 days between application and harvest.
- **DO NOT** apply through any irrigation system.
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

APPLICATION TO GRASSY AREAS IN NURSERIES

This product can be used for the control of listed soil inhabiting pests of grassy areas of nurseries, including 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, *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 chinch bugs. This product 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.

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. When applications are made prior to egg hatch of the target pests, sufficient irrigation or rainfall is needed within 24 hours to allow the movement of the active ingredient through the thatch.

RESTRICTIONS:

- **DO NOT** use this product on commercial sod farms.
- **DO NOT** make application 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 25.6 fl ozs (1.6 pts) (0.4 lb AI) 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, course droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly.

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GRASSY AREAS OF FIELD AND FOREST NURSERIES

PEST	USE RATE
Larvae of: Annual bluegrass weevil Asiatic garden beetle Billbugs Black turfgrass ataenius Cutworms (suppression) European chafer European crane fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle *Phyllophaga* spp. Southern masked chafer	19.2 to 25.6 fl ozs/A (1.25 to 1.6 pt/A) OR 0.46 to 0.6 fl oz (14.0 to 17.0 mL)/1000 sq ft
Chinchbugs (suppression) Mole crickets	25.6 fl ozs/A (1.6 pts/A) OR 0.6 fl oz (17.0 mL)/1000 sq ft

REMARKS

For control of grubs, billbugs and annual bluegrass-weevil, make application prior to egg hatch of the target pest.

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, accompany the application of this product with a remedial insecticide. Follow the most restrictive label instructions when tank-mixing.

Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.

Restrictions

- **DO NOT** apply more than 25.6 fl ozs (1.6 pts) (0.4 lb AI) per acre per year.
- Irrigation or rainfall must occur within 24 hours after application to move the active ingredient through the thatch.
- **DO NOT** mow turf or lawn area until after sufficient irrigation or rainfall has occurred.

APPLICATION TO ORNAMENTALS AND VEGETABLE PLANTS
(Nurseries, Greenhouses, Interior Plantscapes)

This product is for insect control on ornamental and commercial 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. Make application prior to anticipated pest infestation.

RESTRICTION: Outdoor applications cannot exceed a total of 25.6 fluid ounces (1.6 pints) (0.4 pound of active ingredient) per acre per year, except for things grown in pots, containers, flats or on benches.

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. Because the development of resistance cannot be predicted, the use of this product must 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 specified for 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 will improve coverage. If concentrate or mist type spray equipment is used, apply an equivalent amount of product 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. For any tank mixture that has not been previously tested, prepare on a small scale (pint or quart jar), using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

FOLIAR & BROADCAST APPLICATIONS: ORNAMENTAL TREES (including non-bearing fruit & nut trees), SHRUBS, EVERGREENS, FLOWERS, FOLIAGE PLANTS, GROUNDCOVERS, INTERIOR PLANTSCAPES, VEGETABLE PLANTS* (around field-grown nursery and container stock, indoor and outdoor ornamentals (including both greenhouse and interior plantscapes) and ornamentals grown in flats, benches or beds)

FOLIAR APPLICATIONS

PEST	USE RATE	REMARKS
Adelgids Aphids Japanese beetles (adults) Lace bugs Leaf beetles (including Elm and Viburnum leaf beetles) Leafhoppers (including Glassy-winged sharpshooter) Leafminers Mealybugs Sawfly larvae Thrips (suppression) Whiteflies	1.7 fl ozs (50.0 mL) /100 gals of water	Start treatments prior to establishment of high pest populations and reapply on an as needed basis. For resistance management purposes, **DO NOT** make an imidacloprid foliar application following a soil application in the same crop.

BROADCAST APPLICATIONS

PEST	USE RATE	REMARKS
White grub larvae (such as Japanese beetle larvae, chafers, *Phyllophaga* spp., Asiatic garden beetle, Oriental beetle)	0.46 to 0.6 fl oz (14.0 to 17.0 mL) /1000 sq ft	Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. **DO NOT** use less than 2.0 gals of water/1000 sq ft. Irrigate thoroughly to incorporate this insecticide into the upper soil profile. Refer to specific use directions (found below), for Flowers and Ground Covers.

RESTRICTIONS:
*Only for use on the following vegetable plants intended for resale: 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.
Outdoor applications cannot exceed a total of 25.6 fl ozs (1.6 pts) (0.4 lbs AI) per acre per year, except for things grown in pots, containers, flats or on benches.

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SOIL APPLICATIONS: NURSERY, GREENHOUSE AND INTERIORSCAPE PLANTS

PEST	USE RATE	APPLICATION SITE
	TREES	
Adelgids Alder borer Aphids Armored scales (suppression) Black vine weevil larvae Bronze birch borer Eucalyptus longhorned borer Flatheaded borers (including Bronze birch and Alder) Japanese beetles 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	**For TREES:** Use the following rates as a function of tree diameter at breast height (DBH): Apply 0.1 to 0.4 fl oz (3.0 to 6.0 mL)/in of trunk diameter (DBH). You may use the higher rate (0.3 to 0.4 fl oz) only for trees >15 in (DBH) to control: Eucalyptus longhorned borer, Bronze birch borer, and Alder borer **RESTRICTION: DO NOT** apply more than 25.6 fl ozs (0.4 lb AI)/A/year. Diameter at Breast Height (DBH) is measured at 4.5 ft from the ground.	**Soil Injection: GRID SYSTEM:** Holes must be spaced on 2.5 ft 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. Keep the treated area moist for 7 to 10 days. **DO NOT** use less than 4 holes/tree. **NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.** **Soil Drench:** Uniformly apply the dosage in no less than 10.0 gals of water/1000 sq ft 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. **Basal Soil Drench using Slow Release Irrigation Bags (such as Treegator® 15, 20, or 50 Gallon capacity):** Follow manufacturer's instructions for installation and setup of drip irrigation water bag. Fill bag to 1/4 capacity with irrigation water. Add the specified rate of this product for the tree diameter to which the bag is attached. Add remaining volume of water needed to fill bag.

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Soil Applications: Nursery, Greenhouse and Interior Plants cont'd.:

PEST	USE RATE	APPLICATION SITE
	SHRUBS	
Adelgids Alder borer Aphids Armored scales (suppression) Black vine weevil larvae Bronze birch borer Eucalyptus longhorned borer Flatheaded borers (including Bronze birch and Alder) Japanese beetles 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 (3.0 to 6.0 mL)/ft of shrub height	**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/shrub. **NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.** **Soil Drench:** Uniformly apply the dosage in no less than 10.0 gals of water/1000 sq ft 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. **Basal Soil Drench Using Slow Release Irrigation Bags (such as Treegator 15, 20, or 50 Gallon capacity):** Follow manufacturer's instructions for installation and setup of drip irrigation water bag. Fill bag to 1/4 capacity with irrigation water. Add the specified rate of this product for the shrub height to which the bag is attached. Add remaining volume of water needed to fill bag.
	FLOWERS & GROUNDCOVERS	
	0.46 to 0.6 fl oz (14.0 to 17.0 mL) /1000 sq ft	Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. Irrigate immediately following application to established plants.

REMARKS

*Pine sawfly larvae feed on mature foliage beginning in early spring. Make treatments in the fall before pine sawfly emergence in spring to allow adequate time for imidacloprid translocation into mature foliage.

RESTRICTIONS:

• Outdoor applications cannot exceed a total of 25.6 fl ozs (1.6 pts) (0.4 lbs AI) per acre per year, except for things grown in pots, containers, flats or on benches.

SOIL APPLICATIONS: FIELD AND FOREST NURSERIES

PESTS	FL OZS/1000 FT OF ROW	FL OZS/1000 SQ FT
For control of: White grub larvae[1] (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)	1.7 fl oz (50.0 mL)	0.6 fl oz (17.0 mL) 25.6 fl ozs/A

Soil Applications: Field and Forest Nurseries cont'd.:

APPLICATION METHODS

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.

REMARKS

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. Time the treatment so that rainfall or irrigation occurs within 24 hours following the application.

[1]For grub control in areas of turf, apply as a broadcast application using 0.46 to 0.60 fl oz (14.0 to 17.0 mL)/ 1,000 sq ft (19.6 to 25.6 fl ozs/acre).

RESTRICTIONS:

DO NOT use less than 2.0 gallons of spray volume per 1000 sq ft (85 GPA).

DO NOT exceed 25.6 fl ozs per acre per year (1.6 pts) (0.4 lbs AI/acre).

EBB & FLOOD APPLICATIONS

This product may be applied through Ebb and Flood applications to Ornamental and Vegetable Plants (intended for resale only) grown in containers. To assure accurate uptake, prior to treatment, bring a minimum of 10 plants up to a known field capacity and allow 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 will 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: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN CONTAINERS

PEST	Container Size (inches)	Herbaceous species including vegetable plants (1 or 2 plants/pot)	Woody perennials, Herbaceous species including vegetable plants (3 or more/pot)
	mL/100 plants		
Adelgids Aphids Armored scales (suppression) Fungus gnats (larvae only)[1] Japanese beetles (adults) Lacebugs Leaf Beetles (including Elm and Viburnum) Leafhoppers/ Sharpshooters Leafminers Mealybugs Psyllids Root mealybugs[2] Root weevil complex: (such as Apopka, Black vine, Citrus root)[3]	2 3 4 5 6 7 8 9 10 11 12	1.6 2.5 3.3 4.2 5.0 5.9 6.6 7.4 8.3 9.0 10.0	2.5 3.7 5.0 6.3 7.7 9.1 10.0 11.1 12.5 14.3 16.7

Ebb & Flood Applications: Ornamental and Vegetable Plants Grown in Containers cont'd.:

PEST	Container Size (inches)	Herbaceous species including vegetable plants (1 or 2 plants/pot)	Woody perennials, Herbaceous species including vegetable plants (3 or more/pot)
	mL/100 plants		
Soft scales Thrips (suppression)[4] Whiteflies White grub larvae (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)			

REMARKS

[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: 2.0 fl ozs (60.0 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.

RESTRICTION:

Only for use on the following vegetable plants intended for resale: 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.

DRENCH & IRRIGATION APPLICATIONS

This product may be applied through Drench and Flood applications. See instructions above **"For Application Through Irrigation Systems."** Apply only to greenhouse and nursery grown ornamentals, vegetable plants (intended for resale only), and interiorscape plants using soil drenches, mirco irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held or motorized calibrated irrigation equipment.

DRENCH & IRRIGATION APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN SMALL CONTAINERS, IN FLATS, ON BENCHES, OR IN BEDS

PEST	CONTAINERIZED PLANTS (small containers)		
	Container Size (inches)	Herbaceous species including vegetable plants (1 or 2 plants/pot)	Woody perennials, Herbaceous species including vegetable plants (3 or more/pot)
		# of Containers treated with 2.0 fl ozs (60.0 mL)	
Adelgids	2	3000	2000
Aphids	3	2000	1350
Fungus gnats (larvae only)[1]	4	1500	1000
	5	1200	800
Japanese beetles (adults)	6	1000	650
	7	850	550
Lacebugs	8	750	500

Drench & Irrigation Applications: Ornamental and Vegetable Plants Grown in Small Containers, in Flats, on Benches, or in Beds cont'd.:

PEST	CONTAINERIZED PLANTS (small containers)		
	Container Size (inches)	Herbaceous species including vegetable plants (1 or 2 plants/pot)	Woody perennials, Herbaceous species including vegetable plants (3 or more/pot)
		# of Containers treated with 2.0 fl ozs (60.0 mL)	
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, Black vine, Citrus root weevils)[3] Soft scales Thrips (suppression)[4] Whiteflies White grub larvae (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)	9	675	450
	10	600	400
	11	550	350
	12	500	300

APPLICATION METHODS

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 prevent loss of active ingredient due to leaching.

PLANTS IN FLATS, ON BENCHES, OR IN BEDS

0.67 fl oz (20.0 mL)/1000 sq ft

APPLICATION METHODS

Mix required amount in sufficient water to uniformly cover the area being treated. **DO NOT** use less than 2.0 gallons of mixture per 1000 square feet. Apply as a broadcast treatment and incorporate into the medium before planting or apply after plants are established. Lightly water the treated areas if application is made to established plants. Allow no leaching or runout for 10 days after application.

REMARKS

[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: 2.0 fl ozs (60.0 mL) in 150 gallons of water.

[3]**Citrus root weevil:** For use on non-bearing citrus nursery stock.

Drench & Irrigation Applications: Ornamental and Vegetable Plants Grown in Small Containers, in Flats, on Benches, or in Beds cont'd.:

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

RESTRICTIONS:

- Outdoor applications cannot exceed a total of 25.6 fl ozs (1.6 pts) (0.4 lb of AI) per acre per year, except for things grown in pots, containers, flats or on benches.
- Only for use on the following vegetable plants intended for resale: 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.

DRENCH AND IRRIGATION APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN LARGE CONTAINERS

Application instructions: Use 2.0 fl ozs (60.0 mL) of product in an appropriate amount of water to prevent leaching. 2.0 fl ozs (60.0 mL) will treat the number of containers specified below, based on container size.

Pests	Container Size (gals)	# of Containers treated with 2.0 fl ozs (60.0 mL)
Adelgids Aphids Fungus gnats (larvae only)[1] 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, Black vine, Citrus root)[3] Soft scales Thrips (suppression)[4] Whiteflies White grub larvae (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)	1 2 3 5 7 10 15 20	340 to 244 280 to 210 220 to 185 160 to 110 100 to 75 60 to 45 40 to 30 20 to 15

APPLICATION METHODS

Apply in sufficient water to wet the potting medium. Make applications prior to egg hatch of the target pest. Irrigate moderately after application to move the active ingredient into the root zone.

REMARKS

[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: 2.0 fl ozs (60.0 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.

Drench and Irrigation Applications: Ornamental and Vegetable Plants Grown in Large Containers cont'd.:

RESTRICTION:

Only for use on the following vegetable plants intended for resale: 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 FOR ALL USES

DO NOT graze treated areas or use clippings from treated areas for feed or forage.
Prevent 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.
Keep children and pets off treated area until dry.

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: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over

Storage & Disposal cont'd.:
application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 56 gallons: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For refillable containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.

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BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

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