

34704-893

06-30-2010

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Kristie Raymond
Registration Specialist
Loveland Products, Inc.
P.O. Box 1286
Greeley, CO 80632-1286

JUN 30 2010

SUBJECT: Application for Pesticide Notification per PR Notice 98-10: Change in Medical Emergency
Number and Warranty Statement
Widow™ Insecticide
EPA Reg. No. 34704-893
Application Dated November 19, 2009

Dear Ms. Raymond:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of this PRN. The label that was submitted with the above application is acceptable, date-stamped "Notification", and will be placed in our records.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Linda Arrington".

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



United States
Environmental Protection Agency
Washington, DC 20460

☐ Registration
☐ Amendment
☒ Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number LOVELAND PRODUCTS, INC. / 34704-893	2. EPA Product Manager RICHARD GEBKEN	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) WIDOW INSECTICIDE	PM# 10	
5. Name and Address of Applicant (Include ZIP Code) Loveland Products, Inc. P.O. Box 1286 Greeley, Colorado 80632-1286 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	NOTIFICATION JUN 30 2010
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

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

Notification for change in medical emergency number and warranty statement

Section - III

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

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name KRISTIE RAYMOND		Title REGISTRATION SPECIALIST	
		Telephone No. (Include Area Code) 970-534-3433	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Kristie Raymond</i>		3. Title Registration Specialist	
4. Typed Name KRISTIE RAYMOND / kristie.raymond@cpsagu.com		5. Date November 19, 2009	



Performance

Quality

Value

November 19, 2009

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
Richard Gebken – PM #10
U.S. Environmental Protection Agency
One Potomac Yard, 4th Floor, Room S-4900
2777 South Crystal Drive
Arlington, VA 22202

Subject: Widow Insecticide (EPA Reg. No. 34704-893); Notification

Enclosed, is the Loveland Products, Inc. submission for a Notification of Widow Insecticide (EPA Reg. No. 34704-893) for revisions to the medical emergency number and warranty statement.

Please find the following enclosed:

1. Application for Registration (EPA Form 8570-1);
2. 1 copy of the Widow Insecticide label

If you have any questions, please feel free to contact me at 970-534-3433 or kristie.raymond@cpsagu.com.

Sincerely,

Kistie Raymond

Kristie Raymond
Registration Specialist

Enclosures

[illegible]



WidowTM

NOTIFICATION

JUN 30 2010

INSECTICIDE

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For uses in pest management and suppression of insect vectored diseases and maintenance of plant health.

ACTIVE INGREDIENT:

Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine 21.4%

OTHER INGREDIENTS 78.6%
TOTAL 100.0%

Contains 2 pounds of Imidacloprid per gallon.

SHAKE WELL BEFORE USING

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID

If Swallowed:	<ul style="list-style-type: none">• Call a poison center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give anything by mouth to an unconscious person.
If in Eyes:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15 to 20 minutes.• Call a poison control center or doctor for treatment advice.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL:
1-866-944-8565.

Note To Physician: No specific antidote is available. Treat the patient symptomatically.

EPA REG. NO. 34704-893

EPA EST. NO. 34704-MS-1

NET CONTENTS 1 GAL. (3.78 L)

IHT

082107 V3D 11R09

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

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing.

Applicators and other handlers must wear: Long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton, and shoes plus socks.

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

ENGINEERING CONTROLS STATEMENTS

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

USER SAFETY RECOMMENDATIONS

User should:

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

ENVIRONMENTAL HAZARDS

Do not apply directly to water, areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

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

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

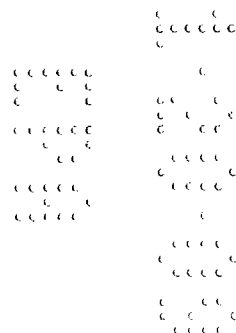
AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical-resistant gloves made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton, and shoes plus socks.



WIDOW INSECTICIDE

EPA REG. NO. 34704-893

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

Spray Drift Management

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

Importance of Droplet Size

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

Wind Speed Restrictions

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

Restrictions During Temperature Inversions

Do not make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing 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 groundwater conduits such as field sumps, uncased well heads, sinkholes, or field drains.

No-Spray Zone Requirements for Soil Applications

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

Runoff Management

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

Endangered Species Notice

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

Resistance Management

Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area.

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

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

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

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

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

Application Directions

Applications of Widow Insecticide should direct product into the seed or root-zone of crop. Failure to place Widow into root-zone may result in loss of control or delay in onset of activity. Widow 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 Widow results from applications to the root-zone of plants to be protected. The earlier Widow is available to a developing plant, the earlier the protection begins. Widow is continuously taken into the roots over a long period of time and the systemic nature of Widow allows movement from roots through the xylem tissue to all vegetative parts of the plant. This results in extended residual activity of Widow, the control of insects and the prevention and/or reduction of virus transmission or symptom expression, and plant health benefits. The rate of Widow applied affects the length of the plant protection period. Higher rates are recommended when infestations occur later in crop development, or where pest pressure is continuous. Widow 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 Widow application recommendations are also provided in the crop-specific sections of this label.

Suppression, or less than complete control of certain diseases and insect pests including reduced feeding may also result from an Widow application. Complete control of these pests/diseases may require supplemental control measures.

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

Widow should be pre-mixed with water or other appropriate diluent prior to application. Keep Widow and water suspension agitated to avoid settling.

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

Mixing Instructions

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

Mixing Order

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

Compatibility Note

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

CHEMIGATION – DIRECTIONS FOR USE

Types of Irrigation Systems

Chemigation applications of Widow may only be made to crops through chemigation systems as specified in crop-specific Application sections and only through low-pressure systems unless specifically recommended for a given crop. Do not apply Widow through any other type of irrigation system.

Uniform Water Distribution and System Calibration

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Chemigation Monitoring

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Drift

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

WIDOW INSECTICIDE

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Required System Safety Devices

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Using Water from Public Water Systems

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water 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 toward the injection. The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

ROTATIONAL CROPS*

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

IMMEDIATE PLANT-BACK

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

30-DAY PLANT-BACK

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

12-MONTH PLANT-BACK

All Other Crops

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

FIELD CROPS

Recommended Applications – Widow Insecticide

COTTON

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

Notes and Restrictions

Maximum Widow allowed per crop season: **21.1 fluid ounces/Acre** (0.33 lb ai/Acre)

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

Applications

Apply specified dosage of Widow Insecticide in one of the following methods:

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

POTATO

Pests Controlled	Rate fluid ounces/1000 row-feet	Rate fluid ounces/Acre
Aphids		
Colorado potato beetle		
Flea beetles	0.9 – 1.3	13.0 – 20.0
Leafhoppers		
Potato psyllid		

Pests/Diseases Suppressed

Symptoms of:

Potato leaf roll virus (PLRV)		
Potato yellows	0.9 – 1.3	13.0 – 20.0
Net necrosis (PLRV)		
Wireworms (with in-furrow spray at planting)		

Notes and Restrictions

Maximum Widow allowed per crop season: **20.0 fluid ounces/Acre** (0.31 lb AI/Acre)

Applications

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

1. In-furrow spray during planting directed on seed pieces or seed potatoes;
2. Subsurface side-dress on both sides on the row covered with 3 or more inches of soil;
3. Narrow band spray at ground cracking directly over the row during hilling covered with 3 or more inches of soil;
4. Narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting. For effective pest control or suppression, Widow 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 Widow 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	0.4 – 0.8	8.0 – 16.0
Leafhoppers		
Potato psyllid		
Wireworms (seed-piece protection)		

Pests/Diseases Suppressed

Symptoms of:

Potato leaf roll virus (PLRV)		
Potato yellows	0.8	16.0
Net necrosis (PLRV)		

Notes and Restrictions

Maximum Widow allowed per crop season: **20.0 fluid ounces/Acre** (0.31 lb AI/Acre)

Do not use treated seed-pieces for food, feed, or fodder. Do not apply any subsequent application of Widow (in-furrow), Gaucho, Leverage or Provado following a Widow 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 Widow. Agitate or stir spray solution as needed. Fungicidal or inert absorbent dusts may be applied after Widow application. Apply only in areas with adequate ventilation or in areas that are equipped to remove spray mist or dust. Plant seed-pieces as soon as possible after treating avoiding prolonged exposure of Widow treated seed-pieces to sunlight and in accordance with the recommendation of your local Extension specialist.

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

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

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

TOBACCO

Pests Controlled	Rate fluid ounces/1000 plants (as seedling tray drench)	Rate fluid ounces/1000 plants (in-furrow or transplant-water)
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Aphids		
Flea beetles	1.0	1.4 - 1.6
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)		

Notes and Restrictions

Pre-Harvest Interval (PHI): **14 days**

Maximum Widow allowed per crop season: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications

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

1. Uniform, broadcast foliar spray to seedlings in trays (tray drench) not more than 7 days prior to transplanting followed immediately by overhead irrigation to wash Widow from foliage into potting media. Failure to wash Widow from foliage may result in reduction in pest control. Transplants should be handled carefully during setting to avoid dislodging treated potted media from roots.

WIDOW INSECTICIDE EPA REG. NO. 34704-893

Tobacco cont'd.:

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

VEGETABLE and SMALL FRUIT CROPS Recommended Applications – Widow Insecticide

CUCURBIT VEGETABLES ^{1/}

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

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

Pests Controlled	Rate fluid ounces/Acre
Aphids	
Cucumber beetles	
Leafhoppers	16.0 – 24.0
Thrips (foliage-feeding thrips only)	
Whiteflies	
Pests/Diseases Suppressed	
Bacterial wilt (as vectored by various cucumber beetles)	
Leaf silencing resulting from whitefly feeding	16.0 – 24.0

Notes and Restrictions

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

Maximum Widow allowed per application: **24.0 fluid ounces/Acre** (0.38 lb AI/Acre)

Applications

Apply specified dosage of Widow 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 1½" 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. Widow must be incorporated into root-zone.

Planthouse Application Recommendations*

Pests Controlled	Rate fluid ounces/1000 Plants
Aphids	
Whiteflies	0.1

Notes and Restrictions

Maximum amount of Widow applied in the planthouse: **0.1 fluid ounces** (0.00156 lb AI)/1000 plants.

Maximum number Widow 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 Widow from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Widow 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 may result in significant plant injury. Transplants should be handled carefully during setting to avoid dislodging treated potting media from roots.

Important Note: Not all varieties of cucurbit vegetables have been tested for tolerance to Widow 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.

^{1/}Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

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

GREENHOUSE VEGETABLES ^{1/} (Mature plants in production greenhouses) Cucumber, Tomato, only

Pests Controlled	Rate fluid ounces/1000 plants
Aphids	
Whiteflies	1.4

Notes and Restrictions

Pre-Harvest Interval (PHI): **0 days**

Maximum number of Widow applications per crop season: **1**

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. Do not apply to immature plants since phytotoxicity may occur.

Applications should be made when infestation pressure surpasses threshold and beneficials are not able to maintain pest populations below damage thresholds. Repellency of bumble bee pollinators and negative effects on some beneficials (*Orius* sp.) can occur when Widow is applied.

Many varieties of vegetables have been tested for tolerance to Widow and show good safety. However, certain varieties may show more sensitivity to Widow. Therefore, treatment of a few plants is recommended before treating the whole greenhouse.

^{1/}Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

FRUITING VEGETABLES ^{1/}

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

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

Pests Controlled	Rate fluid ounces/Acre
Aphids	
Colorado potato beetle	Okra and Pepper
Flea beetles	16.0 – 32.0
Leafhoppers	
Thrips (foliage-feeding thrips, only)	Other Crops
Whiteflies	16.0 – 24.0

Pests/Diseases Suppressed

Symptoms of:	Okra and Pepper
Tomato mottle virus	16.0 – 32.0
Tomato spotted wilt virus	Other Crops
Tomato yellow leaf curl virus	16.0 – 24.0

Notes and Restrictions

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

Maximum Widow allowed on pepper and okra crops per application: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Maximum Widow allowed on other fruiting crops per application: **24.0 fluid ounces/Acre** (0.38 lb AI/Acre)

Applications

Apply specified dosage of Widow 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 1½" 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. Widow must be incorporated into root-zone.

Planthouse Application Recommendations*

Pests Controlled	Rate fluid ounces/1000 plants
Aphids	
Whiteflies	0.1

Notes and Restrictions

Maximum amount of Widow applied in the planthouse: **0.1 fluid ounces** (0.00156 lb AI)/1000 plants.

Maximum number Widow 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 Widow from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash Widow 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.

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Fruiting Vegetables 1/ cont'd.:

Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Transplants should be handled carefully during setting to avoid dislodging treated potted media from roots.

Important Note: Not all varieties of fruiting vegetables have been tested for tolerance to Widow 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.

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

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

HEAD and STEM BRASSICA VEGETABLES 1/

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

LEAFY VEGETABLES 1/

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

Pests Controlled	Rate fluid ounces/Acre (on 36 inch rows)
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Aphids	
Whiteflies	10.0 – 24.0

Notes and Restrictions

Pre-Harvest Interval (PHI): 21 days

Maximum Widow allowed per application: 24.0 fluid ounces/Acre (0.38 lb AI/Acre)

Applications

Apply specified dosage of Widow 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 1½" 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. Widow must be incorporated into root-zone.

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

LEAFY PETIOLE VEGETABLES 1/

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

Pests Controlled	Rate Fluid ounces/Acre
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Aphids	
Leafhoppers	10.0 – 24.0
Whiteflies	

Notes and Restrictions

Pre-Harvest Interval (PHI): 45 days

Maximum Widow allowed per application: 24.0 fluid ounces/Acre (0.38 lb AI/Acre)

Applications

Apply specified dosage of Widow 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 1½" 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. Widow must be incorporated into root zone.

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

LEGUME VEGETABLES 1/pt soybean, dry

Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and 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, blackeye 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
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Aphids	
Leafhoppers	
Thrips (foliage feeding thrips, only)	16.0 – 24.0
Whiteflies	

Pests/Diseases Suppressed

Symptoms of:

Bean common mosaic virus (BCMV)	
Bean golden mosaic virus (BGMV)	16.0 – 24.0
Beet curly top hybrigeminivirus (BCTV)	

Notes and Restrictions

Pre-Harvest Interval (PHI): 21 days

Maximum Widow allowed per crop season: 24.0 fluid ounces/Acre (0.38 lb AI/Acre)

Applications

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

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

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

ROOT VEGETABLES 1/

Including: Beet (garden) 2/, Burdock (edible) 2/, Carrot 2/, Celeriac 2/, Chervil (turnip-rooted) 2/, Chicory 2/, Ginseng, Horseradish, Parsley (turnip-rooted), Parsnip 2/, Radish 2/, Oriental radish (daikon) 2/, Rutabaga 2/, Salsify (oyster plant), Salsify (black) 2/, Salsify (Spanish), Skirret and Turnip 2/.

Pests Controlled	Rate fluid ounces/1000 row-feet	Rate fluid ounces/Acre
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Aphids		
Flea beetles	0.7 – 1.7	10.0 – 24.0
Leafhoppers		
Whiteflies		

Notes and Restrictions

Pre-Harvest Interval (PHI): 21 days

Maximum Widow allowed per crop season: 24.0 fluid ounces/ Acre (0.38 lb AI/Acre)

Maximum Widow applications per crop season: 1

Application

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

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

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

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

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

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TUBEROUS and CORM VEGETABLES^{1/}

Including: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible, Queensland arrowroot), Cassava (bitter & sweet) ^{2/}, Chayote (root), Chufa, Dasheen (taro) ^{2/}, Ginger, Leren, Sweetpotato, Tanier (cocoyam) ^{2/}, Turmeric, Yam bean (jicama, manioc pea), Yam (true) ^{2/} (For recommended applications on potato see Field Crops section)

Pests Controlled	Rate fluid ounces/1000 row-feet	Rate fluid ounces/Acre
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Aphids		
Flea beetles	0.7 – 1.7	10.0 – 24.0
Leafhoppers		
Whiteflies		

Notes and Restrictions

Pre-Harvest Interval (PHI) from planting application: **3 days (leaves); 125 days (corms)**

Maximum Widow allowed per crop season: **24.0 fluid ounces/Acre** (0.38 lb AI/Acre)

Maximum Widow applications per crop season: **1**

Application

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

1. In-furrow spray (rate specified per 1000 row-feet) over planting material (hulis) or shanked-in 1 to 2 inches below hulis depth at planting;
2. Side-dress not more than 0.6 fluid ounces/1000 row-feet no later than 45 days after planting. Observe same PHI as above.

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

^{1/}Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

^{2/}Tops or greens from these crops may be utilized for food or feed.

STRAWBERRY^{1/}

Annual And Perennial Crops

Pests Controlled	Rate fluid ounces/Acre
Aphids	
Whiteflies	24.0 – 32.0

Notes and Restrictions

Pre-Harvest Interval (PHI): **14 days**

Maximum Widow allowed per crop season: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications

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

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening;
2. As a plant material or plant hole treatment just prior to, or during transplanting.

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

Post-harvest Use on Perennial Crops

Pests Controlled	Rate fluid ounces/Acre
White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle, Oriental beetle)	16.0 – 24.0

Notes and Restrictions

Pre-Harvest Interval (PHI): **14 days**

Maximum Widow allowed per season: **24.0 fluid ounces/Acre** (0.38 lb AI/Acre)

Applications

Apply a single application **post harvest to coincide with renovation of strawberry fields** and during active egg-laying period of beetles. Apply specified dosage of Widow in one of the following methods:

1. As a ground spray via boom or backpack sprayer in a minimum of 20 gallons of water per acre.
2. As a row-band spray using an adjusted amount of product based on the treated row band area in proportion to the amount required per full acre. The bandwidth should be equivalent to the width of the anticipated fruiting bed;
3. As a chemigation application with 600 to 1000 gallons of water followed by 0.10 to 0.25 inches irrigation.

Important Note: All soil-surface applications must be followed by 0.25 inches of rainfall or overhead irrigation water per acre within 2 hours of application. Failure to adequately incorporate Widow into egg-deposition zone may result in decreased activity of beetle grubs.

^{1/}Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

^{2/}Do not use both application methods on the same crop in the same season.

SUGAR BEET ^{1/}

(for use only in CA)

Pests Controlled	Rate fluid ounces/Acre
Aphids	
Leafhoppers	6.0 – 12.0
Whiteflies	
Flea beetles	

Pests/Diseases Suppressed

Symptoms of:

Western yellows/Beet curly top hybrigeminivirus (BCTV) 6.0 – 12.0

Notes and Restrictions

Maximum Widow allowed per crop season: **12.0 fluid ounces/Acre** (0.18 lb AI/Acre)

Maximum imidacloprid allowed per season: **0.18 lb AI/Acre** (from any formulation) on any row spacing

Applications

Apply specified dosage of Widow 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 the other pests listed.

^{1/}Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

Widow Insecticide Conversion Chart for Linear Application

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

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

TREE, BUSH and VINE CROPS

Recommended Applications – Widow Insecticide

BUSHBERRY

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 Oriental beetle)	16.0 – 32.0

Notes and Restrictions

Pre-Harvest Interval (PHI): **7 days**

Maximum Widow allowed per season: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications

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

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. 18-inch band on each side of the row followed with 0.25 inches of irrigation immediately after application.

For optimal grub control, apply Widow 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 3 applications from June 1 to July 15. Do not apply during bloom.

Application to grass covered rows, row middles, disk 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 Widow to moist soil. If necessary, apply one hour of irrigation water immediately before application of Widow. To ensure maximum efficacy, ½ to 1 inch of irrigation water or rainfall should be applied or received within 24 hours of application of Widow to facilitate movement into the soil and into the root-zone.

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CITRUS (Containerized)

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

Pests Controlled	Rate mL/ft ³ container media
Aphids	
Asian citrus psyllid	
Black fly	
Citrus leafminer	0.75
Leafhoppers/Sharpshooters	
Mealybugs	
Scales	
Whiteflies	
Citrus root weevil (larval complex)	1.25 – 2.50
Pests/Diseases Suppressed	
Citrus thrips	2.50

Application

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

CITRUS (Field)

Including: Calamondin, Citrus, Citron, Citrus hybrids (includes chironja, tangelo, and tanger), 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	
Black fly	
Citrus leafminer	16.0 – 32.0
Leafhoppers/Sharpshooters	
Mealybugs	
Scales	
Termites (FL only)	
Whiteflies	
Pests/Diseases Suppressed	
Symptoms of:	
Citrus tristeza virus CTV through vector control	
Citrus yellows	32.0
Thrips (foliage feeding thrips only)	
Notes and Restrictions	
Pre-Harvest Interval (PHI): 0 day	

Maximum Widow allowed per season: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications

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

- Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to newly planted trees or those previously trained to drip, trickle or micro-sprinkler irrigation. Soil should be lightly pre-wetted to break soil surface tension prior to applications of Widow. Chemigation application can be made separate to normal irrigation but followed by 10 to 20 minutes of additional watering to move Widow into root-zone. Allow 24 hours before initiating subsequent irrigations;
- 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;
- 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;
- 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.

CRANBERRY

Pests Controlled	Rate fluid ounces/Acre
Rootgrubs (Scarabaeidae)	
Rootworms (Chrysomelidae)	16.0 – 32.0
Notes and Restrictions	
Pre-Harvest Interval (PHI): 30 days	

Maximum Widow allowed per season: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Do not apply during bloom.

Cranberry cont'd.

Applications

Apply Widow to moist soil. Apply specified dosage of Widow in one of the following methods:

- As a soil spray (ground application) directed to the root and crown area using a minimum of 20 gal of water per acre;
- As a chemigation application with 600 to 1000 gal water.

Immediately upon application, Widow must be incorporated into root-zone by 0.1 - 0.3 inches water/Acre, either with the chemigation application or through irrigation/rainfall if not applied through chemigation. Inadequate incorporation within 24 hours of application may result in reduced control.

Rootgrubs and Rootworms

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

Widow 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 Widow and the desired fungicide or insecticide partner at labeled rates and apply to a small area. Evaluate crop response within 48 hours and for at least two weeks prior to utilizing the tank mix on larger acreage. If crop injury results from the premix test, do not apply the tank mix to larger acreage.

GRAPE

Including: American bunch grape, Muscadine grape and Vinifera grape

Pests Controlled	Rate fluid ounces/Acre
Mealybugs	
Leafhoppers/Sharpshooters	16.0 – 32.0
<i>Phylloxera</i> spp	
Pests/Diseases Suppressed	
Pierce's disease	24.0 – 32.0

Notes and Restrictions

Pre-Harvest Interval (PHI): 30 days

Maximum Widow allowed per season: **32.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications

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

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

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

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

HOP/

Pests Controlled	Rate fluid ounces/Acre
Aphids	19.2
Notes and Restrictions	
Pre-Harvest Interval (PHI): 60 days	

Maximum Widow allowed per season: **19.2 fluid ounces/Acre** (0.3 lb AI/Acre)

Applications

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

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

¹/Use not permitted in California unless otherwise directed by supplemental labeling.

PECAN

Pests Controlled	Rate fluid ounces/Acre
Aphids	
Twolined spittlebug	16.0 – 32.0
Pests/Diseases Suppressed	
Pecan scab (from reduction in honeydew deposits)	16.0 – 32.0
Notes and Restrictions	
Maximum Widow allowed per season: 32.0 fluid ounces/Acre (0.50 lb AI/Acre)	

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

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

Applications

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

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

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Pecan cont'd.:

2. Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site;
3. Subsurface side-dress shanked into the root-zone near emitter line. Treat distance, wetted by the emitter set of each tree.

POME FRUIT 1/

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

Pests Controlled	Rate fluid ounces/Acre
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Aphids (including woolly apple aphid)	
Leafhoppers	16.0 - 24.0

Notes and Restrictions

Pre-Harvest Interval (PHI): 21 days

Maximum Widow allowed per season: 24.0 fluid ounces/Acre (0.38 lb AI/Acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications

Apply specified dosage of Widow in the following method:

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

1/Use not permitted in California unless otherwise directed by supplemental labeling.

STONE FRUIT 1/

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
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Aphids (including woolly apple aphid)	
Leafhoppers	16.0 - 24.0

Notes and Restrictions

Pre-Harvest Interval (PHI): 21 days

Maximum Widow allowed per season: 24.0 fluid ounces/Acre (0.38 lb AI/Acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications

Apply specified dosage of Widow in the following method:

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

1/Use not permitted in California unless otherwise directed by supplemental labeling.

Pre-plant, Root Dip Application

Pests Controlled	Rate fluid ounces/10 gallons root-dip solution
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Black peach aphid (infesting roots) 2.0
Mix Widow 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 Widow solution for up to 5 minutes. Allow solution to dry on roots and transplant trees as soon as possible following treatment.

TROPICAL FRUIT 1/

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

Pests Controlled	Rate fluid ounces/Acre
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Aphids	
Leafhoppers	24.0 - 32.0
Whiteflies	

Pests/Diseases Suppressed

Scales	32.0
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Notes and Restrictions

Pre-Harvest Interval (PHI): 6 days

Maximum Widow allowed per application: 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 of Widow in the following method:

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

1/Use not permitted in California unless otherwise directed by supplemental labeling.

POPLAR/COTTONWOOD 1/

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

Pests Controlled	Rate fluid ounces/Acre
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Aphids	
Cottonwood leaf beetle	16.0 - 32.0

Pests/Diseases Suppressed

<i>Phylloxera popularia</i>	16.0 - 32.0
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Notes and Restrictions

Maximum Widow allowed at-plant per crop season: 32.0 fluid ounces/Acre (0.50 lb AI/Acre)

Poplar/Cottonwood 1/ cont.

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

Applications

Apply specified dosage of Widow in the following method:

1. Chemigation through low-pressure drip irrigation.

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

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

1/Use not permitted in California unless otherwise directed by supplemental labeling.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away.

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

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

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

For packages up to 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

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

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

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

Italicized text indicates package size.

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

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Leverage is a Restricted Use Pesticide.

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