AmTide, LLC

Imidacloprid 4F

Flowable Insecticide

ACTIVE INGREDIENT:	% BY WT
Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-*N*-nitro-2-imidazolidinimine	40.6%
OTHER INGREDIENTS:	59.4%
TOTAL:	100.0%

Contains 4 lbs. of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See inside label booklet for First Aid, Precautionary Statements and Directions for Use including Storage and Disposal instructions.

EPA Reg. No. 83851-20

EPA Est. No.: 5905-GA-001

Net Contents: 1 Gallon (3.785 L)

Manufactured for:
AmTide, LLC
21 Hubble
Irvine, CA 92618
949/679-3535

EPA20131202

FIRST AID	
IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance then give artificial respiration preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact CHEMTREC at 1-800-424-9300 for emergency medical treatment information.	
NOTE TO PHYSICIAN - No specific antidote is available. Treat the patient symptomatically.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed. Harmful if inhaled. Avoid breathing spray mist or vapor. Wear long sleeved shirt and long pants.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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

ENGINEERING CONTROLS STATEMENT

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues in blooming crops, plants or weeds. Do not apply this product or allow it to drift to blooming crops, plants or weeds if bees are foraging in the treatment area. This product is toxic to wildlife and highly toxic to aquatic invertebrates.

PROTECTION OF POLLINATORS

APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon  in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- o Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- o Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- o Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- o Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov.

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, 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.

For Aerial Applications

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or rotor diameter. Spray should be released at the lowest possible height consistent with good pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

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 droplets spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the airstream as much as possible and by avoiding excessive spray boom pressure.

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 aerial or 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 indications 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.

Airblast (Air Assist) Specific Recommendations for Tree Crops and Vineyards

Airblast sprayers carry droplets into the canopy of trees/vines via a radially or laterally directed air stream. The following specific drift management practices should be followed.

- Adjust deflectors and aiming devices so that the spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow the spray to go beyond the edge of the cultivated area (i.e., turn off sprayer when turning at end rows).
- Only spray inward toward the orchard or vineyard for application to the outside rows.

No Spray Zone Requirements for Soil and Foliar Applications

Do not apply by ground within 25 feet or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes, or natural ponds, estuaries, and commercial fish ponds.

Runoff Management

Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When using Imidacloprid 4F on erodible soils, Best Management Practice for minimizing runoff should be employed. Consult your local Natural Resources Conservation Service for recommendations in your use area.

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.

Imidacloprid 4F contains a Group 4A insecticide. Insect biotypes with acquired or inherent tolerance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominate method of control for target species. This may eventually result in partial or total loss of control of those species by Imidacloprid 4F and to other Group 4A insecticides.

The active ingredient in Imidacloprid 4F is a member of the neonicotinoid chemical class. Insect pests resistant to other chemical classes have not shown cross resistance to Imidacloprid 4F. In order to maintain susceptibility to this class of chemistry in insect species with high resistance development potential, for each crop season 1) make only a single soil application of Imidacloprid 4F 2) do not make foliar applications of products from the same class following a long residual soil application of Imidacloprid 4F or other neonicotinoid products.

If a soil application of Imidacloprid 4F has not been made during a crop season and foliar applications are to be made, avoid using a block of more than three consecutive applications of Imidacloprid 4F and/or other Group 4A products having the same or similar mode of action. Following a neonicotinoid block of treatments, AmTide strongly encourages the rotation to a block of applications with effective products with a different mode of action before using additional applications or neonicotinoid strategy for preventing or delaying an insect's ability to develop resistance to this class of chemistry.

Do not use Imidacloprid 4F or other Group 4A products from the neonicotinoid chemical class for foliar applications on crops previously treated with long, residual, soil-applied products from the neonicotinoid chemical class of chemistry.

Other Group 4A, neonicotinoid products, used as foliar treatments include: Actara, Assail, Calypso, Centric, Clutch, Couraze, Galiant, Impulse, Intruder, Leverage, Nuprid, Pasada, Provado, Trimax Pro and Venom.

Other Group 4A, neonicotinoid products, used as soil/seed treatments include: Admire Pro, Advise, Alias, Belay, Couraze, Cruiser, Gaucho, Macho, Macho Max, Nuprid, Platinum, Venom and Widow.

Contact your Cooperative 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.

See individual crops for specific pollinator protection application restrictions. If none exist under the specific crop, for foliar applications, follow these application directions for crops that are contracted to have pollinator services or for food/feed & commercially grown ornamentals that are attractive to pollinators:

FOR CROPS UNDER CONTRACTED POLLINATION SERVICES

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met:

If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that bees can be removed, covered or otherwise protected prior to spraying.

FOR FOOD/FEED CROPS AND COMMERCIALLY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset
- The application is made to the target site when temperatures are below 55°F
- The application is made in accordance with a government-initiated public health response
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of planned application so that the bees can be removed, covered or otherwise protected prior to spraying.
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

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

APPLICATION DIRECTIONS

For soil applications of Imidacloprid 4F, direct the product into the seed or root zone of crop. Failure to place Imidacloprid 4F into root zone may result in loss of control or delay in onset of activity. Apply Imidacloprid 4F with ground or chemigation application equipment.

Do not apply Imidacloprid 4F in enclosed structures such as planthouses or greenhouses, except as specifically instructed in the **TOBACCO, CUCURBIT VEGETABLES, FRUITING VEGETABLES** and **GREENHOUSE VEGETABLES** (Mature plants in production greenhouses), Cucumber, Tomato only sections of this label.

Apply foliar applications of Imidacloprid 4F as a directed or a broadcast foliar spray. Thorough coverage of foliage is necessary, without runoff, for optimum insecticidal efficacy. Use adequate spray volumes, properly calibrated application equipment, and spray adjuvant, if necessary to obtain thorough coverage. Failure to provide adequate coverage and retention of Imidacloprid 4F on leaves and fruit may result in loss of insect control or delay in onset of activity. Apply Imidacloprid 4F with properly calibrated ground or aerial application equipment. Minimum spray volumes, unless otherwise specified on crop specific sections are 10 gallons per acre by ground and 5 gallons per acre by air. Imidacloprid 4F may also be applied by overhead chemigation (see additional information in **CHEMIGATION** section of this label below) if allowed in crop specific application section.

When applied as a soil application, optimum activity of Imidacloprid 4F results from applications to the root zone of plants to be continuously taken into the roots over a long period of time and the systemic nature of Imidacloprid 4F allows movement from roots through the xylem tissue to all vegetative parts of the plants. This results in extended residual activity of Imidacloprid 4F, the control of insects, and the prevention and/or reduction of virus transmission or symptom expression, and plant health benefits. The rate of Imidacloprid 4F applied affects the length of the plant protection period. Use the higher rate within the labeled rate range when infestations occur later in crop development or where pest pressure is continuous. Imidacloprid 4F 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. Additionally, specific Imidacloprid 4F application instructions are also provided in the crop specific sections of this label.

Suppression, or less than complete control of certain insect pests that may carry diseases including reduced feeding, may also result from an Imidacloprid 4F application. Complete control of these pests may require supplemental control measures.

Imidacloprid 4F is not used on crops grown for production of true seed intended for private or commercial planting, but may be allowed under state specific, 24(c) labeling. As with any insecticide, minimize exposure of Imidacloprid 4F to honey bees and other pollinators. Do not use Imidacloprid 4F on crops requiring bee pollination during bloom, and a minimum of 10 days prior to bloom. Additional information on Imidacloprid 4F uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, consultants, or local AmTide representatives.

Apply only to plants grown in field type soils, potting media, or mixtures thereof. Do not apply to plants grown in non-soil media such as perlite, vermiculite, rock wool, or other soil-less media, or plants grown hydroponically. Pre-mix Imidacloprid 4F with water or other appropriate diluents prior to application. Keep Imidacloprid 4F and water suspension agitated to avoid settling.

Do not apply more than 0.5 lb. active ingredient per acre per year, regardless of formulation or method of application unless specified within a crop specific application section for a given crop.

MIXING INSTRUCTIONS

To prepare the application mixture, add a portion of the required amount of water to the tank and with agitation, add Imidacloprid 4F. Complete filling the tank with balance of water needed. Maintain sufficient agitation during both mixing and application. Imidacloprid 4F may also be used with other pesticides and/or fertilizer solutions. Please see **Compatibility** section of this label. When tank mixtures of Imidacloprid 4F and other pesticides are involved, prepare the tank mixture as instructed above and follow suggested in Mixing Order below.

Mixing Order

When pesticide mixtures are needed, add wettable powders or wettable granules first. Imidacloprid 4F, and other suspension concentrate (flowable) 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 Imidacloprid 4F 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 stand for 5 minutes. Do not use if poor mixing or formation of precipitates that do not readily re-disperse occurs, which indicates an incompatible mixture.

CHEMIGATION

Types of Irrigation Systems. Make foliar chemigation applications of Imidacloprid 4F to crops through overhead sprinkler systems if specified in crop specific application sections. Make soil chemigation applications of Imidacloprid 4F only to crops through chemigation as specified in crop specific application sections and only through low pressure systems specifically listed for a given crop. Do not apply Imidacloprid 4F through any other type of irrigation system.

Make foliar chemigation applications of Imidacloprid 4F as concentrated as possible. Retention of Imidacloprid 4F on target site of insect infestation is necessary for optimum activity. Do not chemigate Imidacloprid 4F in water volumes exceeding 0.10 inches per acre. See crop specific application sections of the label for more information.

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, contact Cooperative 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 systems 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 complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The 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*

Replant treated areas 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 for which no tolerances, or 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 listed on this label, barley, canola, corn (field, pop, and sweet), rapeseed, sorghum, sugarbeet, and wheat
30 DAY PLANT BACK Cereals (including buckwheat, millet, oats, rice, rye, and triticale), soybeans, and safflower
10 MONTH PLANT BACK Onion and bulb vegetables
12 MONTH PLANT BACK All Other Crops

Plant cover crops for soil building or erosion control at any time, but do not graze or harvest for food or feed.

FIELD CROPS

COTTON-soil treatment

Pests Controlled	Rate – Fluid ounces per 1,000 row feet	Rate – Fluid ounces per acre
Cotton aphid, Plant bugs, Thrips, Whiteflies	0.65	8.5 - 10.55 (depending on row spacing)

Restrictions
- Maximum Imidacloprid 4F allowed per year when making soil applications: 10.55 fluid ounces per acre (0.33 lb. active ingredient per acre)
- Regardless of formulation or method of application, apply no more than 0.5 lb. active ingredient per acre per year, including seed treatment, soil and foliar uses.
- Do not apply more than a total of 6 applications of the active ingredient per year.
- Do not graze treated fields after any application of Imidacloprid 4F. See **RESISTANCE MANAGEMENT** section of this label.

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

COTTON- foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Cotton aphid, Cotton fleahopper, Bandedwinged whitefly, Plant bugs (excludes *Lygus hesperus*), Green stink bug, Southern green stink bug, Bollworm/budworm (ovicidal effect)	1 - 2
Pests Suppressed	**Rate – Fluid ounces per acre**
Lygus bug *(Lygus hesperus)*, Whiteflies (other than bandedwinged whitefly)	1.52 - 2

Restrictions
- Pre-harvest interval (PHI) - 14 days.
- Minimum interval between applications - 7 days.
- Maximum Imidacloprid 4F allowed per year when making foliar applications - 10 fluid ounces per acre (0.31 lb. AI per acre)
- Regardless of formulation or method of application, apply no more than 0.5 lb. active ingredient per acre per year, including seed treatment, soil, and foliar uses.
- Do not graze treated fields after any application of Imidacloprid 4F.
- Apply Imidacloprid 4F through properly calibrated ground, aerial, or chemigation application equipment.
- Do not apply more than a total of 6 applications of the active ingredient per year.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

Tank Mix Instructions		
Pests Controlled (in addition to pests listed above)	**Imidacloprid 4F Rate – Fluid ounces per acre**	**Bidrin® 8 Rate – Fluid ounces per acre**
For early season control of Thrips	1 - 1.52	1.6 - 3.2
For mid to late season control of Plant bugs, Stink bugs (including Brown stink bug), Grasshoppers, Salt-marsh caterpillar, Cotton leafperforator	1 - 1.52	4.0 - 8.0
Restrictions (in addition to Restrictions listed above) • Refer to the Bidrin 8 product label for specific use directions. Observe all restrictions and precautions that appear on the label.		

PEANUT[1] – soil treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids Leafhoppers Whiteflies	8 - 12
Pests Suppressed	**Rate – Fluid ounces per acre**
Thrips	8 - 12

Restrictions
- Pre-Harvest Interval (PHI) – 14 days.
- Maximum Imidacloprid 4F allowed per year – 12 fluid ounces/Acre (0.38 lb. ai/Acre).

Applications – Apply specified dosage in one of the following methods:
- In furrow spray during planting directed on or below seed.
- Chemigation into root zone through low pressure drip, trickle, micro sprinkler or equivalent equipment.

Important Note: Increases in Tomato spotted wilt virus (TSWV) incidence have been observed with applications of Imidacloprid 4F on multiple varieties of peanut. This may also be the case with other tospoviruses, or other viruses transmitted by various thrips species or perhaps other pests. Prior to applying Imidacloprid 4F to peanuts, consult with the State, Cooperative Extension Service, or an AmTide representative for recommendations. Growers are advised to weigh insect control benefits against potential increase in viral disease levels in areas where TSWV or other tospovirus are endemic, growers are encouraged to use virus-resistant varieties and consult the University of Georgia Tomato-spotted wilt virus index before applying Imidacloprid 4F.

[1]Use not permitted in California unless otherwise directed by 24(c) labeling.

POTATO – soil treatment

Pests Controlled	**Rate – Fluid ounces per 1,000 row feet**	**Rate – Fluid ounces per acre**
Aphids, Colorado potato beetle, Flea beetles, Leafhoppers, Potato psyllid	0.45 - 0.65	6.5 - 10.0
Pests/Diseases Suppressed	**Rate – Fluid ounces per 1,000 row feet**	**Rate – Fluid ounces per acre**
Symptoms of: Potato leaf roll virus (PLRV), Potato yellows, Net necrosis, Wireworms (with-in furrow spray at planting)	0.45 - 0.65	6.5 - 10.0

Restrictions
- Maximum Imidacloprid 4F allowed per year when making soil applications - 10.0 fluid ounces per acre (0.31 lb. active ingredient per acre)

Applications - Apply specified dosage in one of the following methods:
- In furrow spray during planting directed on seed pieces or seed potatoes.
- Subsurface side dress on both sides of the row covered with 3 or more inches of soil.
- Narrow band spray at ground cracking directly over the row during hilling covered with 3 or more inches of soil.
- Narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting. For effective pest control or suppression, Imidacloprid 4F 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, make at-plant applications of Imidacloprid 4F in a 2 to 4-inch band (width of planter shoe opening) and completely cover.

POTATO – seed piece treatment

Pests Controlled	**Rate – Fluid ounces per 100 lbs. of seed**	**Rate – Fluid ounces per acre***
Aphids, Colorado potato beetle, Flea beetles, Leafhoppers, Potato psyllid, Wireworms (seed piece protection)	0.2 - 0.4	4.0 - 8.0
Pests/Diseases Suppressed	**Rate – Fluid ounces per 1,000 row feet**	**Rate – Fluid ounces per acre**
Symptoms of – Potato leaf roll virus (PLRV), Potato yellows, Net necrosis	0.4	8.0

Restrictions
- Maximum Imidacloprid 4F allowed per year when making seed piece treatment applications - 10.0 fluid ounces per acre (0.31 lb. active ingredient per acre).
- Do not use treated seed pieces for food, feed, or fodder.
- Do not apply any subsequent application of Imidacloprid 4F (in furrow), Gaucho, Leverage, or Provado following an Imidacloprid 4F seed piece treatment.

Application – 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 Imidacloprid 4F. Agitate or stir spray solution as needed. Apply fungicidal or inert absorbent dusts after Imidacloprid 4F 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 Imidacloprid 4F treated seed pieces to sunlight and in accordance with the recommendation of your local Extension Service.

*Based on a seeding rate of 2000 lbs. per acre.

POTATO – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Colorado potato beetle, Flea beetles, Leafhoppers, Psyllids	1.52

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

Restrictions
- Pre-Harvest Interval (PHI) – 7 days
- Minimum Interval between applications – 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 6.4 fluid ounces per acre (0.2 lb. AI per acre).

SOYBEANS[1] – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Bean leaf beetle, Cucumber beetles, Rootworm adults, Japanese beetle (adults), Leafhoppers, Whiteflies	1.5

Notes and Restrictions –
- Pre-Harvest Interval (PHI) 21 days.
- Minimum interval between applications – 7 days.
- Maximum Imidacloprid 4F allowed per year – 4.5 fl. oz./acre (0.14 lb. AI/A)

TOBACCO – soil treatment

Pests Controlled	Rate – Fluid ounces per 1000 plants (as seedling tray drench)	Rate – Fluid ounces per 1000 plants (in furrow or transplant water)
Aphids, Flea beetles	0.5	0.7
Mole crickets, Whiteflies, Wireworms	0.7 - 1.4	0.9 - 1.4
Pests/Disease Suppressed	**Rate – Fluid ounces per 1000 plants (as seedling tray drench)**	**Rate – Fluid ounces per 1000 plants (in furrow or transplant water)**
Cutworms Symptoms of Tomato-spotted wilt virus (TSWV)	0.7 - 1.4	0.9 - 1.4

(continued)

TOBACCO – soil treatment *(continued)*

Restrictions –
- Maximum Imidacloprid 4F allowed per crop per year when making soil applications or foliar sprays to seedlings – 16.0 fluid ounces per acre (0.5 lb. active ingredient per acre).
- Pre-Harvest Interval (PHI) – 14 days

Applications – Apply a specified dosage in one of the following methods:
- 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 Imidacloprid 4F from foliage into potting media. Failure to wash Imidacloprid 4F from foliage may result in a reduction in pest control. Handle transplants carefully during setting to avoid dislodging treated potting media from roots.
- In furrow spray or transplant water drench during setting.
- Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

Important Note: Proper tray drench applications of Imidacloprid 4F have been shown to be the most efficacious method of application. However, apply the specified rate of Imidacloprid 4F 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 Imidacloprid 4F into the plant and a delay in control.

TOBACCO – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids	0.8 - 1.6
Flea beetles, Japanese beetle	1.6

Restrictions:
- Pre-Harvest Interval (PHI) – 14 days.
- Minimum interval between applications – 7 days.
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 8.9 fluid ounces per acre (0.28 lb. AI per acre).

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

VEGETABLE AND SMALL FRUIT CROPS

CUCURBIT VEGETABLES[1] – soil treatment

Crops of Crop Group 9 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, 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) Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

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

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Cucumber beetles, Leafhoppers, Thrips (foliage feeding thrips only), Whiteflies	8.0 - 12.0

Pests/Diseases Suppressed	Rate – Fluid ounces per acre
Bacterial wilt (as vectored by various cucumber beetles), Leaf silvering resulting from whitefly feeding	8.0 - 12.0

Restrictions –
- Pre-Harvest Interval (PHI) – 21 days.
- Maximum Imidacloprid 4F allowed per crop season when making soil applications – 12.0 fluid ounces per acre (0.38 lb./active ingredient per acre).

[1]Not for use on crops grown for seed unless allowed by state specific 24(c) labeling.

Applications – Apply the specified dosage in one of the following methods:
- Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler, or equivalent equipment.
- In furrow spray directed on or below seed.
- Narrow (2" or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1½ inches with sufficient irrigation within 24 hours of application.
- Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting.
- Post seeding drench, transplant water drench, or hill drench.
- Subsurface side dress on both sides of each row Imidacloprid 4F must be incorporated into root zone.

Planthouse Applications*

Pest Controlled	Rate – Fluid ounces per 1,000 plants
Aphids, Whiteflies	0.05

Restrictions –
- Maximum amount Imidacloprid 4F applied in the planthouse – 0.05 fluid ounces (0.00156 lb. active ingredient per 1,000 plants)
- Maximum number Imidacloprid 4F applications in planthouse – 1

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.
*Use not permitted in CA unless otherwise directed by 24(c) labeling.

Applications – 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 methods:
- Uniform broadcast high volume foliar spray, followed immediately by sufficient overhead irrigation to wash Imidacloprid 4F from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Imidacloprid 4F from foliage may result in reduced pest control.
- 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. Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Transplants should be handled carefully during setting to avoid dislodging treated potting media from roots.

Important Note: Not all varieties of cucurbit vegetables have been tested for tolerance to Imidacloprid 4F applied to seedling flats. Treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

GREENHOUSE VEGETABLES[1] – soil treatment

(Mature plants in production greenhouses)- Cucumber, Tomato only

Pests Controlled	Rate – Fluid ounces per 1,000 plants
Aphids, Whiteflies	0.7

Restrictions –

- Pre-Harvest Interval (PHI) – 0 day
- Maximum number Imidacloprid 4F applications per year when making soil applications – 1

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications – Apply specified dosage in a minimum of 16 gallons of water for tomatoes and 21 gallons of water for cucumbers using soil drenches, micro irrigation, drip irrigation, or hand-held or motorized calibrated irrigation equipment. Make applications only to plants grown in field type soils, potting media or mixtures thereof. Do not apply to plants grown in non-soil medias such as perlite, vermiculite, rock wool, or other soil-less media or plants growing hydroponically. Do not apply to immature plants since phytotoxicity may occur.

Make applications 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 (*Onus* spp.) can occur when Imidacloprid 4F is applied.

Many varieties of vegetables have been tested for tolerance to Imidacloprid 4F and show good safety. However, certain varieties may show more sensitivity to Imidacloprid 4F. Therefore, treat a few plants before treating the whole greenhouse.

FRUITING VEGETABLES[1] – soil treatment

Crops of Crop Group 8 plus Okra including: Eggplant, Ground cherry, Okra, Pepper (including bell, chili, cooking, pimento, and sweet), Tomato, Pepinos, and Tomatillo.

Field Applications – See details below for additional planthouse applications.	
Pests Controlled	**Rate – Fluid ounces per Acre**
Aphids, Colorado potato beetle, Flea beetles, Leafhoppers, Thrips (foliage feeding thrips only), Whiteflies	Okra and Pepper 8.0 - 16.0 Other Crops 8.0 - 12.0
Diseases Suppressed	**Rate – Fluid ounces per Acre**
Symptoms of: Tomato mottle virus, Tomato spotted wilt virus, Tomato yellow leaf curl virus	Okra and Pepper 8.0 - 16.0 Other Crops 8.0 - 12.0

Restrictions –

- Pre-Harvest Interval (PHI) – 21 days.
- Maximum Imidacloprid 4F allowed on pepper and okra crops per application when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI per acre).
- Maximum Imidacloprid 4F allowed on other fruiting vegetable crops per application when making soil applications – 12.0 fluid ounces/Acre (0.38 lb. AI per acre).
- Maximum Imidacloprid 4F allowed per year – 16.0 fluid ounces/Acre (0.5 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications – Apply specified dosage in one of the following methods:

- Chemigation into root zone through low-pressure drip trickle, micro sprinkler, or equivalent equipment.
- In furrow spray directed on or below seed.
- Narrow (2" or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1½ inches with sufficient irrigation within 24 hours of application.
- Narrow band spray directly below eventual seed row in bedding operation – 14 or fewer days before planting
- Post seeding drench, transplant water drench, or hill drench.
- Subsurface side dress on both sides of each row. Incorporate Imidacloprid 4F into root zone.

(continued)

FRUITING VEGETABLES[1] – soil treatment *(continued)*

Crops of Crop Group 8 plus Okra including: Eggplant, Ground cherry, Okra, Pepper (including bell, chili, cooking, pimento, and sweet), Tomato, Pepinos, and Tomatillo.

Planthouse Applications*	
Pests Controlled	**Rate – Fluid ounces per 1,000 plants**
Aphids, Whiteflies	0.05

Restrictions –

- Maximum amount Imidacloprid 4F applied in the planthouse – 0.05 fluid ounces (0.00156 lb. A.I.) per 1,000 plants.
- Maximum number Imidacloprid 4F applications in planthouse – 1

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.
*Use not permitted in CA unless otherwise directed by 24(c) labeling.

Applications – 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:

- Uniform broadcast high volume foliar spray, followed immediately by sufficient overhead irrigation to wash Imidacloprid 4F from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Imidacloprid 4F from foliage may result in reduced pest control.
- 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. Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Handle transplants carefully during setting to avoid dislodging treated potting media from roots.

Important Note: Not all varieties of fruiting vegetables have been tested for tolerance to Imidacloprid 4F applied to seedling flats. Treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

FRUITING VEGETABLES[1] – foliar treatment

Crops of Group 8 plus Okra, Including Eggplant, Ground cherry, Okra, Pepper (including bell, chili, cooking, pimento, and sweet), Tomato, Pepinos, Tomatillo.

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Colorado potato beetle, Leafhoppers, Whiteflies	1.5 – 2.4
Pepper weevil	2.4

Restrictions –

- Pre-Harvest Interval (PHI) – 0 day
- Minimum interval between applications – 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 7.6 fluid ounces per acre (0.24 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications –

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

For pepper weevil, apply specified dosage of Imidacloprid 4F by ground equipment only, timing applications prior to a damaging population becoming established. Good coverage of foliage and fruit is necessary for optimum control. Applications of Imidacloprid 4F must be incorporated into a full season program where alternations of effective products from multiple classes of chemistry and different modes of action are utilized in a blocked or windowed approach.

For additional information, please contact your AmTide representative, Extension Specialist, or crop advisor.

When targeting adult whiteflies, use the higher rate within the labeled rate range.

GLOBE ARTICHOKE – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Leafhoppers	1.6 - 4.0

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 14 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16 fluid ounces per acre (0.5 lb. AI per acre)

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

HERBS – soil treatment

Crops of Crop Subgroup 19A including – 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

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Whiteflies	8.0 - 12.0
Pests Suppressed	**Rate – Fluid ounces per acre**
Thrips (foliage feeding thrips only)	8.0 - 12.0

Restrictions –
- Pre-Harvest Interval (PHI) – 14 days
- Maximum Imidacloprid 4F per year when making soil applications – 12.0 fluid ounces/Acre (0.38 lb. AI/Acre)

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

Notes: Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, treat only a small area or small number of plants of each listed above and evaluate prior to commercial use.

HERBS – foliar treatment

Crops of Crop Subgroup 19A including – 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

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Whiteflies	1.4

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 4.2 fluid ounces per acre (0.13 lb. AI per acre)

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

Apply Imidacloprid 4F through properly calibrated ground and aerial application equipment. Thorough coverage with direct contact of the spray material to the target pests is required for optimum control. The addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's specified use rate may improve coverage and control.

Note: Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, treat only a small area or small number of plants of each listed above and evaluate prior to commercial use.

BRASSICA (COLE) LEAFY VEGETABLES[1] – soil treatment

Crops of Crop Group 5 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)

Pests Controlled	Rate – Fluid ounces per acre (on 36-inch rows)
Aphids, Leafhoppers, Thrips (foliage, feeding thrips only), Whiteflies	5.0 - 12.0

Restrictions –
- Pre-Harvest Interval (PHI) – 21 days
- Maximum Imidacloprid 4F allowed per crop season when making soil applications – 12.0 fluid ounces/Acre (0.38 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling

Applications – Apply specified dosage in one of the following methods:
- Chemigation into root zone through low-pressure drip, trickle, micro sprinkler, or equivalent equipment.
- In furrow, spray directed on or below seed
- Narrow (2 inches or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1½ inches with sufficient irrigation within 24 hours of application.
- Narrow band spray directly below eventual seed row in bedding operation – 14 or fewer days before planting.
- Post seeding drench, transplant water drench, or hill drench.
- Subsurface side dress on both sides of each row. Imidacloprid 4F must be incorporated into root zone.

BRASSICA (COLE) LEAFY VEGETABLES[1] – foliar treatment

Crops of Crop Group 5 including - Broccoli, Broccoli raab (rapini), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (gai lon) broccoli, Chinese (bok choy) cabbage, Chinese (napa) cabbage, Chinese mustard (gaichoy) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip tops (leaves)

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Fleabeetles, Leafhoppers, Whiteflies	1.5

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 7.6 fluid ounces/Acre (0.24 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

LEAFY GREEN VEGETABLES[1] – soil treatment

Crops of Crop Subgroup 4A plus Watercress 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, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate – Fluid ounces per acre (on 36 inch rows)
Aphids, Leafhoppers, Thrips (foliage feeding thrips only), Whiteflies	5.0 - 12.0

Restrictions –
- Pre-Harvest Interval (PHI) – 21 days
- Maximum Imidacloprid 4F allowed per crop season when making soil applications – 12.0 fluid ounces/Acre (0.38 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling

Applications – Apply specified dosage in one of the following methods:
- Chemigation into root zone through low-pressure drip, trickle, micro sprinkler, or equivalent equipment.
- In furrow, spray directed on or below seed
- Narrow (2 inches or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1½ inches with sufficient irrigation within 24 hours of application.
- Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting.
- Post seeding drench, transplant water drench, or hill drench.
- Subsurface side dress on both sides of each row. Imidacloprid 4F must be incorporated into root zone.

LEAFY GREEN VEGETABLES[1] – foliar treatment

Crops of Crop Subgroup 4A plus Watercress including – Amaranth (leafy amaranth, Chinese spinach, tampala) Arugula (Roquette), Chervil, Chrysanthemum (edible 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, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Whiteflies	1.5

Restrictions –
- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications: 7.6 fluid ounces per acre (0.24 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications: Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

For applications made to watercress, production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the applications. Applications must be made to fully leafed up canopies only.

LEAFY PETIOLE VEGETABLES[1] – soil treatment

Crops of Crop Subgroup 4B 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 – Fluid ounces per acre
Aphids, Leafhoppers, Thrips (foliage feeding thrips only), Whiteflies	5.0 - 12.0

Restrictions
- Pre-Harvest Interval (PHI): 45 days
- Maximum Imidacloprid 4F allowed per crop season when making soil applications: 12.0 fluid ounces/Acre (0.38 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications Apply specified dosage in one of the following methods
- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment.
- In furrow spray directed on or below seed
- Narrow (2 inches or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1½ inches with sufficient irrigation within 24 hours of application
- Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting
- Post seeding drench, transplant water drench, or hill drench
- Subsurface side dress on both sides of each row. Imidacloprid 4F must be incorporated into root zone.

LEGUME VEGETABLES[1] except soybean, dry soil treatment
Crops of Crop Group 6 including 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 – Fluid ounces per acre**
Aphids, Leafhoppers, Thrips (foliage feeding thrips only), Whiteflies	8.0 - 12.0
Diseases Suppressed	
Symptoms of Bean common mosaic virus (BCMV), Bean golden mosaic virus (BGMV), Beet curly top hybrigeminivirus (BCTV)	8.0 - 12.0

Restrictions
- Pre-Harvest Interval (PHI): 21 days
- Maximum Imidacloprid 4F allowed per year when making soil applications: 12.0 fluid ounces/Acre (0.38 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.

Applications Apply specified dosage in one of the following methods
- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment.
- In furrow spray at planting directed on or below seed.
- In a narrow (2 inches or less) surface band over seed line during planting incorporated to a depth of 1 to 1½ inches with sufficient irrigation within 24 hours following application.
- In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting.
- As a post seeding drench, transplant drench, or hill drench.

LEGUME VEGETABLES[1] except soybean, dry foliar treatment
Crops of Crop Group 6 including 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 – Fluid ounces per acre
Aphids, Leafhoppers, Whiteflies	1.4

Restrictions
- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 4.2 fluid ounces per acre (0.13 lb. AI per acre)

[1]Not for use on crops grown for seed unless allowed by state specific 24(c) labeling

Applications Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

ROOT VEGETABLES[1] – soil treatment
Crops of Crop Subgroup 1B except Sugarbeet including Beet (garden)[2], Burdock (edible)[2], Carrot[2], Celeriac[2], Chervil (turnip rooted)[2], Chicory[2], Ginseng, Horseradish, Kava[2,3], Parsley (turnip rooted), Parsnip[2], Radish[2], Oriental Radish (daikon)[2], Rutabaga[2], Salsify (oyster plant), Salsify (black)[2], Salsify (Spanish), Skirret, and Turnip[2].

Pests Controlled	Rate – Fluid ounces per 1,000 row feet	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Thrips (foliage feeding thrips only), Whiteflies	0.35 - 0.85	5.0 - 12.0

(continued)

ROOT VEGETABLES[1] – soil treatment *(continued)*

Crops of Crop Subgroup 1B except Sugarbeet including Beet (garden)[2], Burdock (edible)[2], Carrot[2], Celeriac[2], Chervil (turnip rooted)[2], Chicory[2], Ginseng, Horseradish, Kava[2,3], Parsley (turnip rooted), Parsnip[2], Radish[2], Oriental Radish (daikon)[2], Rutabaga[2], Salsify (oyster plant), Salsify (black)[2], Salsify (Spanish), Skirret, and Turnip[2].

Restrictions
- Pre-Harvest Interval (PHI): 21 days
- Maximum Imidacloprid 4F allowed per year when making soil applications: 12.0 fluid ounces/Acre (0.38 lb. AI per acre)
- Maximum Imidacloprid 4F soil applications per year: 1

[1]Not for use on crops grown for seed unless allowed by a state specific, 24(c) labeling.
[2]Tops of greens from these crops may be utilized for food or feed.
[3]Use not permitted in California unless otherwise directed by 24(c) labeling.

Application Apply specified dosage in one of the following methods
- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment
- In furrow spray (rate specified per 1,000 row feet) or shanked in 1 to 2 inches below seed depth during planting.
- 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.

Important Note – The rate applied affects the length of control. Use the higher rate within the labeled rate range where infestations occur later in crop development, or where pest pressure is continuous. Imidacloprid 4F rates less than 0.7 fluid ounces/1,000 row feet will not provide adequate residual pest control. Imidacloprid 4F treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

ROOT VEGETABLES[1] – foliar treatment

Crops of Crop Subgroup 1B except Sugarbeet including Beet (garden)[2], Burdock (edible)[2], Carrot[2], Celeriac[2], Chervil (turnip rooted)[2], Chicory[2], Ginseng, Horseradish, Kava[2,3], Parsley (turnip rooted), Parsnip[2], Radish[2], Oriental radish (daikon)[2], Rutabaga[2], Salsify (oyster plant), Salsify (black)[2], Salsify (Spanish), Skirret, Turnip[2]

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Whiteflies	1.4

Restrictions
- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 1.4 fluid ounces per acre (0.044 lb. AI per acre) on Radish, 4.2 fluid ounces per acre (0.13 lb. AI per acre) on other crops.
- Maximum Imidacloprid 4F application(s) per crop per year – 1 on radish, 3 on all other crops.

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.
[2]Tops of greens from these crops may be utilized for food or feed.
[3]Use not permitted in California unless otherwise directed by 24(c) labeling.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

TUBEROUS AND CORM VEGETABLES[1] – soil treatment

Crops of Crop Subgroup 1C including - Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible Queensland arrowroot), Cassava (bitter and sweet)[2], Chayote (root), Chufa, Dasheen (taro)[2], Ginger, Leren, Sweet potato, Tanier (cocoyam)[2], Turmeric, Yam bean (jicama, manioc pea), Yam (true)[2] (For applications on potato see **FIELD CROPS** section).

Pests Controlled	Rate – Fluid ounces per 1,000 row feet	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Thrips (foliage feeding thrips only) Whiteflies	0.35 - 0.85	5.0 - 12.0

Restrictions

- Pre-Harvest Interval (PHI) from planting application – 3 days (leaves), 125 days (corms)
- Maximum Imidacloprid 4F allowed per year when making soil applications – 12.0 fluid ounces/Acre (0.38 lb. AI per acre)
- Maximum Imidacloprid 4F soil applications per year – 1

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.
[2]Tops or greens from these crops may be utilized for food or feed.

Applications – Apply specified dosage in one of the following methods

- In furrow spray (rate specified per 1,000 row feet) over planting materials (hulis) or shanked in 1 to 2 inches below hulis depth at planting
- Side dress not more than 0.3 fluid ounces/1,000 row feet no later than 45 days after planting. Observe the same PHI as above.

Important Note – The rate applied affects the length of control. Use the higher rate within the labeled rate range where infestations occur late in crop development, or where pest pressure is continuous. Imidacloprid 4F rates less than 0.35 fluid ounces/1000 row feet may not provide adequate residual pest control.

Imidacloprid 4F treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

TUBEROUS AND CORM VEGETABLES[1] – foliar treatment

Crops of Crop Subgroup 1C including Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible Queensland arrowroot), Cassava (bitter and sweet)[2], Chayote (root), Chufa, Dasheen (taro)[2], Ginger, Leren, Sweet potato[2], Tanier (cocoyam)[2], Turmeric, Yam bean (jicama, manioc pea), Yam (true)[2] (For applications on potato see **FIELD CROPS** section)

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Flea beetles, Leafhoppers, Whiteflies	1.4

Restrictions

- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 1.4 fluid ounces per acre (0.044 lb. AI per acre) on Radish, 4.2 fluid ounces per acre (0.13 lb. AI per acre) on other crops
- Maximum Imidacloprid 4F application(s) per year – 3 on all crops

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling.
[2]Tops or greens from these crops may be utilized for food or feed.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

STRAWBERRY[1] – soil treatment

Annual and Perennial Crops	
Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Whiteflies	12.0 - 16.0

Restrictions
- Pre-Harvest Interval (PHI) – 14 days
- Maximum Imidacloprid 4F allowed per year when making soil application – 16.0 fluid ounces/Acre (0.50 lb. AI per acre)

[1]Do not use both application methods on the same crop in the same year.

Applications – Apply specified dosage in one of the following methods
- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment after plants are established or on perennial corps in early spring prior to bud opening.
- As a plant material or plant hole treatment just prior to, or during transplanting.
- As a preplant band spray over the row in a minimum of 20 gallons of water per acre, followed immediately by overhead irrigation to incorporate product into root zone. Do not use plastic or other mulches that limit movement of Imidacloprid 4F into root zone.

The rate applied affects the length of control. Use the higher rate within the labeled rate range where infestations occur later in crop development or where pest pressure is continuous.

Post-harvest Use on Perennial Crops	
Pests Controlled	**Rate – Fluid ounces per acre**
White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle, Oriental beetle)	8.0 - 12.0

Restrictions
- Pre-Harvest Interval (PHI) – 14 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 12.0 fluid ounces per acre (0.38 lb. AI per acre)

[1]Do not use both application methods on the same crop in the same year.

Applications – Apply a single application post-harvest to coincide with renovation of strawberry fields and during active egg laying period of beetles. Apply specified dosage of Imidacloprid 4F in one of the following methods:
- As a ground spray via boom or backpack sprayer in a minimum of 20 gallons of water per acre.
- 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.
- As a chemigation application with 600 to 1,000 gallons of water followed by 0.1 to 0.25 inches irrigation.

Important Note – Follow all soil surface applications with 0.25 inches of rainfall or overhead irrigation water per acre within 2 hours of application. Failure to adequately incorporate Imidacloprid 4F into egg deposition zone may result in decreased activity.

STRAWBERRY – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Spittlebugs, Whiteflies	1.5

Restrictions
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 5 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 4.5 fluid ounces per acre (0.14 lb. AI per acre)
- Do not apply during bloom or within 10 days prior to bloom or when bees are foraging.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

SUGARBEET[1] – soil treatment, For use only in CA

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Leafhoppers, Whiteflies, Flea beetles	3.0 - 6.0
Diseases Suppressed	**Rate – Fluid ounces per acre**
Symptoms of Western yellows/Beet curly top hybrigeminivirus (BCTV)	3.0 - 6.0

Restrictions
- Maximum Imidacloprid 4F allowed per year when making soil applications – 6.0 fluid ounces/Acre (0.18 lb. AI per acre)
- Do not apply immediately prior to bud opening or during bloom or when bees are foraging

[1]Not for use on crops grown for seed unless allowed by state specific, 24(c) labeling

Applications – Apply specified dosage in the following method
- Apply specified dosage in sufficient carrier volume to ensure uniform application. Apply directly below each seed furrow either during the bedding operation immediately prior to planting or at the time of planting.

Apply the low rate to aid establishment of stands in whitefly areas, or for early season control of the other pests listed.

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
5	0.10	0.14	0.19	0.24	0.29	0.33	0.38	0.43
6	0.11	0.17	0.23	0.29	0.34	0.40	0.46	0.51
7	0.13	0.20	0.27	0.33	0.40	0.47	0.53	0.60
8	0.15	0.23	0.30	0.38	0.46	0.53	0.61	0.68
9	0.17	0.26	0.34	0.43	0.51	0.60	0.68	0.77
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	0.44	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

TREE, BUSH AND VINE CROPS

BANANA AND PLANTAIN- soil treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers	8.0 - 16.0
Pests Suppressed	**Rate – Fluid ounces per acre**
Scales	8.0 - 16.0

Restrictions
- Pre-Harvest Interval (PHI) – 0 day
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16. 0 fluid ounces per acre (0.5 lb. AI per acre)

Applications – Apply specified dosage in the following method
- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment

BANANA AND PLANTAIN – foliar treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers, Thrips	3.2

Restrictions
- Pre-Harvest Interval (PHI) – 0 day
- Minimum interval between applications – 14 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces per acre (0.5 lb. AI per acre)

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

Apply specified dosage as a broadcast or directed spray to infested area ensuring thorough coverage. Imidacloprid 4F may be applied through properly calibrated ground or aerial application equipment. Aerial applications of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application.

To improve coverage and pest control, add a finished spray solution of an organosilicone adjuvant at a rate not to exceed 2.0 fluid ounces per 100 gallons.

BUSHBERRY – soil treatment

Crops of Crop Subgroup 13B including: Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Ligonberry, Salal

Pests Controlled	Rate – Fluid ounces per acre
Japanese beetle (adults feeding on foliage) White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and Oriental beetle)	8.0 - 16.0

Restrictions

- Pre-Harvest Interval (PHI) – 7 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI per acre)
- Do not apply pre-bloom or during bloom or when bees are foraging

Applications – Apply specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment.
- 18-inch band on each side of the row followed by irrigation immediately after application.

For optimal grub control, apply Imidacloprid 4F to control 1st or 2nd instar larvae. Make application post-bloom up to 7 days prior to harvest or post-harvest until October 1st. For optimum control of Japanese beetle larvae, make applications from June 1 to July 15.

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 Imidacloprid 4F to moist soil. If necessary, apply one hour of irrigation water immediately before application of Imidacloprid 4F. To ensure maximum efficacy of soil surface spray, apply ½ to 1 inch of irrigation water or rainfall within 24 hours of application of Imidacloprid 4F to facilitate movement into the soil and into the root zone.

BUSHBERRY – foliar treatment

Crops of Crop Subgroup 13B Including - Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Ligonberry, Salal

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Leafhoppers/Sharpshooters	1.2 - 1.6
Blueberry maggot, Japanese beetle (adults), Thrips (foliage feeding thrips only)	2.4 - 3.2

(continued)

BUSHBERRY – foliar treatment *(continued)*

Crops of Crop Subgroup 13B Including - Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Ligonberry, Salal

Restrictions

- Pre-Harvest Interval (PHI) – 3 days
- Minimum interval between applications – 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16 fluid ounces per acre (0.5 lb. AI per acre)
- Maximum number of Imidacloprid 4F applications per year when making foliar applications – 5
- Minimum application volume (water) – 20.0 GPA ground, 5.0 GPA aerial
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size, mature trees or vines.

CANEBERRY – soil treatment

For use only in CA

Crops of Crop Subgroup 13A Including

Blackberry (*Rubus eubatus,* including bingleberry, black satin berry, boysenberry, Cherokee blackberry, Chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, Lavacaberry, Loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, youngberry and varieties and/or hybrids of these)

Raspberry (black and red, *Rubus occidentalis, Rubus strigosus, Rubus idaeus*)

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers, Whiteflies	8.0 - 16.0
Rednecked cane borer	12.0 - 16.0
Pests Suppressed	
Thrips (foliage feeding thrips only)	8.0 - 16.0

Restrictions

- Pre-Harvest Interval (PHI) – 7 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI per acre)
- Do not apply pre-bloom or during bloom or when bees are foraging

Soil Application – Apply specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip, trickle, micro sprinkler, or equivalent equipment
- Basal – soil drench in a minimum of 500 gallons of solution per acre

CITRUS (Containerized) – soil treatment

Crops of Crop Group 10 Including – Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Satsuma mandarin, Tangelo, and other cultivars and/or hybrids of these.

Pests Controlled	**Rate – mL / "citra pot" (0.1 ft^3 container media)**
Aphid, Asian citrus psyllid, Blackfly, Citrus leafminer, Leafhoppers/Sharpshooters, Mealybugs, Scales, Whiteflies Citrus root weevil (larval complex)	0.38 - 0.58
Pests Suppressed	
Citrus thrips (foliage feeding thrips only)	0.58

Citrus (Containerized) Soil Applications – For commercial nursery production in standard "citra pot" of 0.1 ft^3 volume. 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) Basal, soil drench in a minimum of 30 milliliters (mLs) total solution per "citra pot".

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/transplanting prior to insect infestation. Repeat if necessary but do not apply more than 3.0 mLs per plant per season. For control of larvae of the citrus root weevil complex, apply prior to neonate larvae entering potting media.

Application – For citrus production with other container volumes:

Determine volume of container and calculate required dosage based on 0.58 mLs / 0.1 ft^3 potting media. Apply calculated dosage per container as described above. Do not exceed rate of 3.5 mLs / plant per crop season regardless of container size.

Citrus (containerized) – Soil Application Restrictions

Pre-Harvest Interval (PHI): 0 day
Maximum Imidacloprid 4F allowed per application: 0.58 mLs / 0.1 ft^3 container media.
Maximum Imidacloprid 4F allowed per crop season: 3.5 mLs / plant.
Do not apply pre-bloom or during bloom when bees are foraging.

Citrus (containerized) – Soil Application Notes

1) **Application – For citrus production with other container volumes:** Determine volume of container and calculate required dosage based on 0.58 mLs / 0.1 ft^3 potting media. Apply calculated dosage per container as described above. Do not exceed rate of 3.5 mLs / plant per crop season regardless of container size.
2) **Phytotoxic Response Potential:** If you have no experience with Imidacloprid 4F on containerized citrus of a specific variety/hybrid, treat only a few plants and observe for phytotoxic effects for up to 60 days prior to treating entire nursery.
3) **PLEASE NOTE:** Not all varieties or hybrids of citrus have been tested for phytotoxic response following an Imidacloprid 4F application.

CITRUS (Field) – soil treatment

Crops of Crop Group 10 Including – Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Satsuma mandarin, Tangelo, and other cultivars and/or hybrids of these.

Pests Controlled	**Rate – Fluid ounces per acre**
Aphid, Asian citrus psyllid, Blackfly, Citrus leafminer, Leafhoppers/Sharpshooters, Mealybugs, Scales, Termites (FL only), Whiteflies	8.0 - 16.0
Pests/Diseases Suppressed	**Rate – Fluid ounces per acre**
Citrus nematode, Symptoms of – Citrus tristeza virus (CTV) through vector control, Citrus yellows, Thrips (foliage feeding thrips only)	16.0

Restrictions –

- Pre-Harvest Interval (PHI) – 0 day
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI per Acre)

Applications – Apply specified dosage in one of the following methods:

- 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. Lightly pre-wet soil to break soil surface tension prior to applications of Imidacloprid 4F. Chemigation application can be made separate to normal irrigation but followed by 10 to 20 minutes of additional watering to move Imidacloprid 4F into root zone. Allow 24 hours before initiating subsequent irrigations.
- Soil surface band spray on both sides of the tree. Overlap bands 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 or less.
- 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. Use only on trees up to 8 feet tall.
- For control of existing termite infestations, apply specified dosage in 1 to 4 quarts of total solution volume, depending on the 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.
- For suppression of citrus nematode, apply specified dosage through low-pressure chemigation or soil surface band spray only, ensuring complete coverage of the root system and utilizing application directions stated above for the respective application method. Repeated and regular use of Imidacloprid 4F over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response.

CITRUS (Field) – foliar treatment

Crops of Crop Group 10 Including – Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Satsuma mandarin, Tangelo, and other cultivars and/or hybrids of these

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Asian citrus psyllid, Blackfly, Leafhoppers/Sharpshooters, Leafminers, Mealybugs, Scales, Whiteflies	4.0 - 8.0 (depending on tree size, target pest and infestation pressure)
Pests Suppressed	**Rate – Fluid ounces per acre**
Thrips (foliage feeding thrips only)	4.0 - 8.0

Restrictions –
- Pre-Harvest Interval (PHI) – 0 day
- Minimum interval between applications – 10 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16 fluid ounces per acre (0.5 lb. AI per acre)
- Do not apply during bloom or within 10 days prior to bloom or when bees are foraging

Applications – Scales – time applications to the crawler stage. Treat each generation.
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

COFFEE – soil treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers, Leafminers	8.0 - 16.0
Pests Suppressed	**Rate – Fluid ounces per acre**
Scales	8.0 - 16.0

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces per Acre (0.5 lb. AI per acre).
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified dosage in one of the following methods:
- Chemigation into root zone through low-pressure drip trickle, micro sprinkler, or equivalent equipment.
- Subsurface side dress shanked into the root zone on both sides of the plants followed by irrigation.
- Basal soil drench in sufficient water to ensure incorporation into the root zone followed by irrigation.

COFFEE – foliar treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers, Leafminers	3.2
Pests Suppressed	**Rate – Fluid ounces per acre**
Scales	3.2

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces per Acre (0.5 lb. AI per acre)
- Do not apply pre-bloom or during bloom or when bees are foraging

Applications – Apply specified dosage as a broadcast or directed spray to infested area ensuring thorough coverage. Apply Imidacloprid 4F through properly calibrated ground or aerial application equipment. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application.

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

CRANBERRY – soil treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Rootgrubs *(Scarabaeidae)*, Rootworms *(Chrysomelidae)*	8.0 -16.0

Restrictions –
- Pre-Harvest Interval (PHI) – 30 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply Imidacloprid 4F to moist soil. Apply specified dosage in one of the following methods:
- As a soil spray (ground application) directed to the root and crown area using a minimum of 20 gal of water per acre.
- As a chemigation application with 600 to 1,000 gal water.

Immediately upon application, incorporate Imidacloprid 4F into root zone by 0.1 – 0.3 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.

Rootgrubs and Rootworms
Make application post bloom immediately after bees are removed. Target applications to early instar larvae. Imidacloprid 4F 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 Imidacloprid 4F 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.

GRAPE – soil treatment

Including – American bunch grape, Muscadine grape and Vinifera grape

Pests Controlled	Rate – Fluid ounces per acre
European fruit lecanium, Leafhoppers/Sharphooters, Mealybugs, *Phylloxera* spp.*	8.0 - 16.0
Pest/Disease Suppression	**Rate – Fluid ounces per acre**
Grapeleaf skeletonizer, Nematodes, Pierce's disease	12.0 - 16.0

Restrictions –

- Pre-Harvest Interval (PHI) – 30 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).

Applications – Apply specified dosage in one of the following methods:

- Chemigation into root zone through low-pressure drip trickle, micro sprinkler, or equivalent equipment.
- Subsurface side dress shanked into the root zone on both sides of the plants followed by irrigation.
- Hill drench in sufficient water to ensure incorporation into the root zone followed by irrigation.
- For suppression of nematodes, apply 16 fluid ounces in a single application of two 8 fluid ounce applications on a 30 to 45 day interval. Apply treatment(s) only by 1) chemigation into root zone through above ground low-pressure drip trickle, micro sprinkler, or equivalent equipment or 2) French plow technique followed immediately by sufficient irrigation to move the product into the entire root zone of the plant. Repeated and regular use of Imidacloprid 4F over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response.

For optimum results, make application(s) between bud break and the pea berry stage. Use a total of 16.0 fluid ounces/Acre under any of the following conditions:

1) Where vigorous vine growth is expected
2) In warmer growth areas
3) Where mealybug and European fruit lecanium populations are expected to be heavy
4) Where vine populations exceed 600 per acre or
5) For suppression of nematodes

*Repeated and regular use of Imidacloprid 4F over several, consecutive growing seasons controls existing *Phylloxera* infestations over time or prevents *Phylloxera* from becoming established.

GRAPE – foliar treatment

Including – American bunch grape, Muscadine grape and Vinifera grape

Pests Controlled	Rate – Fluid ounces per acre
Leafhoppers/Sharpshooters, Mealybugs	1.2 - 1.6
Grapeleaf skeletonizer	1.5 - 1.6

(continued)

GRAPE – foliar treatment *(continued)*
Including – American bunch grape, Muscadine grape and Vinifera grape

Restrictions –
• Pre-Harvest Interval (PHI) – 0 day
• Minimum interval between applications – 14 days
• Maximum Imidacloprid 4F allowed per year when making foliar applications – 3.2 fluid ounces/Acre (0.1 lb. AI/Acre).

Apply Imidacloprid 4F by ground application only.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

HOP – soil treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids	3.2 - 9.6

Restrictions –
• Pre-Harvest Interval (PHI) – 60 days
• Maximum Imidacloprid 4F allowed per year when making soil applications – 9.6 fluid ounces per Acre (0.3 lb. AI per acre)

Applications – Apply specified dosage in one of the following methods:
• Chemigation into root zone through low-pressure drip, trickle, micro sprinkler, or equivalent equipment.
• Subsurface side dress shanked into the root zone on both sides of the plants followed by irrigation.
• Hill drench in sufficient water to ensure incorporation into the root zone followed by irrigation.

Use the higher rate within the labeled rate range where extended residual control is desired or for treating larger vines or vines with dense foliage volume.

HOP – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids	3.2

Restrictions –
• Pre-Harvest Interval (PHI) – 28 days
• Minimum interval between applications – 21 days
• Maximum Imidacloprid 4F allowed per year when making foliar applications – 9.6 fluid ounces per Acre (0.3 lb. AI per acre).

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

POME FRUIT – soil treatment
Crops of Crop Group 11 Including – Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

Pests Controlled	Rate – Fluid ounces per acre
Aphids (including Woolly apple aphid), Leafhoppers	8.0 -12.0

Restrictions –
• Pre-Harvest Interval (PHI) – 21 days
• Maximum Imidacloprid 4F allowed per year when making soil application – 12.0 fluid ounces/Acre (0.38 lb. AI/Acre).
• Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified dosage in the following method:
• Chemigation into the root zone through low-pressure drip, trickle, micro sprinkler, or equivalent equipment.

POME FRUIT – foliar treatment
Crops of Crop Group 11 Including – Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

Pests Controlled	Rate – Fluid ounces per acre
Leafhoppers	1.6 - 3.2
Aphids (except Woolly apple aphid), Apple maggot, Leafminers, San Jose scale	3.2
FOR PEAR ONLY Mealybugs, Pear psylla	8

Restrictions –
• Pre-Harvest Interval (PHI) – 7 days
• Minimum interval between applications – 10 days
• Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).
• Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Combine applications targeting apple maggots with an approved sticker at the manufacturer's specified rates. Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

POMEGRANATE – soil treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Leafhoppers/Sharpshooters, Whiteflies	8.0 -16.0

Restrictions –
• Pre-Harvest Interval (PHI) – 0 day
• Maximum Imidacloprid 4F allowed per year when making soil application – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).
• Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified dosage in the following method:
• Chemigation into the root zone through low-pressure drip, trickle, micro sprinkler, or equivalent equipment

POMEGRANATE – foliar treatment

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers/Sharpshooters, Whiteflies	3.2
Pests Suppressed	
Scales	3.2

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 9.6 fluid ounces/Acre (0.3 lb. AI/Acre).
- Do not apply pre-bloom or during bloom or when bees are foraging

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

STONE FRUIT – soil treatment

Crops of Crop Group 12 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 – Fluid ounces per acre**
Aphids (including Woolly apple aphid), Leafhoppers	8.0 - 12.0

Restrictions –
- Pre-Harvest Interval (PHI) – 21 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 12.0 fluid ounces/Acre (0.38 lb. AI/Acre).
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified dosage in the following method:
- Chemigation into root zone through low-pressure drip, trickle, micro sprinkler, or equivalent equipment.

Pre-plant, Root Dip Application	
Pest Controlled	**Rate – fluid ounces per 10 gallons root dip solution**
Black peach aphid (infesting roots)	1.0

Mix Imidacloprid 4F at 1.0 fluid ounce per 10 gallons of water. Thoroughly wet bare root transplant to slightly above the graft union by soaking roots in the Imidacloprid 4F solution for up to 5 minutes. Allow solution to dry on roots and transplant trees as soon as possible following treatment.

STONE FRUIT – foliar treatment

Crops of Crop Group 12 Including – Apricot, Cherry (including sweet and tart), Nectarine, Peach, Plum (including Chickasaw, Damson, and Japanese), Plumcot, Prune (fresh and dried)

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Green June beetle, Japanese beetle, Leafhoppers/ Sharpshooters, Plant bugs, Rose chafer, San Jose scale	1.6 - 3.2
Cherry fruit fly	2.4 - 3.2
Pests Suppressed	**Rate – Fluid ounces per Acre**
Plum, curculio, Stink bugs	3.2

Restrictions for Apricot, Nectarine, Peach –

- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 9.6 fluid ounces/Acre (0.3 lb. AI/Acre).
- Do not apply pre-bloom or during bloom or when bees are foraging.

Restrictions for Cherries, Plums, Plumcot, Prune –

- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 10 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).
- Minimum application volume (water): 50 GPA – ground application, 25 GPA – aerial application
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

TREE NUTS (Except Almond) – soil treatment

Crops of Crop Group 14 Including – Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leafhoppers/Sharpshooters, Mealybugs, Spittlebugs, Termites, Whiteflies	8.0 - 16.0
Pests/Diseases Suppressed	**Rate – Fluid ounces per acre**
Pecan scab (from reduction in honeydew deposition)	8.0 - 16.0
Thrips (foliage feeding thrips only)	16.0

(continued)

TREE NUTS (Except Almond) – soil treatment *(continued)*

Crops of Crop Group 14 Including – Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Restrictions –

- Pre-Harvest Interval (PHI) – 7 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre)
- Do not apply on almond.
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified dosage prior to or at onset of pest infestation in one of the following methods:

- Chemigation into root zone through low-pressure drip, trickle, micro sprinkler, or equivalent irrigation equipment. Pre-wet soil prior to applications of Imidacloprid 4F and allow soil to dry following application and prior to subsequent irrigation.
- Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site.
- 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. Product should be applied in a minimum of 10 gallons per acre using multiple shanks on both sides of trees. Ensure product placement is below sod or orchard floor debris. Irrigation covering entire treated area should follow within 48 hours to promote uptake by root system.
- 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 18-24 inches to obtain optimum control. Allow soil to dry following treatment and prior to applying any irrigation.

Remarks: Use the higher rate within the labeled rate range when applied by shank or subsurface side dress, used on larger trees, soils with high clay content, for high plant populations, and/or where extended control is desired. Under some conditions, control may 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.

TREE NUTS (Except Almond) – foliar treatment

Crops of Crop Group 14 Including – Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Pests Controlled	Rate – Fluid ounces per acre
Aphids (except black pecan aphid), Leafhoppers/Sharpshooters, *Phylloxera* spp. (leaf infestations), Spittlebugs, Whiteflies	1.4 - 2.8
Black pecan aphid, Mealybugs, San Jose scale	3.2

(continued)

TREE NUTS (Except Almond) – foliar treatment *(continued)*

Crops of Crop Group 14 Including – Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Restrictions –
- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 6 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 11.5 fluid ounces/Acre (0.36 lb. AI/Acre).
- Minimum application volume (water) – 50 GPA-ground application, 25 GPA – aerial application
- Do not apply on almond.
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Applications for control of San Jose scale should be timed according to crawler stage, treating each successive generation. Two applications on a 10- to 14-day interval may be required to achieve control.

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

TROPICAL FRUIT – soil treatment

Including: Acerola, Atemoya, Avocado, Birida, Black sapote, Canistel, Cherimoya, Custard apple, Feijoa, Jaboticaba, Guava, 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 – Fluid ounces per acre**
Aphids, Avocado lacebug, Leafhoppers, Whiteflies	12.0 - 16.0
Pests Suppressed	
Scales, Thrips (foliage feeding thrips only)	16.0

Restrictions –
- Pre-Harvest Interval (PHI) – 6 days
- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI/A).
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified dosage in the following method:
- Chemigation through low-pressure drip, trickle, micro sprinkler, or equivalent equipment.

TROPICAL FRUIT – foliar treatment

Including: Acerola, Atemoya, Avocado, Birida, Black sapote, Canistel, Cherimoya, Custard apple, Feijoa, Jaboticaba, Guava, 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 – Fluid ounces per acre**
Aphids, Leafhoppers/Sharpshooters, Mealybugs, Thrips (foliage feeding thrips only), Whiteflies	3.2
Pests Suppressed	**Rate – Fluid ounces per acre**
Scales	3.2

Restrictions –

- Pre-Harvest Interval (PHI) – 7 days
- Minimum interval between applications – 10 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces/Acre (0.5 lb. AI/A).
- Do not apply pre-bloom or during bloom or when bees are foraging.

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Imidacloprid 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines.

OTHER CROPS

CHRISTMAS TREE – soil treatment

Pests Controlled	**Rate – Fluid ounces per acre**
White grub complex (damage from grubs of Asiatic garden beetle European and Masked chafer, Japanese beetle and Oriental beetle)	8.0 - 16.0

Restrictions –

- Maximum Imidacloprid 4F allowed per year when making soil applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).

Applications – Soil incorporation and movement of Imidacloprid 4F to the root zone is required for activity. Imidacloprid 4F can be incorporated most readily when applied to moist soil. Apply specified dosage in one of the following methods:

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

For optimal grub control, apply Imidacloprid 4F during adult flight activity, or up to mid-July, when 1st instar larvae are present.

CHRISTMAS TREE – foliar treatment

Pests Controlled	Rate – Fluid ounces per acre
Aphids, Adelgids, Sawflies	1.6 - 3.2

Restrictions –
- Minimum interval between applications – 7 days
- Maximum Imidacloprid 4F allowed per year when making foliar applications – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre)

Applications – Gall forming adelgids – time applications to coincide with full bud swell of earliest bud breaking trees. Once galls form, spraying will be ineffective.

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

POLAR/COTTONWOOD[1] – soil treatment
(includes members of the genus *Populus* grown for pulp or timber)

Field Applications, See details below for Cuttings/Whips Applications	
Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Cottonwood leaf beetle	8.0 - 16.0
Pest Suppressed	**Rate – Fluid ounces per acre**
Phylloxerina popularia	8.0 - 16.0

Restrictions –
- Maximum Imidacloprid 4F allowed at plant per year – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).
- Do not apply pre-bloom or during bloom or when bees are foraging.

[1]Use not permitted in California unless otherwise directed by 24(c) labeling.

Applications – Apply specified dosage in the following method:
- Chemigation through low-pressure drip irrigation.
- For narrow-row, cutting orchard/nurseries used for plant propagation, shank into root zone followed by adequate irrigation to promote uptake. (Adequate irrigation depends on soil moisture level at application. Under dry conditions, use 0.25 inches/Acre).

For Cottonwood leaf beetle, protection against damage will occur when application is made early season, 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.

(continued)

POLAR/COTTONWOOD[1] – soil treatment *(continued)*
(includes members of the genus *Populus* grown for pulp or timber)

Cutting/Whip Applications – See details above for Field Applications	
Pests Controlled	**Cutting/Whip Soaking fluid ounces Imidacloprid 4F Needed per 100 gallons**
Cottonwood leaf beetle	6.6 - 13.3 (unhydrated cuttings/whips)
Pest Suppressed	
Aphids, *Phylloxerina popularia*	6.6 - 13.3 (unhydrated cuttings/whips) 13.3 - 20.0 (partially hydrated cuttings/whips)

Restrictions –
• Maximum Imidacloprid 4F allowed at plant per year – 16.0 fluid ounces/Acre (0.5 lb. AI/Acre).
[1]Use not permitted in California unless otherwise directed by 24(c) labeling

Applications – Moisture content of cuttings/whips prior to application, the solution concentration, and the length of soaking interval interact to affect the amount of product absorbed into plant material. For a constant soaking interval of 24 hours, drier cuttings/whips absorb a higher quantity of solution and require a lower concentration. Conversely, more hydrated cuttings/whips absorb less solution and require a higher concentration. Soaking of cuttings/whips should occur in a covered container in absence of UV light. Not all *Populus* spp. clones/varieties/hybrids have been tested for crop safety. Without specific knowledge about a particular *Populus* spp. clone/variety/hybrid AmTide suggests that small numbers of cuttings/whips of each be treated and evaluated prior to commercial use.

Apply Imidacloprid 4F in one of the following cuttings/whips soaking methods:
• For freshly cut (unhydrated) cuttings/whips, soak plant material in specified solution concentration for 24 hours prior to cold storage. After removal from cold storage, plant as needed.
• For previously hydrated cuttings/whips removed from cold storage, allow plant material to reach room temperature and soak in specified solution concentration for 24 hours prior to planting.

Take proper care in disposal of any residual soaking solution. Apply solution to existing trees or other registered crops as long as all product label precautions and restrictions are observed.

POLAR/COTTONWOOD[1] – foliar treatment
(includes members of the genus *Populus* grown for pulp or timber)

Pests Controlled	**Rate – Fluid ounces per acre**
Aphids, Leaf beetles	1.6 - 3.2

Restrictions –
• Minimum interval between applications – 10 days
• Maximum Imidacloprid 4F allowed per year when making foliar applications – 16 fluid ounces/Acre (0.5 lb. AI/Acre).
• Do not apply pre-bloom or during bloom or when bees are foraging.
[1]Use not permitted in California unless otherwise directed by 24(c) labeling

Applications – Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough, uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. Imidacloprid 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix Imidacloprid 4F with other insecticides for knockdown of pests or for improved control of other pests.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal or cleaning equipment. Open dumping is prohibited.

PESTICIDE STORAGE: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in cool, dry place. Do not store diluted spray.

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

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Triple 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND DISCLAIMER

NOTICE: Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of AmTide, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, AMTIDE, LLC MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. NO AGENT OF AMTIDE, LLC. IS AUTHORIZED TO MAKE ANY WARRANTIES BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN, AMTIDE LLC DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

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