70506-152 09-17-2007 1/28

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (H7505C)
401 "M" St., S.W.
Washington, D.C. 20460

| EPA Reg. Number: | Date of Issuance: |
|---|---|
| 70506-152 | SEP 17 2007 |

Term of Issuance: Conditional

Name of Pesticide Product:
Imidacloprid 2F Insecticide

NOTICE OF PESTICIDE:
_x_ Registration
__ Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Ms. Rebecca A. Clemmer
United Phosphorus, Inc.
423 Riverview Plaza
Trenton, NJ 08611

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A). Once a pesticide is registered, however, it is not regarded as permanently acceptable. Registration does not eliminate the need for continual reassessment of pesticides. If the Agency determines that, at any time, additional data are required to maintain in effect an existing registration, the Agency will require submission of such data under FIFRA section (3)(c)(2)(B).

1. Revise the EPA Registration Number to read, EPA Reg. No. "70506-152".

Signature of Approving Official:

Dani Daniel
Insecticide-Rodenticide Branch
Registration Division (7505P)

Date: SEP 17 2007

EPA Form 8570-6

2. Keeping in compliance with the Agency's toxicology guidelines use the following "Hazards to Humans and Domestic Animals" statement: Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Wear long-sleeved shirt and long pants, socks, and chemical-resistant gloves (such as natural rubber, selection category A). Remove and wash contaminated clothing before reuse.

3. Keeping in compliance with the Agency's toxicology guidelines the "First Aid Statement" should list "If on skin..." first.

4. Pages 11 and 13 under the "**Instruction of Planthouse Applications**" correct the restriction "Do not apply more than 0.1 fl oz (0.0056 lb ai) 100" to read 1000 rather than 100.

5. Within eighteen months of the date of this registration, submit to the Agency the required one year storage stability study (830.6317) for the proposed product under warehouse conditions. The corrosion characteristics study (830.6320) may be carried out concurrently. It is recommended that observations be made at 0, 3, 6, 9, and 12 months.

6. Submit two copies of your final printed label before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(a). Your release for shipment of the product constitute acceptance of these conditions.

A stamped copy of the label is enclosed for your records. If you have any questions regarding this notice, please contact me at (703) 305-5409.

Enclosure

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# IMIDACLOPRID 2 F

## Insecticide

For use in pest management and suppression of insect vectored 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% |

Contains 2 pounds of imidacloprid per gallon.

KEEP OUT OF REACH OF CHILDREN

## CAUTION

| FIRST AID | |
|---|---|
| If swallowed | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by the poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| If in eyes | • Hold eye open and rinse slowly and gently with water for 15-20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| If on skin or clothing | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15-20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information. | |
| **NOTE TO PHYSICIAN:** No specific antidote is available. Treat symptomatically. | |

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

United Phosphorus, Inc.
423 Riverview Plaza
Trenton, NJ 08611
1-800-247-1557 • www.upi-usa.com

Contents:
EPA Reg. No. 70506-
EPA Est. No.

ACCEPTED
with COMMENTS
In EPA Letter Dated:
SEP 17 2007
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 70506-152

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

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

### ENGINEERING CONTROLS STATEMENT

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

### USER SAFETY RECOMMENDATIONS

Users should:

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

**OBSERVE THE FOLLOWING PRECAUTIONS WHEN MIXING AND APPLYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMENENT 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 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, applications should be made 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 temperatures 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 recommended. If a containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading area and potential surface to groundwater conduits such as field sumps, uncased well heads, sinkholes, or field drains.

**No-Spray Zone Requirements for Soil Applications**
Do not apply within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

**Run-off Management**
Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When using Imidacloprid 2 F on erodible soils, Best Management Practices for minimizing run-off should be employed. Consult your local Natural Resources Conservation Service for recommendations in your use area.

**Endangered Species Notices**
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.

Imidacloprid 2 F Insecticide contains a Group 4A Insecticide. Insecticide 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 Imidacloprid 2 F belongs to the neonicotinoid chemical class. Insect pests resistant to other chemical classes have not shown cross-resistance to Imidacloprid 2 F. 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 Imidacloprid 2 F be made; 2) foliar applications of products from this same class not be made following a long residual soil application of Imidacloprid 2 F or other neonicotinoid products.

*Other Group 4A neonicotinoid products used as foliar treatments include: Actara, Assail, Calypso, Centric, Gaucho, 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/.

## DIRECTIONS FOR USE

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

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

## AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treatment 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:

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

## 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.
**To Confine Spills**: Handle and open container in a manner as to prevent spillage. If the container is leaking or material is spilled for any reason or cause, carefully sweep material into a pile and dispose of as directed for pesticides below. Refer to Precautionary Statements on label for hazards associated with the handling of this material. In spill or leak incidents, keep unauthorized people away.
**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
**Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of the smoke.

## APPLICATION RECOMMENDATIONS

For best control, direct applications of Imidacloprid 2 F Insecticide into the seed or root-zone of crop. Imidacloprid 2 F may be applied with ground or chemigation application. Do not apply by air. Use only by broadcast or foliar applications on seedling flats or trays, or where product is meant to be washed from foliage to soil before drying on foliage.

For best results, apply Imidacloprid 2 F to the root-zone of plants. Since Imidacloprid 2 F is continuously taken into the roots over a long period of time, the earlier Imidacloprid 2 F is available to a developing plant, the earlier the protection begins. The systemic nature of Imidacloprid 2 F allows movement from roots through the xylem tissue to all vegetative parts of the plant, which results in extended residual activity of Imidacloprid 2 F, the control of insects and the prevention and/or reduction of virus transmission or symptom expression, and plant health benefits. The rate of Imidacloprid 2 F applied affects the length of the plant protection period; higher rates should be used when infestations occur later in crop development, or where pest pressure is continuous. Imidacloprid 2 F will generally not control insects infesting flowers, blooms or fruit, and 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.

Suppression (less than complete control of certain diseases and insect pests including reduced feeding) may also be caused by an Imidacloprid 2 F application. In such cases, pests/diseases may require supplemental control measures.

Unless allowed by State specific supplemental labeling, the use of Imidacloprid 2 F on crops grown for production of true seed intended for private or commercial planting is generally not recommended. Always take care to minimize exposure of Imidacloprid 2 F to honey bees and other pollinators. Additional information on Imidacloprid 2 F uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, consultants or local United Phosphorus, Inc. representatives.

Mix Imidacloprid 2 F with water or other appropriate diluent before application. Agitate the Imidacloprid 2 F and water suspension to avoid settling.

Do not apply more than 0.50 lbs. active ingredient per acre, per crop season, regardless of formulation or method of application, unless specified within a crop-specific applications section for a given crop.

**Mixing Instructions**
To prepare the application mixture, first add a portion of the required amount of water to the tank and then add Imidacloprid 2 F while agitation is underway. Add the remainder of water needed. Agitate during both mixing and application. Imidacloprid 2 F may also be used with other pesticides and/or fertilizer solutions. Please see compatibility note below. When tank mixtures of Imidacloprid 2 F and other pesticides are involved, prepare the tank mixture as recommended above and follow suggested Mixing Order below.

**Mixing Order**
When making pesticide mixtures, add Imidacloprid 2 F and other wettable powders or wettable granules first, followed by flowable (suspension concentrate) products, then emulsifiable concentrates last. Agitate as each ingredient is added. Do not add an ingredient until the previous one is thoroughly mixed. If a fertilizer solution is added, a fertilizer/pesticide compatibility agent may be needed. To ensure a uniform spray mixture, continuous agitation is necessary during both mixing and application.

**Compatibility Note**
Test the compatibility of any intended mixture before adding Imidacloprid 2 F to the spray or mix tank. To do this, add proportionate amounts of each ingredient in the appropriate order, to a suitable size jar, cap, shake the mixture for 5 minutes, and let set for 5 minutes. If the mixing is poor, or there is formation of precipitates that do not readily redisperse, then the blend is incompatible and should not be used. For further information, contact your local United Phosphorus, Inc. representative.

## CHEMIGATION – DIRECTIONS FOR USE

**Types of Irrigation Systems**
Chemigation applications of Imidacloprid 2 F may only be made to crops through chemigation systems as specified in crop-specific application sections and only through low-pressure systems unless specifically recommended for a given crop. Do not apply Imidacloprid 2 F 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.

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**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 must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or 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 to 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 the 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 an imidacloprid 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 an imidacloprid label, or for crops with no established tolerances for the active ingredient, observe a 12 month plant-back interval.

| | |
|---|---|
| **Immediate Plant-Back** | All crops on this label plus the following crops not on this label: barley, canola, corn (field, pop & sweet), rapeseed, sorghum, soybean, sugarbeet and wheat |
| **30-Day Plant-Back** | Cereals (including buckwheat, millet, oats, rice, rye, and triticale), safflower |
| **10-Month Plant-Back** | Onion and bulb vegetables |
| **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.

## FIELD CROPS

**COTTON**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Cotton Aphid<br>Plant Bugs<br>Thrips<br>Whiteflies | 1.3 fl oz/1000 row feet<br><br>17.0 – 21.1 fl oz/A (depending on row spacing) | Use one of the following methods to apply the specified dosage of Imidacloprid 2 F:<br>1. In-furrow spray during planting directed on or below seed;<br>2. In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting;<br>3. Chemigation into root-zone through low-pressure drip or trickle irrigation.<br><br>Do not apply more than 21.1 fl oz (0.33 lb ai) Imidacloprid 2 F per acre per crop season.<br>No mater which formulation or method of application is used, do not apply more than 0.5 lb active ingredient of Imidacloprid 2 F, Provado, Trimax or Leverage per acre per season, including seed treatment such as Gaucho, soil and foliar uses. Do not make more than 6 applications of the active ingredient per season regardless of method of application.<br><br>Do not graze treated fields after any application of Imidacloprid 2 F.<br>Please note the Resistance Management section of this label. |

**POTATOES**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**<br>Aphids<br>Colorado Potato Beetle<br>Flea Beetles<br>Leafhoppers<br>Potato Psyllid<br><br>**Suppressed**<br>Symptoms of:<br>Potato leaf roll virus (PLRV)<br>Potato yellows<br>Net necrosis (PLRV)<br>Wireworms (with in-furrow spray at planting) | 0.9 – 1.3 fl oz/1000 row feet<br><br>13.0 – 20.0 fl oz/A | Use one of the following methods to apply the specified dosage of Imidacloprid 2 :<br>1. In-furrow spray during planting, directed onto seed pieces or seed potatoes;<br>2. Subsurface side-dress on both sides of the row covered with 3 or more inches of soil;<br>3. Narrow band spray at ground cracking directly over the row during hilling covered with 3 or more inches of soil;<br>4. Narrow band directly below the eventual seed row in a bedding operation no more than 7 days before planting. Place Imidacloprid 2 F applications below soil-surface and in contact with seed piece or within root-zone. For potatoes grown on highly permeable soils with a shallow water table, at-plant applications of Imidacloprid 2 F may be made in 2 to 4 inch band (width of planter shoe opening) and completely covered.<br><br>Do not apply more than 20.0 fl oz (0.31 lb ai) Imidacloprid 2 F per acre per crop season. |

**POTATOES**

(Seed Piece Treatment)

This use not allowed in California unless otherwise directed by supplemental labeling.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**<br>Aphids<br>Colorado potato beetle<br>Flea beetles<br>Leafhoppers<br>Potato psyllid<br>Wireworms<br>(seed-piece protection) | 0.4 – 0.8 fl oz/100 lbs seed<br><br>8.0 – 16.0 fl oz/A (based on a seeding rate of 2000 lbs/A) | Apply recommended rate as a diluted spray onto seed-pieces using a shielded spray system. Dilute with 3 parts water or less to 1 part Imidacloprid 2 F. Agitate or stir spray solution as necessary. Apply fungicidal or inert absorbent dusts after Imidacloprid 2 F is applied. Make applications only in areas with adequate ventilation or in areas that are equipped to remove spray mist or dust. Avoid extended exposure of seed-pieces to sunlight by planting as soon as possible after treating and in accordance with the recommendation of your local Extension specialist. |
| **Suppressed**<br>Symptoms of:<br>Potato leaf roll virus (PRLV)<br>Potato yellows<br>Net necrosis (PLRV) | 0.8 fl oz/100 lbs seed<br><br>16.0 Fl oz/A (based on a seeding rate of 2000 lbs/A) | Consult your local United Phosphorus, Inc. representative or crop protection product dealer for information relevant to your area.<br>Do not apply more than 20.0 fl oz (0.31 lb ai) Imidacloprid 2 F per acre per crop season.<br>Do not use treated seed-pieces for food, feed, or fodder. Do not apply any additional application of Imidacloprid 2 F (in-furrow), Gaucho, Leverage, or Provado following an Imidacloprid 2 F seed-piece treatment. |

**TOBACCO**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Flea beetles | 1.0 fl oz/1000 plants as seedling tray drench<br>Or<br>1.4 fl oz/1000 plants (in-furrow transplant water) | Use one of the following methods to apply specified dosage of Imidacloprid 2 :<br>1. Uniform broadcast foliar spray to seedlings in trays (tray drench) no more than 7 days before transplanting, followed immediately by overhead irrigation to wash Imidacloprid 2 F from foliage into potting media. Failure to wash the product from foliage may reduce pest control.<br>2. Handle transplants carefully during setting to avoid dislodging treated potting media from roots.<br>3. In-furrow spray or transplant-water drench during setting.<br>4. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. |
| Mole crickets<br>Whiteflies<br>Wireworms | 1.4 – 2.8 oz/1000 plants as seedling tray drench<br>Or<br>1.8 – 2.8 fl oz/1000 plants (in-furrow transplant water) | Important Note: Proper tray drench applications of Imidacloprid 2 F have been shown to be the most effective method of application. However, the specified rate of Imidacloprid 2 F may be applied as 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 Imidacloprid 2 F into the plant and a delay in control.<br><br>Pre-Harvest Interval (PHI): 14 days<br>Do not apply more than 32.0 fl oz (0.50 lb ai) Imidacloprid 2 |

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| **Suppressed**<br>Cutworms<br>Symptoms of:<br>Tomato spotted wilt virus (TSWV) | 1.4 – 2.8 oz/1000 plants as seedling tray drench<br>Or<br>1.8 – 2.8 fl oz/1000 plants (in-furrow transplant water) | F per acre per crop season. |

## VEGETABLE AND SMALL FRUIT CROPS

### 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 melon* 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 *Citrulius lanatus*).

Not for use on crops grown for seed unless specifically allowed by Supplemental labeling.
Not for use in California unless specifically allowed by Supplemental labeling.

**Field Applications**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Control:**<br>Aphids<br>Cucumber beetles<br>Leafhoppers<br>Thrips (foliage-feeding thrips only)<br>Whiteflies<br><br>**Suppression:**<br>Bacterial wilt (as vectored by various cucumber beetles)<br>Leaf silvering from whitefly feeding | 16.0 – 24.0 Fl oz/A | Use one of the following methods to apply the specified dosage of Imidacloprid 2F:<br>1. Chemigation into root-zone by means of low pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. In-furrow spray directed on or below seed;<br>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;<br>4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;<br>5. Post-seeding drench, transplant-water drench, or hill drench;<br>6. Subsurface side-dress on both sides of each row. Incorporate product into the root zone.<br>Do not apply more than 24.0 fl oz (0.38 lb ai) |

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| | | Imidacloprid 2 F per acre.<br>Pre-Harvest Interval (PHI): 21 days |

**Planthouse Applications**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Whiteflies | 0.1<br>Fl oz/1000<br>plants | Use one of the following methods to apply the specified dosage to seedlings in trays in the planthouse. Target soil media (tray drench), not more than 7 days prior to transplanting.<br>1. Uniform, broadcast high volume foliar spray, followed by sufficient overhead irrigation to wash Imidacloprid 2 F from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash product from foliage may reduce pest control;<br>2. Injection into overhead irrigation system, using sufficient volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray.<br>Applications made in the planthouse will only provide short-term protection and should not substitute for a field application. Make an additional field application within 2 weeks after transplanting to provide continuous protection. Applications of higher rates or increased number of application in planthouse may result in significant plant injury. Handle transplants carefully during setting to avoid dislodging treated potting media from roots.<br><br>Important Note: Not all varieties of cucurbit vegetables have been tested for tolerance to Imidacloprid 2 F applied to seedling flats. It is therefore recommended to treat a small number of plants and confirm tolerance for 7 days before treating entire planthouse.<br>Do not apply more than 0.1 fl oz (0.0056 lb ai)/100 plants Imidacloprid 2 F for planthouse applications. Do not apply more than once as a planthouse application. |

**GREENHOUSE VEGETABLES**
**(Mature plants in production greenhouses)**
Not for use on crops grown for seed unless specifically allowed by Supplemental labeling.
**Cucumber, Tomato, only**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Whiteflies | 1.4<br>Fl oz/1000<br>plants | Apply specified dosage in at least 16 gallons of water for tomatoes and 21 gallons of water for cucumbers. Use soil drenches, micro-irrigation, drip irrigation, or hand-held or motorized calibrated irrigation equipment. Do not apply to immature plants since phytotoxicity may |

| | | |
|---|---|---|
| | | occur.<br>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 Imidacloprid 2 F is applied.<br><br>Many varieties of vegetables have been tested for tolerance to Imidacloprid 2 F and show good safety. However, certain varieties may show more sensitivity to Imidacloprid 2 F. Treatment of a few plants is recommended before treating a whole greenhouse.<br>Pre-Harvest Interval (PHI): 0 days<br>Do not apply Imidacloprid 2 F more than once per season. |

**FRUITING VEGETABLES**

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

Not for use on crops grown for seed unless specifically allowed by Supplemental labeling.

**Field application**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**:<br>Aphids<br>Colorado potato beetle<br>Flea beetles<br>Leafhoppers<br>Thrips (foliage-feeding thrips, only)<br>Whiteflies<br>**Suppressed:**<br>Symptoms of:<br>Tomato mottle virus<br>Tomato spotted wilt virus<br>Tomato yellow leaf curl virus | Okra and Pepper<br>16.0 – 32.0<br>Fl oz/A<br><br>Other Crops<br>16.0 – 24.0<br>Fl oz/A | Use one of the following methods to apply specified dosage of Imidacloprid 2 F:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. In-furrow spray directed on or below seed;<br>3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 ½" with sufficient irrigation within 24 hours of application;<br>4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;<br>5. Post-seeding drench, transplant-water drench, or hill drench;<br>6. Subsurface side-dress on both sides of each row. Imidacloprid 2 F must be incorporated into root-zone.<br>Pre-Harvest Interval (PHI): 21 days<br>Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per application to pepper and okra;<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per application to other fruiting vegetables. |

**Planthouse Application**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Whiteflies | 0.1<br>Fl oz/1000 plants | Use one of the following methods to apply the specified dosage to seedlings in trays in the planthouse. Target soil media (tray drench), not more than 7 days prior to transplanting.<br>1. Uniform, broadcast high-volume foliar spray, followed immediately by sufficient overhead irrigation to wash Imidacloprid 2 F from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash the product from foliage may result in reduced pest control.<br>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.<br>Applications made in the planthouse will only provide short-term protection and should not substitute for a field application. Make an additional field application within 2 weeks after transplanting to provide continuous protection. Applications of higher rates or increased number of application in planthouse may result in significant plant injury. Handle transplants carefully during setting to avoid dislodging treated potting media from roots.<br><br>Important Note: Not all varieties of fruiting vegetables have been tested for tolerance to Imidacloprid 2 F applied to seedling flats. It is therefore recommended to treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.<br>Do not apply more than 0.1 fl oz (0.0056 lb ai)/100 plants Imidacloprid 2 F for planthouse applications.<br>Do not apply more than once as a planthouse application. |

**HEAD AND STEM BRASSICA VEGETABLES**

Including: Broccoli, Broccoli raab (rapini), Brussel 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)

**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), Radicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach)), Watercress (commercial production only, application must not be made to native cress growing in streams or other bodies of water), Watercress (upland).

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Not for use on crops grown for seed unless specifically allowed by Supplemental labeling

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Whiteflies | 10.0 – 24.0<br>Fl oz/36 inch rows | Use one of the following methods to apply the specified amount of Imidacloprid 2 F:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. In-furrow spray directed on or below seed;<br>3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 ½" with sufficient irrigation within 24 hours of application;<br>4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting.<br>5. Post-seeding drench, transplant-water drench, or hill drench;<br>6. Subsurface side-dress on both sides of each row. Imidacloprid 2 F must be incorporated into root-zone.<br>Pre-Harvest Interval (PHI): 21 days<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per application. |

**LEAFY PETIOLE VEGETABLES**[1]

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

Not for use on crops grown for seed unless specifically allowed by Supplemental labeling

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Leafhoppers<br>Whiteflies | 10.0 – 24.0<br>Fl oz/A | Apply specified dosage of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler, or equivalent equipment;<br>2. In-furrow spray directed on or below seed;<br>3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1 ½" with sufficient irrigation within 24 hours of application;<br>4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;<br>5. Post-seeding drench, transplant-water drench, or hill drench.<br>6. Subsurface side-dress on both sides of each row. Imidacloprid 2 F must be incorporated into root-zone.<br>Pre-Harvest Interval (PHI): 45 days<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per application. |

**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, cowpeas, 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 (garbonzo bean), Guar, Jackbean, Lablab bean (hyacinth bean), Lentil, Pigeon pea, Soybean (immature seed), Sword bean)

Not for use on crops grown for seed unless specifically allowed by Supplemental labeling

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**:<br>Aphids<br>Leafhoppers<br>Thrips (foliage-feeding thrips, only)<br>Whiteflies<br>**Suppressed**:<br>Symptoms of:<br>Bean common mosaic virus (BCMV)<br>Bean golden mosaic virus (BGMV)<br>Beet curly top hybrigeminivirus (BCTV) | 16.0 – 24.0<br>Fl oz/A | Apply specified dosage of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. In-furrow spray at planting directed on or below seed;<br>3. In a narrow (2" or less) surface band over seed-line during planting incorporated to a depth of 1 to 1 ½" with sufficient irrigation with 24 hours following application;<br>4. In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting;<br>5. As a post-seeding drench, transplant drench, or hill drench.<br>Pre-Harvest Interval (PHI): 21 days<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per crop season. |

**ROOT VEGETABLES**
Including: (Beet (garden*), Burdock (edible*), Carrot*, Celeriac*, Chervil (turnip-rooted*), Chicory*, Ginseng, Horseradish, Parsley (turnip-rooted), Parsnip*, Radish*, Oriental Radish (diakon*), Rutabaga*), Salsify (oyster plant), Salsify (black*), Salsify (Spanish*), Skirret and Turnip*.
* Tops and greens from these crops may be used for food or feed.
Not for use on crops grown for seed unless specifically allowed by Supplemental labeling

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Flea beetles<br>Leafhoppers<br>Whiteflies | 0.7 – 1.7<br>Fl oz/1000 row feet<br>10.0 – 24.0<br>Fl oz/A | Apply specified dosage of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. In-furrow spray (rate specified per 1000 row-feet) or, shanked-in 1 to 2 inches below seed depth during planting; |

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|---|---|---|
| | | 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.<br>Important Note: The rate used affects the length of control. Higher rates should be used where infestations occur later in crop development, or where pest pressure is continuous. Rates less than 0.7 fluid ounces/1000 row-feet will not provide adequate residual pest control. Imidacloprid 2 F treated crops grown on very high organic matter soils (muck) may also require additional pest management control.<br>Pre-Harvest Interval (PHI): 21 days<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per crop season.<br>Do not apply more than once per crop season. |

**TUBEROUS AND CORM VEGETABLES**

Including: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible, Queensland arrowroot), Cassava (bitter and sweet*), Chayote (root), Chufa, Dasheen (taro*), Ginger, Leren, Sweetpotato, Tanier (cocoyam*), Tumeric, Yam bean (jicama, manioc pea), Yam (true*)
(For recommended applications on potato see Field Crops section)

Not for use on crops grown for seed unless specifically allowed by Supplemental labeling
* Tops and greens from these crops may be used for food or feed.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Flea beetles<br>Leafhoppers<br>Whiteflies | 0.7 – 1.7<br>Fl oz/1000 row feet<br>10.0 – 24.0<br>Fl oz/A | Use one of the following methods to apply specified dosage of Imidacloprid 2 F:<br>1. In-furrow spray (rate specified per 1000 row-feet) over planting material (hulis) or shanked-in 1 to 2 inches below hulis depth at planting;<br>2. Side-dress not more than 0.6 fluid ounces/1000 row-feet no later than 45 days after planting. Observe same PHI as above.<br>Important 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. Rates less than 0.7 fluid ounces/1000 row-feet may not provide adequate residual pest control. Imidacloprid 2 F treated crops grown on very high organic matter soils (muck) may also require additional pest management control.<br>Pre-Harvest Interval (PHI) from planting application: 3 days (leaves); 125 days (corms).<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per crop season.<br>Do not apply Imidacloprid 2 F more than once per crop season. |

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**STRAWBERRIES**

Not for use on crops grown for seed unless specifically allowed by Supplemental labeling.
Do not use both application methods on the same crop in the same season.

**Annual and Perennial Strawberries**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids<br>Whiteflies | 24.0 – 32.0<br>Fl oz/A | Use one of the following methods to apply specified dosage of Imidacloprid 2 F:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler, or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening;<br>2. As a plant material or plant hole treatment just prior to, or during transplanting.<br><br>The application rate affects the length of control. Use higher rates where infestations may occur later in crop development or where pest pressure is continuous.<br>Pre-Harvest Interval (PHI): 14 days.<br>Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per crop season. |

**Post-Harvest Use on Perennial Strawberries**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle, Oriental beetle) | 16.0 – 24.0<br>Fl oz/A | Make a single application post harvest to coincide with renovation of strawberry fields and during active egg-laying period of beetles. Apply recommended rate of Imidacloprid 2 F using one of the following methods:<br>1. As a ground spray by means of boom or backpack sprayer in a minimum of 20 gallons of water per acre;<br>2. As a row-band spray using an adjusted amount of product based on the treated row band area in proportion to the amount required per full acre. The bandwidth should be equivalent to the width of the anticipated fruiting bed;<br>3. As a chemigation application with 600 to 1000 gallons of water followed by 0.10 to 0.25 inches irrigation.<br><br>Important note: All soil-surface applications must be followed by either 0.25 inches of rainfall or overhead irrigation per acre within 2 hours of application in order to adequately incorporate Imidacloprid 2 F into egg-deposition zone.<br>Pre-Harvest Interval (PHI): 14 days<br>Do not apply more than24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per season. |

**SUGARBEETS**
(for use only in California)
Not for use on crops grown for seed unless specifically allowed by Supplemental labeling.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled:**<br>Aphids<br>Leafhoppers<br>Whiteflies<br>Flea beetles<br><br>**Suppressed:**<br>Symptoms of:<br>Western yellows/Beet curly top hybridgeminivirus (BCTV) | 6.0-12.0<br>Fl oz/A | Applied recommended rate of Imidacloprid 2 F in sufficient carrier for uniform application, directly below each seed furrow. Apply either during the bedding operation immediately prior to planting or at the time of planting.<br><br>The low rate may be used to aid establishment of stands in whitefly areas, or for early season control of the other pests listed.<br><br>Do not apply more than 12.0 fl oz (0.18 lb ai)/A Imidacloprid 2 F per crop season. Do not apply more than a total of 0.18 lb active ingredient (any formulation) on any row spacing per season. |

**IMIDACLOPRID 2 F INSECTICIDE CONVERSION CHART FOR LINEAR APPLICATION**

| RATE Fluid Ounces/Acre | RATE fluid ounces/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 Note: The application rate affects the length of control and to a considerable extent, the degree of control or effect. Row-spacing X Imidacloprid 2 F rate combinations in shaded blocks may not proved adequate residual pest control and are not recommended for long-term, residual control. Use higher labeled rates where infestations may occur later in crop development or where pest pressure is continuous. United Phosphorus, Inc. offers no warranty for use of Imidacloprid 2 F at rates below .07 fluid ounces/1000 row-feet.

## TREE, BUSH, AND VINE CROPS

### BUSHBERRIES

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

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Japanese beetle (adults, feeding on foliage)<br>White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and Oriental beetle) | 16.0 – 32.0 Fl oz/A | Use one of the following methods to apply specified dosage of Imidacloprid 2 F:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. 18-inch band on each side of the row followed with 0.25 inches of irrigation immediately after application.<br><br>Apply Imidacloprid 2 F to moist soil. If necessary, apply one hour of irrigation water immediately before application of Imidacloprid 2 F. For best results, ½ to 1 inch of irrigation water or rainfall should be applied or received within 24 hours of application to facilitate movement into the soil and into the root-zone.<br><br>Grubs: For best grub control, apply Imidacloprid 2 F to control 1st or 2nd instar larvae. Make application post-bloom up to 7 days before harvest, or post-harvest until October 1st.<br>Japanese beetle larvae: apply from June 1 to July 15. Do not apply during bloom.<br><br>Apply to grass covered rows, row middles, drive lanes, headlands, and other grassy areas in and around the berry field to control resident grub populations. Applications directed to the root-zone will help protect berry plant roots from grub feeding.<br>Pre-Harvest Interval (PHI): 7 days<br>Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per season. |

**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 spp. (*Casimiroa* spp), and other cutivars and/or hybrids of these.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**:<br>Aphids<br>Asian citrus pysllid<br>Black fly<br>Citrus leafminer<br>Leafhoppers/Sharpshooters<br>Mealybugs<br>Scales<br>Whiteflies | 0.75<br>mL/ft$^3$ container media | Determine volume of container and calculate dosage necessary to treat container. Apply calculated dosage of Imidacloprid 2 F 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 best results, make treatment at planting before insect infestation occurs. Retreat if necessary.<br>Citrus root weevil complex (larvae): apply before neonate larvae entering potting media. Use the higher rate for heavy infestations. |
| Citrus Root weevil (larval complex) | 1.25 – 2.50<br>mL/ft$^3$ container media | |
| **Suppressed**:<br>Citrus thrips | 2.50<br>mL/ft$^3$ container media | |

**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 cultivar and/or hybrids of these.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**:<br>Aphids<br>Asian citrus pysllid<br>Black fly<br>Citrus leafminer<br>Leafhoppers/Sharpshooters<br>Mealybugs<br>Sales<br>Termites (FL only)<br>Whiteflies | 16.0 – 32.0<br>Fl oz/A | Apply recommended rate of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For best results, apply to newly planted trees or those previously trained to drip, trickle, or micro-sprinkler irrigation. Lightly pre-wet the soil to break soil surface tension before applying Imidacloprid 2 F. Chemigation application can be made separate to normal irrigation but should be followed by 10 to 20 minutes of additional watering to move Imidacloprid 2 F into the root-zone. Allow 24 hours before initiating subsequent irrigations;<br>2. Soil surface band spray on both sides of the tree. Bands should overlap at the tree base 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 |
| **Suppressed**<br>Symptoms of:<br>Citrus tristeza virus (CTV) through vector control<br>Citrus yellows<br>Thrips (foliage feeding thrips only) | 32.0<br>Fl oz/A | |

| | | |
|---|---|---|
| | | or less;<br>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 recommended for trees up to 8 feet tall;<br>For control of existing termite infestations, apply specified dosage in 1 to 4 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.<br>Pre-Harvest Interval (PHI): 0 day<br>Do not apply more than32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per season. |

**CRANBERRIES**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Rootgrubs (Scarabaeidae)<br>Rootworms (Chrysomelidae) | 16.0 – 32.0 Fl oz/A | Apply Imidacloprid 2 F to moist soil. Apply recommended rate of Imidacloprid 2 F using one of the following methods:<br>1. As a soil spray (ground application) directed to the root and crown area using at least 20 gal of water per acre;<br>2. As a chemigation application with 600 to 1000 gal water.<br><br>Immediately upon application, incorporate Imidacloprid 2 F into root-zone by 0.1 - 03 inches water/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.<br><br>Do not apply during bloom.<br><br><u>Rootgrubs and Rootworms:</u> Best control may be achieved when application is made post-bloom immediately after bees are removed. Applications should target early instar larvae.<br><br>Imidacloprid 2 F 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 Imidacloprid 2 F 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 two 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.<br>Pre-Harvest Interval (PHI): 30 days |

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|---|---|---|
| | | Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per season. |

**GRAPES,** Including: American bunch grape, Muscadine grape and Vinifera grape.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled:**<br>Mealybugs<br>Leafhoppers/Sharpshooters<br>*Phylloxera** spp.<br><br>**Suppressed:**<br>Pierce's disease | 16.0 – 32.0<br>Fl oz/A<br><br><br><br>24.0 – 32.0<br>Fl oz/A | Apply specified dosage of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;<br>3. Hill drench in sufficient water to insure incorporation into the root-zone followed by irrigation.<br>For best results, apply between bud-break and the pea-berry stage.<br>* Repeated and regular use of Imidacloprid 2 F over several, consecutive growing seasons controls existing *Phylloxera* infestations over time or prevents Phylloxera from becoming established.<br>Pre-Harvest Interval (PHI): 30 days<br>Do not apply more than 32.0 fl oz (0.50 lb)/A Imidacloprid 2 F per season. |

**HOPS**

**Not for use in California unless directed by supplemental labeling.**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids | 19.2<br>Fl oz/A | Apply specified dosage of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation into root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;<br>3. Hill drench in sufficient water to insure incorporation into the root-zone followed by irrigation.<br>Pre-Harvest Interval (PHI): 60 days<br>Do not apply more than 19.2 fl oz (0.3 lb ai)/A Imidacloprid 2 F per season. |

25/28

**PECANS**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**:<br>Aphids<br>Twolined spittlebug<br>**Suppressed**:<br>Pecan scab (from reduction in honeydew deposition) | 16.0 – 32.0<br>Fl oz/A | Applications may be made from May 15 until July 15. Applications made later in the season may be less effective.<br>Apply product to slightly moist soil and allow soil to dry before additional irrigation.<br>Apply recommended rate of Imidacloprid 2 F using one of the following methods:<br>1. Chemigation to root-zone by means of low-pressure drip, trickle, micro-sprinkler or equivalent equipment;<br>2. Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site;<br>3. Subsurface side-dress shanked into the root-zone near emitter line. Treat distance, wetted by the emitter set of each tree<br>Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per season. |

**POME FRUITS**

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

Not for this use in California except when allowed by Supplemental labeling.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids (including wooly apple aphid)<br>Leafhoppers | 16.0 – 24.0<br>Fl oz/A | Apply specified dosage of Imidacloprid 2 F through chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler, or equivalent equipment.<br>Pre-Harvest Interval (PHI): 21 days<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F season. |

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

Not for this use in California except when allowed by Supplemental labeling.
**In-field Soil Application**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Aphids (including wooly apple aphid)<br>Leafhoppers | 16.0 – 24.0<br>Fl oz/A | Applications<br>Apply specified dosage of Imidacloprid 2 F by chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler, or equivalent equipment.<br>Pre-Harvest Interval (PHI): 21 days<br>Do not apply more than 24.0 fl oz (0.38 lb ai)/A Imidacloprid 2 F per season. |

**Pre-Plant, Root Dip Application**

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| Black peach aphid (infesting roots) | 2.0<br>Fl oz/10 gal root-dip solution | Mix Imidacloprid 2 F at recommended rate per 10 gallons of water. Completely wet bare-root transplant to slightly above the graft union by soaking them in the Imidacloprid 2 F solution for up to 5 minutes. Allow solution to dry on roots then transplant trees as soon as possible following treatment. |

**TROPICAL FRUIT**
Including: Acerola, Avocado, Black sapote, Canistel, Feijoa, Jaboticaba, Guava, Longan, Lychee, Marney sapote, Mango, Papaya, Passionfruit, Persimmon, Pulasan Rambutan, Sapodilla, Spanish lime, Star apple, Starfruit, Wax jambu

Not for this use in California except when allowed by Supplemental labeling.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled**:<br>Aphids<br>Leafhoppers<br>Whiteflies | 24.0 – 32.0<br>Fl oz/A | Apply recommended rate of Imidacloprid 2 F by chemigation through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.<br>Pre-Harvest Interval (PHI): 6 days<br>Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per application. |
| **Suppressed**:<br>Scales | 32.0<br>Fl oz/A | |

**POPLAR/COTTONWOOD**
Includes members of the genus *Populus* grown for pulp or timber

Not for this use in California except when allowed by Supplemental labeling.

| PESTS | RATE | INSTRUCTIONS |
|---|---|---|
| **Controlled:**<br>Aphids<br>Cottonwood leaf beetle<br>**Suppressed:**<br>*Phylloxerina popularia* | 16.0 – 32.0<br>Fl oz/A | Apply recommended rate of Imidacloprid 2 F by chemigation through low-pressure drip irrigation.<br>Cottonwood leaf beetle: make application early, when the beetles first begin feeding, for best protection. Larger trees may need earlier treatment as a result of slower uptake.<br>Phylloxerina: apply early in the year, from break of dormancy through May.<br>Do not apply more than 32.0 fl oz (0.50 lb ai)/A Imidacloprid 2 F per crop season. |

**IMPORTANT INFORMATION**
**READ BEFORE USING PRODUCT**

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Draft label 12/19/06