87290-33

04/22/2013

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



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

April 22, 2013

Willowood USA, LLC c/o Ms. Cheryl Wagner Wagner Regulatory Associates, Inc. P.O. Box 640 Hockessin, DE 19707

Subject:

Amended label to add foliar application directions and soybeans Product Name: Willowood Imidacloprid 2SC EPA Registration No.: 87290-33 EPA Decision No.: 470428 Your submission dated January 19, 2013

Dear Ms. Wagner:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, is acceptable. A stamped copy of the label is enclosed for your records. Please submit one copy of your final printed labeling before you release the product for shipment. Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). If you have any questions, please contact Julie Chao by phone at: (703) 308-8735, or by email at: chao.julie@epa.gov.

Regards,

Kelen

Venus Eagle, Product Manger (01) Insecticide-Rodenticide Branch Registration Division (7505P)

Enclosure

#### Willowood Imidacloprid 2SC

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

#### ACTIVE INGREDIENT:

Imidacloprid: 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine	21.4%
OTHER INGREDIENTS:	<u>78.6%</u>
Total	100.0%
Contains 2 pounds of imidacloprid per gallon.	

Shake well before using.

#### KEEP OUT OF REACH OF CHILDREN CAUTION

	FIRST AID
IF SWALLOWED:	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
IF IN EYES:	<ul> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF INHALED:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
	ICIAN: No specific antidote is available. Treat the patient symptomatically.
treatment. Emergency Num	container or label with you when calling a poison control center or doctor, or going for <b>nbers</b> : For 24-hour medical emergency assistance (human or animal) call <b>1-800-222-</b> cal emergency assistance (spill, leak, fire, or accident) call ChemTrec at <b>1-800-424-</b>

9300.

See inside booklet for additional PRECAUTIONARY STATEMENTS, DIRECTIONS FOR USE, AND STORAGE AND DISPOSAL

EPA Reg. No. 87290-33

Net Contents: \_\_\_\_\_ Gals.

EPA Est. No.

#### Manufactured for:

Willowood LLC 1600 NW Garden Valley Blvd, Ste 120 Roseburg, OR 97471

# ACCEPTED

APR 2 2 2013 Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under:

EPA. Reg. No: 87290-33

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# PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Caution:** Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### 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, polyvinyl chloride (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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### ENGINEERING CONTROLS STATEMENTS

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

#### User should:

# USER SAFETY RECOMMENDATIONS

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

This product is toxic to wildlife and highly toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

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

**Ground Water Advisory:** 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.

OBEY 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. Importance of Droplet Size

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

#### Wind Speed Restrictions

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

#### **Restrictions During Temperature Inversions:**

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

#### Mixing and Loading Requirements

To avoid potential contamination of groundwater, the use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is recommended. If 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.

#### For Aerial Applications:

Mount the spray boom on the aircraft so as to minimize drift caused by wing tip vortices. Use the minimum practical boom length, Do Not exceed 75% of the wing span or rotor diameter.

#### Airblast (Air Assist) Specific Instructions for Tree Crops and Vineyards

Airblast sprayers carry droplets into the canopy of trees/vines via a radially, or laterally diverted air stream. Follow specific drift practices:

- Adjust deflectors and aiming devices so that 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 applications to the outside rows.

#### **No-Spray Zone Requirements for 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 farm ponds.

#### **No-Spray Zone Requirements for Soil Applications**

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

#### Runoff Management

Willowood LLC Amendment to add foliar application With EPA Comments 4/19/13

Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When using Willowood Imidacloprid 2SC on erodible soils, employ Best Management Practices for minimizing runoff. 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 the product should conform to resistance management strategies established for the use area.

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

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

Other Group 4A, neonicotinoid products labeled for foliar treatments include: Actara, Assail, Calypso, Centric, Intruder and Leverage.

Other 4A Group, neonicotinoid products used as soil/seed treatments include: Cruiser and Platinum.

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 <u>http://irac-online.org/</u>.

# **DIRECTIONS FOR USE**

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

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

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

# 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, polyvinyl chloride (PVC) or viton
- Shoes plus socks

Do not apply this product through any type of irrigation system unless it is specified in the "Application" section.

#### For Foliar Applications

#### **APPLICATION INSTRUCTIONS**

Apply as a directed or broadcast foliar spray. Thorough coverage of foliage without runoff is necessary for optimum insecticidal efficacy. Use of adequate spray volumes and properly calibrated application equipment is critical. Use of a spray adjuvant may enhance thorough coverage. Failure to provide adequate coverage and retention of Willowood Imidacloprid 2SC on foliage and fruit may result in loss of insect control or delay in onset of activity. Apply Willowood Imidacloprid 2SC with properly calibrated ground or aerial application equipment.

Minimum recommended spray volumes, unless otherwise specified on crop specific application instructions sections, are 10 gallons/Acre by ground applications and 5 gallons/Acre through aerial equipment. Willowood Imidacloprid 2SC may also be applied by overhead chemigation (see additional **CHEMIGATION DIRECTIONS FOR USE** section below) if allowed in crop specific application instruction section.

Willowood Imidacloprid 2SC application to crops grown for production of true seed intended for private or commercial planting may be allowed under State specific supplemental labeling. Extreme caution should be taken to minimize exposure of Willowood Imidacloprid 2SC to honey bees and other pollinators. Do not use Willowood Imidacloprid 2SC on crops requiring bee pollination during bloom and a minimum of 10 days prior to bloom. Additional information on Willowood Imidacloprid 2SC uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, consultants or local Willowood LLC representatives.

#### For Soil Applications

Direct applications of Willowood Imidacloprid 2SC into the seed or root-zone of crop. Failure to place Willowood Imidacloprid 2SC into seed or root-zone may result in loss of control or delay in onset of activity. Willowood Imidacloprid 2SC may be applied with ground or chemigation application. Do not apply with aerial application equipment. Broadcast, foliar applications are only recommended to seedling flats or trays, or where product is intended to be washed from foliage to soil prior to drying on foliage.

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

Suppression or less than complete control of certain diseases and insect pests including reduced feeding may also result from Willowood Imidacloprid 2SC applications. Complete control of these pests/diseases may require supplemental control measures.

Willowood Imidacloprid 2SC use on crops grown for production of true seed intended for private or commercial planting is not permitted but may be allowed under State specific 24(c) supplemental labeling. As with any insecticide, care should be taken to minimize exposure of Willowood Imidacloprid 2SC to honey bees and other beneficial pollinators. Additional information on Willowood Imidacloprid 2SC uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, consultants or local Willowood representatives.

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.

Premix Willowood Imidacloprid 2SC with water or other appropriate diluent prior to application. Keep Willowood Imidacloprid 2SC and water suspension agitated to avoid settling.

#### MIXING INSTRUCTIONS FOR SOIL AND FOLIAR APPLICATIONS

To prepare the application mixture, add a portion of the required amount of water to the tank and, with agitation, add labeled rate of Willowood Imidacloprid 2SC. Complete filling tank with balance of water needed. Maintain sufficient agitation during both mixing and application. Willowood Imidacloprid 2SC may also be used with other pesticides. **Refer to Compatibility Note below.** When tank mixtures of Willowood Imidacloprid 2SC and other pesticides are involved, prepare the tank mixture as instructed above and follow mixing order below.

#### Mixing Order

When pesticide mixtures are needed, add wettable powders or wettable granules first, Willowood Imidacloprid 2SC 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 Note**

Test compatibility of the intended mixture before adding Willowood Imidacloprid 2SC to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order to a clear pint or quart sized jar, cap, shake for 5 minutes, and let set for 5 minutes. Do not use poor mixing or formation of precipitates that do not readily re-disperse. For further information, contact your local Willowood representative.

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# **CHEMIGATION – DIRECTIONS FOR USE**

#### Types of Irrigation Systems:

**For Soil Application:** Chemigation applications of Willowood Imidacloprid 2SC may only be made to crops through chemigation systems as specified in crop-specific Application Instruction section and only through low-pressure systems unless specified for a given crop. Do not apply Willowood Imidacloprid 2SC through any other type of irrigation system.

**For Foliar Application:** Chemigation applications of Willowood Imidacloprid 2SC may be made to crops through overhead sprinkler chemigation systems if specified in crop-specific instruction sections. DO NOT apply Willowood Imidacloprid 2SC through any other type of irrigation system. Make foliar chemigation applications of Willowood Imidacloprid 2SC as concentrated as possible. Retention of Willowood Imidacloprid 2SC on target site of insect infestation is necessary for optimum activity. DO NOT chemigate Willowood Imidacloprid 2SC in water volumes exceeding 0.10 inch/Acre.

**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 system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and 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

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toward the injection. The pesticide injection pipeline must contain a functional normally closed solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

#### **ROTATIONAL CROPS\***

Treated areas may be replanted with any crop specified on 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 for the active ingredient have been established, a 12-month plant-back interval is required.

#### Immediate Plant-back:

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

#### 30-Day Plant-back:

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

# 10-Month Plant-back:

Onion and bulb vegetables

# 12-Month Plant-back:

#### All other crops

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

#### FIELD CROPS

#### Applications - Willowood Imidacloprid 2SC

#### COTTON - SOIL

Pests Controlled	Rate	Rate
	Fluid Ounces/1,000 row-feet	Fluid Ounces/Acre
Cotton aphid, Plant bugs, Thrips,	1.3	17.0 to 21.1
Whiteflies		(Depending on row spacing)

#### **Restrictions:**

Maximum Willowood Imidacloprid 2SC allowed per crop season: 21.1 fluid ounces/Acre (0.33 lb. Al/A)

• Regardless of formulation or method of application, apply no more than 0.5 lbs. active ingredient per acre per season, including seed treatment, soil and foliar uses.

- Do not apply more than a total of 6 applications of the active ingredient per season.
- Do not graze treated fields after any application of Willowood Imidacloprid 2SC. Please see "Resistance Management" section of this label.

Applications: Apply specified dosage of Willowood Imidacloprid 2SC in one of the following methods:

- 1. In-furrow spray during planting directed on or below seed;
- 2. In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting;
- 3. Chemigation into root-zone through low-pressure drip or trickle irrigation.

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# **COTTON - FOLIAR**

Pests Controlled	1	Rat	te (Fluid Ounces/Acre)
Aphid, Cotton fleahoppers, Plant bug hesperus), Banded-winged whitefly, Southern green stink bug, Bollworm/ effect)	Green stink bug,	2.	0 to 4.0 (3.0: CA Only)
Pests Suppresse	d	Rat	te (Fluid Ounces/Acre)
Lygus bugs ( <i>Lygus hesperus</i> ) Whiteflies (other than banded-winged	d whitefly)	3.	0 to 4.0 (3.0: CA Only)
<ul> <li>Pre-harvest Interval (PHI): 14 day</li> <li>Minimum interval between application</li> <li>Maximum Willowood Imidacloprice</li> <li>CA: 17.6 fluid ounces/Acre (0.28)</li> <li>Do not graze treated fields after a Applications:</li> <li>Apply as foliar spray at specified rate coverage is required to achieve best applications may be required to achieve based on field scout reports. Willowo increase control or control pests not or aerial or chemigation application equired</li> </ul>	ations: 7 days d 2SC allowed per cro lb. Al/A) any application of Wil per acre when insec control and a spray a eve control when initi od Imidacloprid 2SC controlled by imidaclo	lowood Imidaclop at pressure reache adjuvant may help al insect populatio may be tank mix oprid. Apply only t	es economic threshold. Uniform o improve coverage. Two ons are high. Retreatment should be ed with other labeled insecticides to
Tank Mix Specifications			
Pests Controlled (In addition to pests listed above)	Willowood Imida Rate (Fluid Ou		Bidrin® 8* Rate (Fluid Ounces/Acre)
For early season control of: Thrips	2.0 to 3	3.0	1.6 to 3.2
For mid to late season control of: Plant bugs, Stink bugs (including Brown stink bug), Grasshoppers, Saltmarsh caterpillar, Cotton leafperforator	2.0 to 3	3.0	4.0 to 8.0
Restrictions (In addition to Restric *Refer to the Bidrin® 8 product label			most restrictive precautions and

limitations on the labeling of all products used in mixtures.

# Peanut<sup>1</sup> - SOIL

Pests Controlled	Rate - Fluid ounces/acre	
Aphids		
Leafhoppers	16.0-24.0	
Whiteflies		
Pests Suppressed		
Thrips	16.0-24.0	
Restrictions		

Restrictions

Pre-harvest interval (PHI): 14 days

Maximum Willowood Imidacloprid 2SC allowed per season: 24.0 fluid ounces/Acre (0.38 lb. Al/A)

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

- 1) In-furrow spray during planting directed on or below seed;
- 2) 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 Willowood Imidacloprid 2SC 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 Willowood Imidacloprid 2SC to peanuts, Willowood recommends consultation with the State, Cooperative Extension Service, or a Willowood 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 Willowood Imidacloprid 2SC.

<sup>1</sup> Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

PEANUT - Foliar

Pests Controlled	Rate - Fluid Ounces/Acre
Aphids	
Leafhoppers	3.0
Whiteflies	
Restrictions	
Pre-Harvest Interval (PHI): 14 davs	
Minimum interval between applications: 5 days	
Maximum Imidacloprid 2FL AG allowed per crop seas	son: 8.4 Fluid Ounces/Acre (0.13 lb. Al/ A)
<sup>1</sup> Use not permitted in California unless otherwise dire	cted by State specific 24(c) supplemental labeling.

POTATO - SOIL		
Pests Controlled	Rate (Fluid Ounces/ 1,000 row-feet)	Rate (Fluid Ounces/Acre)
Aphids, Colorado potato beetle, Flea beetles, Potato psyllid, Leafhoppers	0.9 to 1.3	13.0 to 20.0
Pests/Diseases Suppressed		
Symptoms of: Potato leaf roll virus (PLRV), Potato yellows, Net necrosis Wireworms (with in-furrow spray at planting)	0.9 to 1.3	13.0 to 20.0
Restrictions		
Maximum Willowood Imidacloprid 2SC	allowed per crop season: 20.0 fluid o	unces/Acre (0.31 lb. Al/A)
Applications		

Apply specified dosage in one of the following methods:

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

#### **POTATO (Seed Piece Treatment)**

Pests Controlled	Rate (Fluid Ounces/100 lbs. seed)	Rate (Fluid Ounces/Acre)*
Aphids, Colorado potato beetle, Flea beetles, Leafhoppers, Potato Psyllids, Wireworms (seed-piece protection)	0.4-0.8	8.0-16.0
Diseases Suppressed		
Symptoms of: Potato leaf roll virus (PLRV), Potato yellows, Net necrosis	0.8	16.0

#### Restrictions

• Maximum Willowood Imidacloprid 2SC allowed per crop season: 20.0 fluid ounces/Acre (0.31 lb. Al/A)

- Do not use treated seed-pieces for food, feed, or fodder.
- Do not apply any subsequent application of Willowood Imidacloprid 2SC (in-furrow) following a Willowood Imidacloprid 2SC 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 Willowood Imidacloprid 2SC. Agitate or stir spray solution as needed. Fungicidal or inert absorbent dusts may be applied after a Willowood Imidacloprid 2SC 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. Avoid prolonged exposure of Willowood Imidacloprid 2SC treated seed pieces to sunlight and in accordance with the recommendation of your local Extension specialist.

\*Based on a seeding rate of 2,000 lbs./acre.

#### POTATO - FOLIAR

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Colorado potato beetle, Flea beetles,	3.0
Leafhoppers, Potato psyllids	
Postriotione:	

#### **Restrictions:**

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per season: 12.8 fluid ounces/Acre (0.2 lb. Al/A)

**Application:** Apply as a broadcast or directed spray to infested area. Apply only through properly calibrated ground, aerial or chemigation application equipment insuring thorough coverage.

# SOYBEANS\* - FOLIAR

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Bean leaf beetle, Cucumber beetles,	3.0
Rootworm adults, Japanese beetles (adults),	
Leafhoppers, Whiteflies	
Restrictions:	

- Pre-Harvest Interval (PHI): 21 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per season: 9.0 fluid ounces/Acre (0.14 lb. Al/A)

\*Use not permitted in California unless otherwise directed by state specific 24(c) supplemental labeling.

# **TOBACCO - SOIL**

Pests Controlled	Rate: Fluid Ounces/1,000 plants (as seedling tray drench)	Rate: Fluid Ounces/1,000 plants (in-furrow or transplant-water)
Aphids	1.0	1.4
Flea beetles		
Mole Crickets, Whiteflies,	1.4 - 2.8	1.8 - 2.8
Wireworms		
Pests/Diseases Suppressed		
Cutworms		·
Symptoms of:	1.4 - 2.8	1.8 - 2.8
Tomato spotted wilt virus (TSWV)		

Restrictions:

• Pre-Harvest Interval (PHI): 14 days

• Maximum Willowood Imidacloprid 2SC allowed per crop year: 32.0 fluid ounces/Acre (0.50 lbs. Al/A) **Applications:** Apply 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 Willowood Imidacloprid 2SC from foliage into potting media. Failure to wash Willowood Imidacloprid 2SC from foliage may result in a reduction in pest control. Carefully handle transplants during setting to avoid dislodging treated potting media from roots;
- 2. In-furrow spray or transplant-water drench during setting;
- 3. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

#### Important Note: Proper tray drench applications of Willowood Imidacloprid 2SC have been shown to be the

most efficacious method of application. However, the specified rate of Willowood Imidacloprid 2SC may be applied as combination of the tray drench in the planthouse and/or transplant-water drench in field. Adverse growing conditions may cause a delay in uptake of Willowood Imidacloprid 2SC into the plant and a delay in control.

#### TOBACCO – FOLIAR

Pests Controlled	Rate (Fluid Ounces/1,000 Plants)	
Aphids	1.6 to 3.2	
Flea beetles, Japanese beetle	3.2	
Restrictions:		

**Restrictions**:

- Pre-Harvest Interval (PHI): 14 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per season: 18.0 fluid ounces/Acre (0.28 lb. Al/A)

**Applications**: Apply specified dosage of Willowood Imidacloprid 2SC as a broadcast or directed spray to infested area. Apply only through properly calibrated ground, aerial or chemigation application equipment insuring thorough coverage. Use higher rate within listed rate range when insect pressure is heavy.

# VEGETABLE AND SMALL FRUIT CROPS Application Instructions

#### For Foliar Applications

Apply specified rate per acre as a broadcast or directed foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. Willowood Imidacloprid 2SC may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Willowood Imidacloprid 2SC may be tank mixed with other insecticides for knockdown of pests or for improved control of other pests. Follow the most restrictive precautions and limitations on the labeling of all products used in mixtures.

# CUCURBIT VEGETABLES<sup>1</sup> - SOIL

**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 melon, Santa Claus melon, snake melon and Winter melon), Pumpkin, Squash (includes summer squash types such as: butternut squash, calabaza, crookneck squash, Hubbard squash, scallop squash, straightneck squash, vegetable marrow and zucchini, and winter squash types such as acorn squash and spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

Field Applications: See details below for additional planthouse applications	
Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Cucumber beetles, Leafhoppers, Thrips (Foliage feeding thrips only) and Whiteflies	16.0-24.0
Pests/Diseases Suppressed	
Bacterial wilt (as vectored by various cucumber beetles)	16.0 - 24.0
Leaf silvering resulting from whitefly feeding	
Restrictions:	
Preharvest Interval (PHI): 21 days	· ·
<ul> <li>Maximum Willowood Imidacloprid 2SC allowed per application: 24.0</li> </ul>	luid ounces/Acre (0.38 lbs. Al/A
Applications: Apply specified dosage in one of the following methods:	
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sp	rinkler or equivalent equipment;

2. In-furrow spray directed on or below seed;

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- 3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1-1/2" with sufficient irrigation within 24 hours of application;
- 4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
- 5. Post-seeding drench, transplant-water drench or hill drench;
- 6. Subsurface side-dress on both sides of each row. Willowood Imidacloprid 2SC must be incorporated into root-zone.

Planthouse Applications <sup>2</sup>	
Pests Controlled	Rate (Fluid Ounces/1,000 plants)
Aphids and Whiteflies	0.1

#### Restrictions

- Maximum amount Willowood Imidacloprid 2SC applied in the planthouse: 0.1 fluid ounces (0.00156 lb. Al)/1,000 plants
- Maximum number Willowood Imidacloprid 2SC applications in planthouse: 1

**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 Willowood Imidacloprid 2SC from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Willowood Imidacloprid 2SC from foliage may result in reduced pest control;
- 2. Injection into overhead irrigation system, using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray.

The application made in the planthouse will only provide short-term protection and is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. Applications of higher rates or increased number of applications in planthouse are not permitted, as they may result in significant plant injury. Carefully handle transplants during setting to avoid dislodging treated potting media from roots.

**Important Note:** Not all varieties of cucurbit vegetables have been tested for tolerance to Willowood Imidacloprid 2SC applied to seedling flats. It is therefore recommended to treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling. <sup>2</sup>Use not permitted in CA unless otherwise directed by State specific 24(c) supplemental labeling.

# **GREENHOUSE VEGETABLES<sup>1</sup> - SOIL**

#### Cucumber and Tomato Only (mature plants in production greenhouses)

Pests Controlled	Rate (Fluid Ounces/1,000 plants)
Aphids and Whiteflies	1.4

# Restrictions

- Pre-Harvest Interval (PHI): 0 days
- Maximum number Willowood Imidacloprid 2SC applications per crop season: 1

**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 soilless 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 beneficial (*Onus sp.*) can occur when Willowood Imidacloprid 2SC is applied.

Many varieties of vegetables have been tested for tolerance to Willowood Imidacloprid 2SC and show good

safety. However, certain varieties may show more sensitivity to Willowood Imidacloprid 2SC. Therefore, treatment of a few plants is recommended before treating the whole greenhouse.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling.

# FRUITING VEGETABLES<sup>1</sup> - SOIL

**Crops of Crop Group 8 plus Okra including**: Eggplant, Ground Cherry, Okra, Pepper (Including Bell, Chili, Cooking, Pimento and Sweet), Tomato, Pepinos, Tomatillo

Field Applications. See details below for	additional planthouse recommendations.
Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Colorado potato beetle, Flea beetles, Leafhopp	pers, Okra and Pepper: 16.0 to 32.0
Thrips (Foliar-feeding thrips only) and Whiteflies	Other crops: 16.0 to 24.0
Diseases Suppressed	
Symptoms of:	Okra and Pepper: 16.0 to 32.0
Tomato mottle virus,	
Tomato spotted wilt virus,	Other crops: 16.0 to 24.0
Tomato yellow leaf curl virus	
Restrictions	
<ul> <li>Pre-Harvest Interval (PHI): 21 days</li> </ul>	
Maximum Willowood Imidacloprid 2SC allowed or	n pepper and okra crops per year: 32.0 fluid
ounces/Acre (0.50 lbs. Al/A)	
Maximum Willowood Imidacloprid 2SC allowed or	n other fruiting vegetable crops per application: 24.0
fluid ounces/Acre (0./38 lbs. Al/A)	
Applications: Apply specified dosage in one of the foll	lowing methods:
1. Chemigation into root-zone through low-pressure	drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;	
3. Narrow (2" or less) surface band spray over seed	-line during planting incorporated to a depth of 1 to 1-
1/2" with sufficient irrigation within 24 hours of ap	plication;
4. Narrow band spray directly below eventual seed i	row in bedding operation 14 or fewer days before
planting;	
5. Post-seeding drench, transplant-water drench, or	
6. Subsurface side-dress on both sides of each row.	. Willowood Imidacloprid 2SC must be incorporated
into root-zone.	
Planthouse /	Applications <sup>2</sup>
Pests Controlled	Rate (Fluid Ounces/1,000 plants)
Aphids and Whiteflies	0.1
Restrictions	
Maximum amount Willowood Imidacloprid 2SC ap	$\mathbf{x}$

- ai)/1.000 Plants
- Maximum number Willowood Imidacloprid 2SC applications in planthouse: 1

**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:

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

The application made in the planthouse will only provide short-term protection and is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. Applications of higher rates or increased number of applications in planthouse are not permitted, as they may result in significant plant injury. Carefully handle

transplants during setting to avoid dislodging treated potting media from roots.

Important Note: Not all varieties of fruiting vegetables have been tested for tolerance to Willowood Imidacloprid 2SC applied to seedling flats. It is therefore recommended to treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling. <sup>2</sup>Use not permitted in CA unless otherwise directed by State specific 24(c) supplemental labeling.

# FRUITING VEGETABLES - FOLIAR<sup>1</sup>

Crops of Crop Group 8 plus Okra including: Eggplant, Ground Cherry, Okra, Pepper (Including Bell, Chili, Cooking, Pimentos and Sweet), Tomato, Pepinos, Tomatillo

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Colorado potato beetle, Leafhoppers,	3.0 to 5.0
Whiteflies	
Pepper weevil	5.0
Restrictions	

- Pre-Harvest Interval (PHI): 0 days
- Minimum interval between applications: 5 days
- Maximum amount allowed per year: 15.4 fluid ounces/Acre (0.24 lb. Al/A)

#### Applications:

For pepper weevil, apply specified dosage of Willowood Imidacloprid 2SC by ground equipment only, timing applications prior to a damaging pest population becoming established. Good coverage of foliage and fruit is necessary for optimal control. Applications of Willowood Imidacloprid 2SC must be incorporated into a fullseason program, where alternations of effective products from multiple classes of chemistry and different modes of actions are utilized in a blocked or windowed approach. For additional information, please contact your Willowood representative, Extension Specialist or crop advisor. Use the higher rate within the listed rate range when targeting adult whiteflies.

<sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific 24(c) supplemental labeling.

## Globe Artichoke<sup>1</sup> - SOIL

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers	16.0-32.0
Destrictions	,

#### Restrictions

- Pre-Harvest Interval (PHI): 7 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.5 lb. Al/A)

**Applications:** Apply specified dosage in the following method:

- 1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
- 2. In-furrow spray directed on or below seed.

<sup>1</sup>Use not permitted in CA unless otherwise directed by State specific 24(c) supplemental labeling.

#### **GLOBE ARTICHOKE - FOLIAR**

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers	3.2 to 8.0
Restrictions	
<ul> <li>Pre-Harvest Interval (PHI): 7 days</li> </ul>	
Minimum interval between applications: 14	4 days
Maximum amount allowed per year: 32.01	fluid ounces/Acre (0.50 lb. Al/A)
Application Use higher rate within listed rate rand	

Application: Use nigher rate within listed rate range when pest pressure

# Herbs<sup>1</sup> - SOIL

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Crops of Crop Subgroup 19A including: Angelica, Balm (lemon balm), Basil (fresh and dried), Borage, Bumet, 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/Acre)
Aphids, Flea beetles, Leafhoppers, Whiteflies	16.0-24.0
Pests Suppressed	
Thrips (foliage feeding thrips only)	16.0-24.0
Restrictions	10:0-24:0

- Pre-Harvest Interval (PHI): 14 days
- Maximum Willowood Imidacloprid 2SC allowed per season: 24.0 fluid ounces/Acre (0.38 lb. Al/A)

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

- 1. In-furrow spray during planting directed on or below seed;
- 2. In-furrow spray or transplant-water drench during setting or transplanting;
- 3. Shanked-into or below eventual seed-line;

4. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

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

#### <sup>1</sup>Use not permitted in CA unless otherwise directed by State specific 24(c) supplemental labeling.

#### **HERBS - FOLIAR**

Crops of Crop Subgroup 19A including: Angelica, Balm (lemon balm), Basil (fresh and dried), Borage, Burnet, Chamomile, Catnip, Chervil (dried), Chinese chive, Chive, Clary, Coriander (cilantro or Chinese parsley leaves), Costmary, Cilantro (leaf), Curry (loaf), 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/Acre)
Aphids, Flea Beetles, Leafhoppers, Whiteflies	2.8
Restrictions	

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 5 days

Maximum amount allowed per crop season: 8.4 fluid ounces/Acre (0.13 lb. Al/A)

#### Applications:

Willowood Imidacloprid 2SC may be applied 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 recommended use rate may improve coverage and control.

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

# BRASSICA (COLE) LEAFY VEGETABLES<sup>1</sup> - SOIL

**Crops of Crop Group 5 including**: Broccoli, Broccoli raab (*rapini*), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (*gai ion*) broccoli, Chinese (*bok choy*) cabbage, Chinese (*napa*) cabbage, Chinese <u>mustard (*gai choy*</u>) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard spinach, Rape greens

	Mizuna, Mustard Greens, Mustard spinach, Rape gree	
Pests Controlled	Rate (Fluid Ounces/Acre) (on 36-inch rows)	
Aphids, Leafhoppers, Thrips (foliage feeding thrips	10.0-24.0	
only), Whiteflies		
Restrictions:		
<ul> <li>Pre-Harvest Interval (PHI): 21 days</li> </ul>		
<ul> <li>Maximum Willowood Imidacloprid 2SC allowed p</li> </ul>	er application: 24.0 fluid ounces/Acre (0.38 lbs. Al/A)	
Applications: Apply specified dosage in one of the fol	lowing methods:	
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;		
<ol><li>In-furrow spray directed on or below seed;</li></ol>		
3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1-		
1/2" with sufficient irrigation within 24 hours of ap		
4. Narrow band spray directly below eventual seed planting;	row in bedding operation 14 or fewer days before	
5. Post-seeding drench, transplant-water drench or	hill drench;	
<ol><li>Subsurface side-dress on both sides of each row into root-zone.</li></ol>	Willowood Imidacloprid 2SC must be incorporated	
Not for use on arous for and unloss allowed by	y State specific 24(c) supplemental labeling.	

**Crops of Crop Group 5 including**: Broccoli, Broccoli raab (*rapini*), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (*gai ion*) broccoli, Chinese (*bok choy*) cabbage, Chinese (*napa*) cabbage, Chinese mustard (*gai choy*) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard spinach, Rape greens

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Flea beetles, Leafhoppers, Whiteflies	3.0
Restrictions	
Pre-Harvest Interval (PHI): 7 days	
<ul> <li>Minimum interval between applications: 5 days</li> </ul>	
<ul> <li>Maximum amount allowed per season: 15.4 fluid c</li> </ul>	ounces/Acre (0.24 lb. AI/A)

<sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific <u>24(c)</u> supplemental labeling.

# LEAFY VEGETABLES<sup>1</sup> - SOIL

**Crops of Crop Subgroup 4A plus Watercress including**: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Raddicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach), Watercress (commercial production only, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate (Fluid Ounces/Acre) (on 36-inch rows)
Aphids, Leafhoppers, Thrips (foliage feeding thrips	10.0-24.0
only), Whiteflies	

#### **Restrictions:**

- Pre-Harvest Interval (PHI): 21 days
- Maximum Willowood Imidacloprid 2SC allowed per application: 24.0 fluid ounces/Acre (0.38 lbs. Al/A) **Applications:** 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. In-furrow spray directed on or below seed;
  - 3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1-1/2" with sufficient irrigation within 24 hours of application;
  - 4. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
  - 5. Post-seeding drench, transplant-water drench or hill drench;
  - 6. Subsurface side-dress on both sides of each row. Willowood Imidacloprid 2SC must be incorporated into root-zone.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling.

# LEAFY VEGETABLES<sup>1</sup> - FOLIAR

**Crops of Crop Subgroup 4A plus Watercress including**: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Raddicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach), Watercress (commercial production only, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Flea beetles, Leafhoppers, Whiteflies	3.0

**Restrictions**:

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 5 days
- Maximum amount allowed per season: 15.4 fluid ounces/Acre (0.24 lb. Al/A)

#### Applications:

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 application. Applications must be made to fully leafed-up canopies only.

<sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific 24(c) supplemental labeling.

# LEAFY PETIOLE VEGETABLES<sup>1</sup> - SOIL

**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/Acre)
Aphids, Leafhoppers, Thrips (foliage feeding thrips	10.0-24.0
only), Whiteflies	
Restrictions:	
<ul> <li>Pre-Harvest Interval (PHI): 45 days</li> </ul>	
Maximum Willowood Imidacloprid 2SC allowed p	er application: 24.0 fluid ounces/Acre (0.38 lbs. Al/A)
Applications: Apply specified dosage in one of the fol	lowing methods:
1. Chemigation into root-zone through low-pressure	drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;	
3. Narrow (2" or less) surface band spray over seed	-line during planting incorporated to a depth of 1 to 1-
1/2" with sufficient irrigation within 24 hours of ap	plication;
4. Narrow band spray directly below eventual seed	row in bedding operation 14 or fewer days before
planting;	
5. Post-seeding drench, transplant-water drench or	hill drench;
6. Subsurface side-dress on both sides of each row. Willowood Imidacloprid 2SC must be incorporated	
into root-zone.	
<sup>1</sup> Not for use on crops grown for seed unless allowed b	/ State specific 24(c) supplemental labeling.
LEGUME VEGETABLES <sup>1</sup> (except soybean, dry) - SC	

# 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/Acre)
Aphids, Leafhoppers, Thrips (foliage feeding thrips	16.0-24.0
only), Whiteflies	
Diseases Suppressed	
Symptoms of:	16.0-24.0
Bean common mosaic virus (BCMV),	
Bean golden mosaic virus (BGMV),	·
Beet curly top hybrigeminivirus (BCTV)	
Restrictions:	
<ul> <li>Pre-Harvest Interval (PHI): 21 days</li> </ul>	
Maximum Willowood Imidacloprid 2SC allowed per ap	plication: 24.0 fluid ounces/Acre (0.38 lbs. AI/A)
Applications: Apply specified dosage in one of the following	

- 1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment:
- 2. In-furrow spray directed on or below seed;
- 3. Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1-1/2" with sufficient irrigation within 24 hours of application;
- 4. Narrow band spray directly below eventual seed row in bedding operation 7 or fewer days before

planting;

5. Post-seeding drench, transplant-water drench or hill drench.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling.

LEGUME VEGETABLES<sup>1</sup> (except soybean, dry) - FOLIAR

# 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/Acre)
Aphids, Leafhoppers, Whiteflies	2.8

#### **Restrictions:**

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per season: 8.4 fluid ounces/Acre (0.13 lb. AI/A)

<sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific <u>24(c)</u> supplemental labeling.

# ROOT VEGETABLES<sup>1</sup> - SOIL

**Crops of Crop Subgroup 1B except Sugarbeet plus Kava including**: Beet (garden)<sup>2</sup>, Burdock (edible)<sup>2</sup>, Carrot<sup>2</sup>, Celeriac<sup>2</sup>, Chervil (turnip-rooted)<sup>2</sup>, Chicory<sup>2</sup>, Ginseng, Horseradish, Kava<sup>2,3</sup>, Parsley (turnip-rooted), Parsnip<sup>2</sup>, Radish<sup>2</sup>, Oriental radish (diakon)<sup>2</sup>, Rutabaga<sup>2</sup>, Salsify (oyster plant), Salsify (black)<sup>2</sup>, Salsify

(Spanish), Skirret and Turnip<sup>2</sup>

Pests Controlled	Rate (Fluid Ounces/1,000 row- feet)	Rate (Fluid Ounces/Acre)
Aphids, Flea Beetles,		
Leafhoppers, Thrips (foliage	0.7-1.7	10.0-24.0
feeding thrips only), Whiteflies		

# Restrictions:

- Pre-Harvest Interval (PHI): 21 days
- Maximum Willowood Imidacloprid 2SC allowed per crop season: 24.0 fluid ounces/Acre (0.38 lbs. Al/A)
- Maximum Willowood Imidacloprid 2SC applications per crop season: 1

Application: Apply specified dosage in one of the following methods:

- 1. Chemigation through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
- 2. In-furrow spray (rate specified per 1,000 row-feet) or, shanked-in 1 to 2 inches below seed depth during planting;
- 3. In a narrow (2 inches or less) band directly (1 to 2 inches) below the eventual seed row in a bedding operation 14 or fewer days before planting.

**Important Note:** Rate applied affects the length of control. Use the higher specified rate within the listed rate range where infestations occur later in crop development, or where pest pressure is continuous. Willowood Imidacloprid 2SC rates less than 0.7 fluid ounces/1,000 row-feet will not provide adequate residual pest control. Willowood Imidacloprid 2SC treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling.

<sup>2</sup> Tops or greens from these crops <u>may</u> be utilized for food or feed.

<sup>3</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

# TUBEROUS AND CORM VEGETABLES<sup>1</sup> - SOIL

**Crops of Crop Subgroup 1C including**: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible, Queensland arrowroot), Cassava (bitter and sweet)<sup>2</sup>, Chayote (root), Chufa, Dasheen (taro)<sup>2</sup>, Ginger, Leren, Sweet potato, Tanier (cocoyam)<sup>2</sup>, Tumeric, Yam bean (jicama, manioc pea), Yam (true)<sup>2</sup> (For recommended applications on potato see Field Crops section.)

Pests Controlled	Rate Fluid Ounces/1,000 row-feet	Rate Fluid Ounces/Acre
Aphids, Flea Beetles,		
Leafhoppers, Thrips (foliage feeding	0.7-1.7	10.0-24.0
thrips only), Whiteflies		

#### **Restrictions:**

- Pre-Harvest Interval (PHI) from planting application: 3 days (leaves); 125 days (corms)
- Maximum Willowood Imidacloprid 2SC allowed per crop season: 24.0 fluid ounces/Acre (0.38 lbs. Al/A)
- Maximum Willowood Imidacloprid 2SC applications per crop season: 1

Application: Apply specified dosage in one of the following methods:

- 1. In-furrow spray (rate specified per 1,000 row-feet) over planting material (hulis) or shanked-in 1 to 2 inches below hulis depth at planting;
- 2. Side-dress not more than 0.6 fluid ounces/1,000 row-feet no later than 45 days after-planting. Observe same PHI as above.

**Important Note:** Rate applied affects the length of control. Use higher specified rates within the listed rate range where infestations occur later in crop development, or where pest pressure is continuous. Willowood Imidacloprid 2SC rates less than 0.7 fluid ounces/1,000 row-feet may not provide adequate residual pest control. Willowood Imidacloprid 2SC treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling.

<sup>2</sup>Tops or greens from these crops may be utilized for food or feed.

# ROOT, TUBEROUS and CORM VEGETABLES<sup>1</sup> – FOLIAR

Crops of Crop Group 1 (except for sugarbeet) including: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Beet (garden)<sup>2</sup>, Burdock (edible)<sup>2</sup>, Canna (edible, Queensland arrowroot), Carrot<sup>2</sup>, Cassava (bitter & sweet)<sup>2</sup>, Celeriac<sup>2</sup>, Chayote (root), Chervil (turnip-rooted)<sup>2</sup>, Chicory<sup>2</sup>, Chufa, Dasheen (taro)<sup>2</sup>, Ginger, Ginseng, Horseradish, Leren, Parsley (turnip-rooted), Parsnip<sup>2</sup>, Radish<sup>2</sup>, Oriental radish (daikon)<sup>2</sup>, Rutabaga<sup>2</sup>, Salsify (black)<sup>2</sup>, Salsify (oyster plant), Salsify (Spanish), Skirret, Sweet potato, Tanier (cocoyam)<sup>2</sup>, Turmeric, Turnip<sup>2</sup>, Yam bean (jicama, manoic pea), Yam (true)<sup>2</sup>

(For applications on potato see Field Crops section for Potato – Foliar)

Pests Controlled	Rate (Fluid Ounces/Acre)	
Aphids, Flea beetles, Leafhoppers, Whiteflies	2.8	
Restrictions		
<ul> <li>Pre-Harvest Interval (PHI): 7 days</li> </ul>		

• Minimum interval between applications: 5 days

 Maximum amount allowed per season: 2.8 fluid ounces/Acre (0.044 lb. Al/A) on radish; 8.4 fluid ounces/Acre (0.13 lb. Al/A) on other crops

• Maximum applications of Willowood Imidacloprid 2SC per crop season: 1 on radish; 3 on other crops. <sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific 24(c) supplemental labeling.

<sup>2</sup>Tops or greens from these crops may be utilized for food or feed.

#### STRAWBERRY (annual and perennial crops)<sup>1</sup> – SOIL Annual and Perennial Crops

#### Annual and Perennial Crops

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Whiteflies	24.0-32.0
Postrictions	

#### Restrictions

- Pre-Harvest Interval (PHI): 14 days
- Maximum Willowood Imidacloprid 2SC allowed per crop year: 32.0 fluid ounces/Acre (0.50 lbs. Al/A)

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

- 1. Chemigation into root-zone through low pressure drip, trickle, micro-sprinkler or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening;
- 2. As a plant material or plant hole treatment just prior to, or during transplant;
- 3. As a 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. Plastic or other mulches that limit movement of Willowood Imidacloprid 2SC into root zone are not recommended.

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

<sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific 24 (c) supplemental labeling.

# STRAWBERRY<sup>1</sup> - FOLIAR

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Spittlebugs, Whiteflies	3.0
Destat ()	

# **Restrictions**:

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 5 days
- Maximum amount allowed per season: 9.1 fluid ounces/Acre (0.14 lb. Al/A)
- **DO NOT** apply during bloom or within 10 days prior to bloom or when bees are actively foraging.
- <sup>1</sup>Not for use on crops grown for seed unless allowed by state-specific 24(c) supplemental labeling.

# SUGARBEET<sup>1</sup> – SOIL (For use only in CA)

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers, Whiteflies and Flea beetles	6.0-12.0
Diseases Suppressed	
Symptoms of:	6.0 - 12.0
Western yellows /	
Beet curly top hybrigeminivirus (BCTV)	
Restrictions:	

- Maximum Willowood Imidacloprid 2SC allowed per crop season: 12.0 fluid ounces/Acre (0.18 lbs. AI/A)
- Do not apply immediately prior to bud opening or during bloom or when bees are actively foraging.

Applications: Apply specified dosage in the following method:

1. Apply specified dosage in sufficient carrier volume to insure uniform application. Apply directly below each seed furrow either during the bedding operation immediately prior to planting or at the time of planting.

The low rate may be applied to aid establishment of stands in whitefly areas, or for early season control of

# other pests listed.

<sup>1</sup>Not for use on crops grown for seed unless allowed by State specific 24(c) supplemental labeling.

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#### TREE, BUSH AND VINE CROPS Applications Instructions

# For Foliar Applications Only

Apply specified rate per acre as a broadcast or directed foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. Willowood Imidacloprid 2SC may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Willowood Imidacloprid 2SC may be tank mixed with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control relative to results from ground application. For trees and vine crops, application rates are based on full size, mature trees or vines.

# BANANA AND PLAINTAIN<sup>1</sup> - SOIL

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers	16.0-32.0
Pests Suppressed	
Scales	16.0-32.0
Restrictions	<u> </u>

- Pre-Harvest Interval (PHI): 0 days
- Maximum Willowood Imidacloprid 2SC allowed per crop year: 32.0 fluid ounces/Acre (0.50 lbs. Al/A)

Applications: Apply specified dosage in the following method:

1. Chemigation into root-zone through low pressure drip, trickle, micro-sprinkler or equivalent equipment. <sup>1</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

# **BANANA and PLANTAIN - FOLIAR**

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers, Thrips	6.4

#### **Restrictions**:

- Pre-Harvest Interval (PHI): 0 days
- Minimum interval between applications: 14 days
- Maximum amount allowed per crop year: 32.0 fluid ounces/Acre (0.5 lb. Al/A)

#### Applications:

Apply specified dosage of Willowood Imidacloprid 2SC as a broadcast or directed spray to infested area insuring thorough coverage. Willowood Imidacloprid 2SC may be applied through properly calibrated ground or aerial application equipment. Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control relative to results from ground application.

**Important Note**: Addition of an organosilicone adjuvant at a rate not to exceed 2.0 fluid ounces/100 gallons finished spray solution may improve coverage and pest control.

#### **BUSHBERRY - SOIL**

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

Pests Controlled	Rate (Fluid Ounces/Acre)
Japanese beetle (adults, feeding on foliage), White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and	16.0 - 32.0

#### Oriental beetle) Restrictions:

- Pre-Harvest Interval (PHI): 7 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs..Al/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

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

- 1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
- 2. 18-inch band on each side of the row followed by irrigation immediately after application.

For optimal grub control, apply Willowood Imidacloprid 2SC to control 1st or 2nd instar larvae. Application may be made post-bloom up to 7 days prior to harvest, or post-harvest until October 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 Willowood Imidacloprid 2SC to moist soil. If necessary, apply one hour of irrigation water immediately before application of Willowood Imidacloprid 2SC. To ensure maximum efficacy of soil surface sprays, 1/2 to 1 inch of irrigation water or rainfall should be applied or received within 24 hours of application of Willowood Imidacloprid 2SC to facilitate movement into the soil and into the root-zone.

#### BUSHBERRY - FOLIAR

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

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers/Sharpshooters	2.4 to 3.2
Blueberry maggot, Japanese beetles (adults), Thrips	4.8 to 6.4
(foliage-feeding thrips only)	
Restrictions:	
Pre-Harvest Interval (PHI): 3 days	
<ul> <li>Minimum interval between applications: 7 days</li> </ul>	
Maximum amount allowed per year: 32.0 fluid ounces	s/Acre (0.5 lb. Al/A)
Maximum number of applications of Willowood Imida	cloprid 2SC per crop season: 5
<ul> <li>Maximum application volume (water): 20.0 GPA - ground; 5.0 GPA – aerial</li> </ul>	
DO NOT apply pre-bloom or during bloom or when bees are actively foraging.	

Application: Use higher rate within listed rate range when pest pressure is more severe.

#### **CANEBERRY - SOIL**

**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/Acre)
Aphids, Leafhoppers, Whiteflies	16.0-32.0
Rednecked cane borer	24.0-32.0
Pest Suppressed	
Thrips (foliage feeding thrips only)	16.0-32.0
Restrictions:	

- Pre-Harvest Interval (PHI): 7 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs Al/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications: 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 500 gallons solution per acre

#### **CANEBERRY - FOLIAR**

**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/Acre	
Aphids, Leafhoppers, Thrips	6.4
Restrictions	

Restrictions:

• Pre-Harvest Interval (PHI): 3 days

Minimum interval between applications: 7 days

• Maximum Willowood Imidacloprid 2SC allowed per crop season: 19.2 fluid ounces/Acre (0.3 lb. Al/A)

• Do not apply pre-bloom or during bloom or when bees are actively foraging.

#### **CITRUS** (containerized) - SOIL

**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), Tangelo, Satsuma mandarin, white sapote (*Casimiroa* spp.), and other cultivars and/or hybrids of these

Pests Controlled	Rate (MI/Ft <sup>3</sup> Container Media)
Aphids, Asian citrus psyllid, Blackfly, Citrus leafminer,	0.75
Leafhoppers/Sharpshooters, Mealybugs, Scales, Whiteflies	
Citrus root weevil (larval complex)	1.25 - 2.50
Pest Suppressed	
Citrus thrips (foliage feeding thrips only)	2.50

**Application:** Determine volume of container and calculate dosage necessary to treat container. Apply calculated dosage of Willowood Imidacloprid 2SC per container as a soil drench or through low-pressure drip or trickle irrigation water. Use sufficient carrier volume to ensure thorough uniform distribution throughout the media without loss of gravitational water from the container. For optimal results, treatment should be made at planting prior to insect infestation. Retreat if necessary. For control of larvae of the citrus root weevil complex, application should be made prior to neonate larvae entering potting media. Utilize the higher listed dosage for heavy infestation.

#### CITRUS (Field) - SOIL

**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), Tangelo, Satsuma mandarin, white sapote *(Casimiroa spp)*, and other cultivars and/or hybrids of these

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Asian citrus psyllid, Blackfly, Citrus leaf miner, Leafhopper/	16.0 - 32.0
Sharpshooters, Mealybugs, Scales, Termites (FL only) and Whiteflies	
Pests/Diseases Suppressed	
Citrus nematode, Symptoms of: Citrus tristeza virus (CTV) through	32.0
vector control, Citrus yellows, Thrips (foliage feeding thrips only)	

#### **Restrictions:**

• Pre-Harvest Interval (PHI): 0 days

• Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs. Al/A) **Applications:** Apply specified dosage in one of the following methods:

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

# CITRUS – FOLIAR

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), Tangelo, Satsuma mandarin, white sapote (*Casimiroa* spp), and other cultivars and/or hybrids of these

Pests Controlled	Rate (Fluid Ounces/100 gallons)	Rate (Fluid Ounces/Acre)
Aphids, Asian citrus psyllid, Black fly, Leafhoppers/Sharpshooters, Leafminers, Mealybugs, Scales, Whiteflies	2. 8 to 4.0 (for dilute applications)	8.0 to 16.0 (depending on tree size, target pest and infestation pressure)
Pests Suppressed		
Thrips (foliage-feeding thrips only)	2.8 to 4.0	8.0 to 16.0

# **Restrictions:**

- Pre-Harvest Interval (PHI): 0 days
- Minimum interval between applications: 10 days
- Maximum amount allowed per crop year: 32.0 fluid ounces/Acre (0.5 lb. Al/A)
- DO NOT apply during bloom or within 10 days prior to bloom or when bees are actively foraging.

**Applications**: Apply specific dosage of Willowood Imidacloprid 2SC as a broadcast or directed spray to infested area ensuring thorough coverage. Willowood Imidacloprid 2SC may be applied through properly calibrated ground or aerial equipment. Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control to results from ground application.

Scales - time applications to the crawler stage. Treat each generation.

Where concentrated applications are appropriate, increase the spray solution concentration to apply an equivalent rate per acre to that applied in the diluted application. The 20.0 fluid ounce/Acre rate is based on full sized trees. This rate may be reduced proportionally for smaller trees.

COFFEE<sup>1</sup> - SOIL

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers, Leafminer	16.0-32.0
Pest Suppressed	
Scales	16.0-32.0

**Restrictions:** 

- Pre-Harvest Interval (PHI): 7 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lb. Al/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

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

- 1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
- 2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;

3. Basal, soil drench in sufficient water to ensure incorporation into the root-zone followed by irrigation. <sup>1</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling

#### **COFFEE - FOLIAR**

Pests Controlled	Rate (Fluid Ounce/Acre)
Aphids, Leafhoppers, Leafminer	6.4
Pests Suppressed	
Scales	6.4
Postriations	

Restrictions:

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per crop year: 32.0 fluid ounces/ Acre (0.5 lb. Al/A)
- DO NOT apply pre-bloom or during bloom or when bees are actively foraging.

**Applications**: Apply specified dosage of Willowood Imidacloprid 2SC as a broadcast or directed spray to infested area insuring thorough coverage. Willowood Imidacloprid 2SC may be applied through properly calibrated ground or aerial application equipment. Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control relative to results from ground application.

#### **CRANBERRY - SOIL**

Pests Controlled	Rate (Fluid Ounces/Acre)
Rootgrubs (Scarabaeidae), Rootworms (Chrysomelidae)	16.0 - 32.0

**Restrictions:** 

- Pre-Harvest Interval (PHI): 30 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs. Al/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

**Application:** Apply Willowood Imidacloprid 2SC to moist soil. Apply specified dosage in one of the following methods:

- 1. As a soil spray (ground application) directed to the root and crown area using a minimum of 20 gal. of water per acre;
- 2. As a chemigation application with 600 to 1,000 gal water.

Immediately upon application, Willowood Imidacloprid 2SC must be incorporated into root-zone by 0.1 to 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:** Best control may be achieved when application is made post-bloom immediately after bees are removed. Applications should target early larvae.

Willowood Imidacloprid 2SC 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 Willowood Imidacloprid 2SC and the desired fungicide or insecticide partner at labeled rates and apply to a small area. Evaluate crop response with 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. Follow the most restrictive precautions and limitations on the labeling of all products used in mixtures.

# GRAPE - SOIL

Including: American bunch grape, Muscadine grape, and Vinifera grape

Pests Controlled	Rate (Fluid Ounces/Acre)
European fruit lecanium, Mealybugs, Leafhoppers/Sharpshooters,	16.0 - 32.0
Phylloxera* spp.	
Pest/Disease Suppressed	
Grapeleaf skeletonizer, Nematodes, Pierce's Disease	24.0 - 32.0
Restrictions:	
<ul> <li>Pre-Harvest Interval (PHI): 30 days</li> </ul>	
<ul> <li>Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 flu</li> </ul>	id ounces/Acre (0.50 lbs. Al/A)
Applications: Apply specified dosage in one of the following methods:	
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;	
<ol><li>Subsurface side-dress shanked into the root-zone on both sides</li></ol>	of the plants followed by irrigation;
<ol><li>Hill drench in sufficient water to insure incorporation into the root</li></ol>	-zone followed by irrigation;
4. For suppression of nematodes, apply 14 fluid ounces in a single	application or two 7 fluid ounce
applications on a 30- to 45-day interval. Treatment(s) should be	applied 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 irrig	ation to move the product into the
entire root-zone of the plant. Repeated and regular use of Willow	
consecutive growing seasons provides the greatest degree of ne	
greatest plant response.	
For optimum results, make application(s) between bud-break and the pe	ea-berry stage. A total of 14 fluid
ounces/Acre is recommended under any of the following conditions:	
1. Where vigorous vine growth is expected;	
i vinere vigorous vine growth is expected,	

- 2. In warmer growing 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 Willowood Imidacloprid 2SC over several, consecutive growing seasons controls existing *Phylloxera* infestations over time or prevents *Phylloxera* from becoming established.

#### **GRAPE - FOLIAR**

American bunch grape, Muscadine grape, and Vinifera grape

Pests Controlled	Rate (Fluid Ounces/Acre)
Mealybugs, Leafhoppers/Sharpshooters	2.4 to 3.2
Grapeleaf skeletonizer	3.0 to 3.2

#### **Restrictions:**

- Pre-Harvest Interval (PHI): 0 days
- Minimum interval between applications: 14 days
- Maximum amount allowed per year: 6.4 fluid ounces/Acre (0.1 lb. Al/A)

#### Applications:

Apply specific dosage of Willowood Imidacloprid 2SC as a broadcast or directed spray to infested area ensuring thorough coverage. Willowood Imidacloprid 2SC may be applied through properly calibrated ground or aerial equipment.

Important Notes: For application on grapes, ground application is recommended.

HOPS<sup>1</sup> - SOIL

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids	19.2
Restrictions	

- Pre-Harvest Interval (PHI): 60 days
- Maximum Willowood Imidacloprid 2SC allowed per season: 19.2 fluid ounces/Acre (0.30 lbs..Al/A)

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

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

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

Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

#### HOPS - FOLIAR

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids (including woolly apple aphid), Leafhoppers	6.4
Restrictions:	
<ul> <li>Pre-Harvest Interval (PHI): 28 days</li> </ul>	
- Minimum internet le true en engliseti - Od stave	

Minimum interval between applications: 21 days

• Maximum amount allowed per season: 19.2 fluid ounces/Acre (0.3 lb. Al/A)

# **POME FRUIT - SOIL**

Crops of Crop Subgroup 11 including: apple, crabapple, loquat, mayhaw, pear (including Oriental pear), quince

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids (including woolly apple aphid), Leafhoppers	16.0 - 24.0
Restrictions:	

- Pre-Harvest Interval (PHI): 21 days
  - Maximum Willowood Imidacloprid 2SC allowed per season: 24.0 fluid ounces/Acre (0.38 lbs. Al/A)
  - Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications: Apply specified dosage in the following method:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

# POME FRUIT - FOLIAR

Crops of Crop Group 11 including: Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

Pests Controlled	Rate (Fluid Ounces/100 gallons)	Rate (Fluid Ounces/Acre)
Leafhoppers	0.8 to 1.6	3.2 to 6.4
Aphids (except woolly apple aphid), Apple maggot, Leafminers, San Jose scale	1.6	6.4
FOR PEARS ONLY: Mealybugs, Pear psylla	4.0	16.0

Restrictions

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 10 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lb. Al/A)
- DO NOT apply pre-bloom or during bloom or when bees are actively foraging.

# Applications:

Leafhoppers - apply low rate for low to moderate populations of white apple leafhoppers and high rate for high populations or for other leafhopper species. Apply Willowood Imidacloprid 2SC while most leafhoppers are in

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the nymphal stage.

Leafminer - for first generation leafminer control, make application after pollination is complete and bees are no longer present in the orchard. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, better control will be obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only. Willowood Imidacloprid 2SC will not control late instar larvae.

Mealybugs - apply maximum gallonage for tree with ground equipment. Ensure good spray coverage of the trunk and scaffolding limbs or other resting sites of mealybugs.

Rosy apple aphid - apply prior to leafrolling caused by rosy apple aphid.

San Jose scale - time applications to the crawler stage. Treat each generation.

The amount of Willowood Imidacloprid 2SC required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees. To calculate the rate needed on smaller trees, multiply the pest specific rate (e.g., for aphid control, 1.6 fluid ounces/100 gallons) times the number of 100 gallons of spray solution required to thoroughly wet foliage just prior to the point of runoff, on one acre of the trees being treated. For concentrate sprays, apply the same amount of Willowood Imidacloprid 2SC per acre as would be applied in a dilute spray based on tree size and foliage volume.

Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control compared to ground application due to less thorough coverage.

#### POMEGRANATE<sup>1</sup> - SOIL

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers/Sharpshooters, Whiteflies	16.0-32.0
Based 1. dt	

### **Restrictions:**

- Pre-Harvest Interval (PHI): 0 days
- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs. AI/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications: Apply specified dosage in the following method:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. <sup>1</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

#### **POMEGRANATE - FOLIAR**

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers/Sharpshooters, Whiteflies	6.4
Pests Suppressed	
Scales	6.4
Restrictions	

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per crop season: 19.2 fluid ounces/Acre (0.3 lb. Al/A)
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

#### **STONE FRUIT - SOIL**

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/Acre)	
Aphids (including woolly apple aphid), Leafhoppers	16.0-24.0	

#### **Restrictions:**

- Pre-Harvest Interval (PHI): 21 days
- Maximum Willowood Imidacloprid 2SC allowed per season: 24.0 fluid ounces/Acre (0.38 lbs. Al/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

**Applications:** Apply specified dosage in the following method:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

Preplant, Root Drip Application		
Pest Controlled	Rate Fluid Ounces/10 Gallons Root-Dip Solution	
Black peach aphid (infesting roots)	2.0	

Mix Willowood Imidacloprid 2SC at 2.0 fluid ounces per 10 gallons of water. Thoroughly wet bare-root transplant to slightly above the graft union by soaking roots in the Willowood Imidacloprid 2SC solution for up to 5 minutes. Allow solution to dry on roots and transplant trees as soon as possible following treatment.

#### **STONE FRUIT - FOLIAR**

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/100 gallons)	Rate (Fluid Ounces/Acre)
Aphids, Green June beetle, Japanese beetle, Leafhoppers/ Sharpshooters, Plant bugs, Rose chafer, San Jose scale	1.6	3.2 to 6.4
Cherry fruit fly	1.6	4.8 to 6.4
Pests Suppressed		
Plum curculio, Stink bugs	1.6	6.4

Restrictions for Apricot, Nectarine, Peach:

- Pre-Harvest Interval (PHI): 0 days
- Minimum interval between applications: 7 days
- Maximum amount allowed per season: 19.2 fluid ounces/Acre (0.30 lb. Al/A)
- Minimum application volume (water): 50 GPA ground application; 25 GPA aerial application.
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

# Restrictions for Cherries, Plums, Plumcot, Prune:

- Pre-Harvest Interval (PHI): 7 days
- Minimum interval between applications: 10 days
- Maximum amount allowed per year: 32.0 fluid ounces/Acre (0.50 lb. Al/A)
- Minimum application volume (water): 50 GPA ground application; 25 GPA aerial application.
- DO NOT apply pre-bloom or during bloom or when bees are actively foraging.

# TREE NUTS<sup>1</sup> - SOIL

**Crops of Crop Group 14 (except Almond) including**: Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leafhoppers/Sharpshooters,	16.0-32.0
Mealybugs, Spittlebugs, Termites, Whiteflies	•
Pests/Diseases Suppressed	
Pecan scab (from reduction in honeydew deposition)	16.0-32.0
Thrips (foliage feeding thrips only)	32.0
Restrictions:	

• Pre-Harvest Interval (PHI): 7 days

- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs., AI/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

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- Applications: Apply specified dosage prior to or at onset of pest infestation in one of the following methods:
  - 1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. Pre-wet soil prior to applications of Willowood Imidacloprid 2SC and allow soil to dry following application and prior to subsequent irrigation;
  - 2. Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site;
  - 3. Shank or subsurface side-dress, injected to a depth just above or just within the root zone and between the trunk and drip line of the tree canopy. 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;
  - 4. For control of termites, apply specified dosage to slightly moist soil as a high volume drench to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk. Utilize sufficient carrier volume to penetrate the soil to a depth of 18 24 inches to obtain optimum control. Allow soil to dry following treatment and prior to applying any irrigation.

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

<sup>1</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling, except Pecan.

# TREE NUTS - FOLIAR

**Crops of Crop Group 14 (except Almond) including:** Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut (black and English)

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids (except Black pecan aphid),	2.8 to 5.6
Leafhoppers/Sharpshooters, Phylloxera spp. (leaf	
infestations), Spittlebugs, Whiteflies	
Black pecan aphid, Mealybugs, San Jose scale	6.4
Restrictions:	
<ul> <li>DO NOT apply to Almonds.</li> </ul>	
<ul> <li>Pre-Harvest Interval (PHI): 7 days</li> </ul>	
Minimum interval between applications: 6 days	
<ul> <li>Maximum amount allowed per crop season: 23.0</li> </ul>	0 fluid ounces/Acre (0.36 lb. Al/A)
<ul> <li>Minimum application volume (water): 50 GPA - g</li> </ul>	ground application, 25 GPA - aerial application
DO NOT apply pre-bloom or during bloom or wh	
Applications:	, , , , , , , , , , , , , , , , , , , ,
Time applications to control San, lose scale according to cr	awler stage, treating each successive generation

Time applications to control San Jose scale according to crawler stage, treating each successive generation. Two applications on a 10 to 14-day interval may be required to achieve control.

# TROPICAL FRUIT<sup>1</sup> - SOIL

**Including:** acerola, atemoya<sup>1</sup>, avocado, birida<sup>1</sup>, black sapote, canistel, cherimoya<sup>1</sup>, custard apple<sup>1</sup>, feijoa, jaboticaba, guava, Ilama<sup>1</sup>, longan, lychee, mamey sapote, mango, papaya, passionfruit, persimmon, pulasan, rambutan, sapodilla, soursop<sup>1</sup>, Spanish lime, star apple, starfruit, sugar apple<sup>1</sup>, wax jambu

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Avocado lacebug, Leafhoppers, Whiteflies	24.0-32.0
Pest suppressed	
Scales, Thrips (foliage feeding thrips only)	32.0
Restrictions:	
<ul> <li>Pre-Harvest Interval (PHI): 6 days</li> </ul>	

- Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs..Al/A)
- Do not apply pre-bloom or during bloom or when bees are actively foraging.

**Applications:** Apply specified dosage in the following method:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

<sup>1</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

# **TROPICAL FRUIT - FOLIAR**

Acerola, Atemoya, Avocado, Biriba, Black sapote, Canistel, Cherimoya, Custard apple, Feijoa, Jaboticaba, Guava, Llama, Longan, Lychee, Mamey sapote, Mango, Papaya, Passionfruit, Persimmon, Pulasan, Rambutan, Sapodila, Soursap, Spanish lime, Star apple, Starfruit, Sugar apple, Wax jambu

Pests Controlled	Rate (Fluid.Ounces./Acre)			
Aphids, Leafhoppers/Sharpshooters, Mealybugs,	6.4			
Thrips (foliage-feeding thrips only), Whiteflies				
Pests Suppressed				
Scales	6.4			
Restrictions	······································			

Pre-Harvest Interval (PHI): 7 days

- Minimum interval between applications: 10 days
- Maximum amount allowed per year: 32.0 fluid ounces/Acre (0.50 lb. Al/A)
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

Applications: Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control compared to ground application due to less thorough coverage

# Other Crops **Application Instructions**

# FOR FOLIAR APPLICATION

Apply specified rate per acre as a broadcast or directed foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. Willowood Imidacloprid 2SC may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Willowood Imidacloprid 2SC may be tank mixed with other insecticides for knock down of pests or for improved control of other pests. Follow the most restrictive precautions and limitations on the labeling of all products used in mixtures.

# CHRISTMAS TREE<sup>1</sup> - SOIL

Pests Controlled	Rate (Fluid Ounces/Acre)		
White grub complex (damage from grubs of Asiatic garden beetle,	16.0-32.0		
European and masked chafer, Japanese beetle and oriental beetle)			
Restriction			

Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lbs. Al/A)

Applications: Soil incorporation and movement of Willowood Imidacloprid 2SC to the root-zone is required for activity. Willowood Imidacloprid 2SC can be incorporated most readily when applied to moist soil. Apply specified dosage in one of the following methods:

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

For optimal grub control, apply Willowood Imidacloprid 2SC during adult flight activity, or up to mid-July, when 1<sup>st</sup> instar larvae are present.

<sup>1</sup>Use not permitted in California unless otherwise directed by State specific 24(c) supplemental labeling.

#### **CHRISTMAS TREE - FOLIAR**

Pests Controlled	Rate (Fluid Ounces/Acre)		
Aphids, Adelgids, Sawflies	3.2 to 6.4		
Restrictions:			
Minimum interval between applications: 7	' davs		
• Maximum amount allowed per year: 32.0	•		
Applications:			
Apply specific dosage of Willowood Imidacloprid	2SC as a broadcast or directed spray to infested area		

ensuring thorough coverage. Willowood Imidacloprid 2SC may be applied through properly calibrated ground or aerial equipment. Aerial application of Willowood Imidacloprid 2SC may result in slower activity and reduced control relative to results from ground application.

Gall-forming adelgids - time applications to coincide with full bud-swell or first bud-break of earliest budbreaking trees. Once galls form spraying will be ineffective.

# POPLAR/COTTONWOOD<sup>1</sup> - SOIL

Includes: members of the genus Populus grown for pulp or timber

Field: See details below for Cutt	tings/Whips Applications Information		
Pests Controlled	Rate (Fluid Ounces/Acre) 16.0-32.0		
Aphids, Cottonwood leaf beetle			
Pest Suppressed			
Phylloxerina popularia	16.0-32.0		
Restrictions:			

• Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lb..Ai/A)

Do not apply pre-bloom or during bloom or when bees are actively foraging.

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

- 1. Chemigation through low-pressure drip irrigation;
- 2. For narrow-row, cutting orchards/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, 0.25 inches/Acre is recommended).

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.

Cutting/Whip: See d	etails above for Field Application Information			
Pest Controlled	Cutting/Whip Soaking Solution			
	Fluid Ounces Willowood Imidacloprid 2SC			
	Needed per 100 Gallons			
Cottonwood leaf beetle	13.3 – 26.6 (unhydrated cuttings/whips)			
	26.6 – 40.1 (partially hydrated cuttings/whips)			
Pests suppressed				
Aphids	13.3 – 26.6 (unhydrated cuttings/whips)			
Phylloxerine popularia	26.6 – 40.1 (partially hydrated cuttings/whips)			
Restrictions				

• Maximum Willowood Imidacloprid 2SC allowed per year: 32.0 fluid ounces/Acre (0.50 lb. Al/A) **Applications:** Moisture content of cuttings/whips prior to application, the solution concentration and the length of soaking interval 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 087290.00033.20130119.V1

Populus spp. Clones/varieties/hybrids have been tested for crop safety. Without specific knowledge about a particular Populus spp. Clone/variety/hybrid, Willowood recommends that small numbers of cuttings/whips of each be treated and evaluated prior to commercial use.

Apply Willowood Imidacloprid 2SC 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.

Proper care should be taken in disposal of any residual soaking solution. Solution may be applied to existing trees or other registered crops as long as all product label precautions and restrictions are observed. <sup>1</sup>Use not permitted in California unless otherwise directed by state specific 24(c) supplemental labeling.

# POPLAR/COTTONWOOD - FOLIAR<sup>1</sup>

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

Pests Controlled	Rate (Fluid Ounces/Acre)
Aphids, Leaf beetles	3.2 to 6.4

Restrictions:

Minimum interval between applications: 10 days

- Maximum amount allowed per Hill, Shaunta <Hill.Shaunta@epa.gov> 32.0 fluid ounces/ Acre (0.50 lb. Al/A)
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

<sup>1</sup>Use not permitted in California unless otherwise directed by state specific 24(c) supplemental labeling.

Willowood Imidacloprid 2SC CONVERSION CHART FOR LINEAR APPLICATION								
RATE	Rate (Fluid Ounces/1,000 row feet)							
Fluid		Based on <u>average</u> row spacing (in inches):						
Ounces/Acre	10	15	20	25	30	35	40	45
10	0.19	0.29	0.38	0.48	0.57	0.67	0.76	0.86
12	0.23	0.34	0.46	0.57	0.69	0.80	.92	1.03
14	0.27	0.40	0.54	0.67	0.80	0.94	1.07	1.21
16	0.31	0.46	0.61	0.77	0.92	1.07	1.22	1.38
18	0.34	0.52	0.69	0.86	1.03	1.21	1.38	1.55
20	0.38	0.57	0.76	0.96	1.15	1.34	1.53	1.72
22	0.42	0.63	0.84	1.05	1.26	1.47	1.68	1.89
24	0.46	0.69	0.92	1.15	1.38	1.61	1.84	2.07
26	0.50	0.75	F0.99	1.24	1.49	1.74	1.99	2.24
28	0.54	0.80	1.07	1.34	1.61	1.87	2.14	2.41
30	0.57	0.86	1.15	1.43	1.72	2.01	2.29	2.58
32	0.61	0.92	1.22	1.52	1.84	2.14	2.45	2.75

**Important Note:** The Willowood Imidacloprid 2SC rate applied affects the length of control and to a considerable extent, the degree of control or effect. Row-spacing X Willowood Imidacloprid 2SC rate combinations in shaded blocks may not provide adequate residual pest control and are not recommended for long-term, residual control. Use higher rates within listed rate range where infestations may occur later in crop development or where pest pressure is continuous. Willowood LLC offers no warranty for use of Willowood Imidacloprid 2SC at rates below 0.7 fluid ounces/1,000 row-feet.

# STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away.

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

**CONTAINER DISPOSAL: Nonrefillable container (equal to or less than 5 gallons).** Do not refill or reuse 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 ¼ 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 or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable container (greater than 5 gallons).** Do not refill or reuse container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Turn the container or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### IMPORTANT: READ BEFORE USE

**NOTICE**: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the unopened product container at once.

By using the 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 Willowood LLC. To the extent consistent with applicable law, such risks shall be assumed by the user or buyer. **DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, WILLOWOOD 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. To the extent consistent with applicable law, no agent of Willowood LLC is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISENT WITH APPLICABLE LAW, LIABILITY

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