STATE OF HAWAII
Department of Agriculture
ACCEPTED
LICENSE NO.
8378.120

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Loveland PRODUCTS

GROUP 4 A INSECTICIDE

Wrangler®

INSECTICIDE

ACTIVE INGREDIENT:
Imidacloprid: 1-[(6-Chloro-3-pyridinyl)methyl]-*N*-nitro-2-imidazolidinimine 40.7%
OTHER INGREDIENTS 59.3%
TOTAL 100.0%

Contains 4.0 pounds of imidacloprid per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SHAKE WELL BEFORE USING

EPA REG. NO. 34704-931
EPA EST. NO. 34704-MS-002
NET CONTENTS 1.0 GAL (3.78 L)

061014 V1D 06B14

FORMULATED FOR
LOVELAND PRODUCTS, INC.®, P.O. BOX 1286, GREELEY, COLORADO 80632-1286

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 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.
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.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Some materials that are chemical resistant to this product are listed below. More options can be obtained by following the instructions for Category C on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:
- Long sleeved shirt and long pants,

- Chemical resistant gloves made of any waterproof material such as, nitrile rubber, butyl rubber, neoprene rubber, barrier laminate, 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENT

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove Personal Protective Equipment 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/plants or weeds if bees are foraging. 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 ground water contamination.

PROTECTION OF POLLINATORS

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

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

This product can kill bees and other insect pollinators.
Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

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

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

When Using This Product Take Steps To:

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

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

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

DIRECTIONS FOR USE

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

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

FOR CROPS UNDER CONTRACTED POLLINATION SERVICES

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

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

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

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

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

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and 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 following application.
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, nitrile rubber, butyl rubber, neoprene rubber, natural rubber, barrier laminate, polyethylene, polyvinyl chloride (PVC) or viton, and
- Shoes plus socks.

TAKE 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.

Mixing and Loading

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 areas and potential surface to groundwater conduits such as field sumps, uncased well head, 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.

Release spray at the lowest possible height consistent with good pest control and flight safety. Do not make applications more than 10 feet above the crop canopy.

Importance of Droplet Size
An important factor influencing drift is droplet size. Small droplets (<150 to 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, make applications to deliver the largest droplet spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray boom pressure.

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

Restrictions During Temperature Inversions
Do not make aerial or ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by 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.

No-Spray Zone Requirements for Soil and Foliar Applications
Do not apply by ground within 25 feet, or by air within 150 feet of lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries and commercial fish farm ponds.

Airblast (Air Assist) Specific Applications for Tree Crops and Vineyards
Airblast sprayers carry droplets into the canopy of trees/vineyards via a radially, or laterally directed air stream. The following specific drift management practices should be followed:
• 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 application to the outside rows.

Runoff Management
Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip.

When used on erodible soils, use 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 this product should conform to resistance management strategies established for the use area.

Wrangler Insecticide contains a Group 4A insecticide called imidacloprid. Insect biotypes with acquired or inherent tolerance to Group 4A products may eventually dominate the insect population if Group 4A products are used repeatedly as the predominant method of control for targeted species. This may eventually result in partial or total loss of control of those species by Wrangler Insecticide and to other Group 4A products.

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

If a soil application of Wrangler Insecticide has not been made during a crop season and foliar applications are to be made, avoid using a block of more than three consecutive applications of Wrangler Insecticide and/or other Group 4A products having the same or similar mode of action. Following a neonicotinoid block of treatments, Loveland Products, Inc. strongly encourages the rotation to a block of applications with effective products from a different mode of action before using additional applications of neonicotinoid products. Using a block of rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect pest's ability to develop resistance to this class of chemistry.

Do not make foliar applications of Wrangler Insecticide or other Group 4A products on crops previously treated with a long-residual, soil-applied product from the neonicotinoid chemical class.

Other Group 4A neonicotinoid products used as foliar treatments include: Actara®, Assail®, Calypso®, Centric®, Intruder®, Leverage® and Provado®. Other 4A Group neonicotinoid products used as soil treatment include: Admire® and 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://irac-online.org/.

APPLICATION DIRECTIONS

For soil applications of Wrangler Insecticide, direct product into the seed or root zone of crop. Failure to place Wrangler Insecticide into root zone may result in loss of control or delay in onset of activity. Wrangler Insecticide may be applied with ground or chemigation application equipment.

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

Apply foliar applications of Wrangler Insecticide as directed or a broadcast foliar spray. Thorough coverage of foliage is necessary without runoff for optimum insecticidal efficacy. Use adequate spray volumes, properly calibrated application equipment, and spray adjuvant if necessary to obtain thorough coverage. Failure to provide adequate coverage and retention of Wrangler Insecticide on leaves and fruit may result in loss of insect control or delay in onset of activity. Apply Wrangler Insecticide with properly calibrated ground or aerial application equipment. Minimum spray volumes, unless otherwise specified on crop-specific application sections, are 10.0 gallons per acre by ground and 5.0 gallons per acre by air. Wrangler Insecticide may also be applied by overhead chemigation (see additional information in **CHEMIGATION** section of this label below), if allowed in crop-specific application section.

When applied as a soil application, optimum activity of Wrangler Insecticide results from applications to the root zone of plants to be protected. The earlier Wrangler Insecticide is available to the developing plant, the earlier the protection begins. Wrangler Insecticide is continuously taken into the roots over a long period of time, and the systemic nature of Wrangler Insecticide allows movement from roots through the xylem tissue to all vegetative parts of the plant. This results in extended residual activity of Wrangler Insecticide, the control of insects, and the prevention and/or reduction of virus transmission or symptom expression, and plant health benefits. The rate of Wrangler Insecticide applied affects the length of the plant protection period. Use higher listed rates when infestations occur later in crop development or where pest pressure is continuous. Wrangler Insecticide will generally not control insects infesting flowers, blooms, or fruit. Additional crop protection may be required for

insects feeding in or on these plant parts, and for insects not listed in crop-specific, pest-controlled sections of this label. Additionally, specific Wrangler Insecticide application instructions are also provided in the crop-specific sections of this label.

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

Generally, Wrangler Insecticide is not used on crops grown for production of true seed intended for private or commercial planting but may be allowed under state-specific, 24(c) labeling. Additional information on Wrangler Insecticide uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCA's, consultants, or local Loveland Products, Inc. representatives.

Apply only to plants grown in field-type soils, potting media, or mixtures thereof. Do not apply to plants grown in nonsoil such as perlite, vermiculite, rock wool, or other soilless media, or plants growing hydroponically.

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

Regardless of formulation or method of application, apply no more than 0.5 pound active ingredient imidacloprid per acre per year, including seed treatment, soil, and foliar uses, unless specified within a crop-specific application section for a given crop.

MIXING INSTRUCTIONS

Minimum spray volumes are 10.0 gallons per acre by ground application and 5.0 gallons per acre through aerial equipment. To prepare the application mixture, add half of the required amount of water to the spray tank and with agitation add Wrangler Insecticide. Complete filling tank with balance of water needed. Maintain sufficient agitation during both mixing and application. Wrangler Insecticide may also be used with other pesticides and/or fertilizer solutions. Please see Compatibility Note below. When tank mixtures of Wrangler Insecticide 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 first, Wrangler Insecticide or other flowables 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 tank mixture before adding Wrangler Insecticide to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order, to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Do not use if poor mixing or formation of precipitates that do not readily re-disperse. This indicates an incompatible mixture. For further information, contact your local Loveland Products, Inc. representative.

Chemigation
Types of Irrigation Systems: Foliar chemigation applications of Wrangler Insecticide may be made to crops through overhead sprinkler systems if specified in crop-specific application sections. Soil chemigation application of Wrangler Insecticide may only be made to crops through chemigation as specified in crop-specified application sections and only through low-pressure systems specifically for a given crop. Do not apply Wrangler Insecticide through any other type of irrigation system.
Make foliar chemigation applications of Wrangler Insecticide as concentrated as possible. Retention of Wrangler Insecticide on target site of insect infestation is necessary for optimum activity. Do not use chemigation of Wrangler Insecticide in water volumes exceeding 0.10 inch per acre.
See crop-specific application sections of the label for more information.

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

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

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

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

Using Water from Public Water Systems: Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, back flow preventer (RPZ), or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

ROTATIONAL CROPS*

Treated areas may be replanted with any crop specified on 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 must be observed.

IMMEDIATE PLANT-BACK:

All crops on this label plus the following crops not on this label: Barley, Canola, Corn (field, sweet and pop), Mustard seed, Rapeseed, Sorghum, Sunflower, Watercress, Wheat and all crops from the following Crop Groups as recognized and defined by EPA.

ROOT VEGETABLES - Crops of Crop Group 1
BULB VEGETABLES - Crops of Crop Group 3-07
LEAFY GREEN VEGETABLES - Crops of Crop Group 4
HEAD and STEM BRASSICA VEGETABLES - Crops of Crop Group 5
LEGUME VEGETABLES - Crops of Crop Group 6 including: Edible Podded plus Dried plus Succulent Shelled, Peas and Beans
FRUITING VEGETABLES - Crops of Crop Group 8
CUCURBIT VEGETABLES - Crops of Crop Group 9
CITRUS - Crops of Crop Group 10
POME FRUIT - Crops of Crop Group 11
STONE FRUIT - Crops of Crop Group 12
BUSHBERRY and CANEBERRY - Crops of Crop Group 13-07
HERBS - Crops of Crop Group 19A

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

30-DAY PLANT-BACK:
Cereals (including buckwheat, millet, oats, rice, rye, and triticale), soybeans and safflower

10-MONTH PLANT-BACK:
Onion and bulb vegetables

12-MONTH PLANT-BACK:
All Other Crops

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

APPLICATION INFORMATION — WRANGLER INSECTICIDE

Apply Wrangler Insecticide with properly calibrated ground or aerial application equipment. Apply specified rate per acre as a directed or broadcast spray to infested area at earliest threshold for target pest, as population begins to develop. Thorough uniform coverage of all plant parts is required to achieve optimum control. Scout fields and retreat if needed.

The lower rates can be used early season when pest pressures are low or when tank-mixing with other effective products registered for target insect control. Degree of control or suppression of additional labeled pests will be determined, in part, by the stage of pest development at application and infestation level of those pests. Wrangler Insecticide provides optimal performance against early instar and early nymphal stages of insects as well as bollworm/budworm eggs. Applications made with less than 5.0 gallons per acre may result in slower activity and/or less overall control from a single application than an application made with higher gallonages. Use an organosilicone-based spray adjuvant for applications targeting aphids and whiteflies.

Regardless of formulation or method of application, apply no more than 0.5 pound active ingredient imidacloprid per acre per year, including seed treatment, soil, and foliar uses, unless specified within a crop-specific application section for a given crop.

GLOBE ARTICHOKE* - soil treatment

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 16.0
Leafhoppers	

Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Maximum Wrangler Insecticide amount allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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 at planting directed on or below seed.

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

GLOBE ARTICHOKE – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	1.6 to 4.0
Leafhoppers	

Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **14 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre)

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700® to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

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

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 12.0
Flea beetles	
Leafhoppers	
Whiteflies	
Pests/Diseases Suppressed	
Thrips (foliage-feeding thrips only)	8.0 to 12.0

Restrictions:
Pre-Harvest Interval (PHI): **14 days**
Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

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

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

HERBS – foliar treatment
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, 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

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Herbs – foliar treatment cont'd.:

Pests Controlled	Rate Fl Oz/A
Aphids	1.4
Flea beetles	
Leafhoppers	
Whiteflies	

Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **5 days**
Maximum Wrangler Insecticide allowed per season when making foliar applications: **4.2 fluid ounces per acre** (0.13 pound active ingredient per acre)

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.
Apply Wrangler Insecticide through properly calibrated ground and aerial application equipment. Thorough coverage with direct contact of the spray material to the target pests is required for optimal control. The addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's specified use rate may improve coverage and control.
Note: Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, treat only a small area or small number of plants of each listed above and evaluate prior to commercial use.

FIELD CROPS
Application Instructions – Wrangler Insecticide

COTTON - Soil Treatment

Pests Controlled	Rate Fl Oz/1000 Row-Ft	Rate Fl Oz/A
Cotton aphid	0.65	8.5 to 10.5
Plant bugs		(Depending on row-spacing)
Thrips		
Whiteflies		

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Cotton - Soil Treatment cont'd.:

Restrictions

Maximum Wrangler Insecticide allowed per year when making soil applications: **10.5 fluid ounces per acre** (0.33 pound active ingredient per acre)

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

Instructions

Apply specified dosage of Wrangler 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.

COTTON - Foliar Treatment

Pests Controlled	Rate Fl Oz/A
Bandedwinged whitefly	1.0 to 2.0
Bollworm/Budworm (ovicidal effect)	
Cotton aphid	
Cotton fleahopper	
Green stink bug	
Plant bugs (excludes *Lygus hesperus*)	
Southern green stink bug	
Pests Suppressed	
Lygus bug (*Lygus hesperus*)	1.5 to 2.0
Whiteflies (other than bandedwinged whitefly)	

Restrictions

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

Minimum interval between applications: **7 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **10.0 fluid ounces per acre** (0.31 pound active ingredient per acre)

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Cotton - Foliar Treatment cont'd.:

Regardless of formulation or method of application, apply no more than 0.5 pound active ingredient per acre per year, including seed treatment, soil and foliar uses.
Apply Wrangler Insecticide through properly calibrated ground, aerial, or chemical application equipment.
Maximum number of Wrangler Insecticide applications per year: **5**
Do not graze treated fields after any application of Wrangler Insecticide.

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested areas as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

TANK MIX INFORMATION

Pests Controlled (In addition to pests listed above)	Wrangler Insecticide Rate Fl Oz/A	Bidrin® 8* Rate Fl Oz/A
For early season control of:		
Thrips	1.0 to 1.5	1.6 to 3.2
For mid to late season control of:		
Cotton leafperforator	1.0 to 1.5	4.0 to 8.0
Grasshoppers		
Plant bugs		
Saltmarsh caterpillar		
Stink bugs (including Brown stink bug)		

Restrictions (in addition to Restrictions listed above)

*Refer to the Bidrin 8 product label; follow the most restrictive precautions and limitations on the labeling of all products used in mixtures.

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PEANUT*- soil treatment

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 12.0
Leafhoppers	
Whiteflies	
Pest Suppressed	
Thrips	8.0 to 12.0

Restrictions:
Pre-Harvest Interval (PHI): **14 days**
Maximum Wrangler Insecticide allowed per year: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

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.

Notes
Increases in Tomato spotted wilt virus (TSWV) incidence have been observed with applications of Wrangler Insecticide 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 Wrangler Insecticide to Peanuts, Loveland Products, Inc. recommends consultation with the State, Cooperative Extension Service, or Loveland Products, Inc. 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 Wrangler Insecticide.

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

POTATO - soil treatment

Pests Controlled	Rate Fl Oz/1000 Row-Ft	Rate Fl Oz/A
Aphids	0.45 to 0.65	6.5 to 10.0
Colorado potato beetle		
Flea beetles		
Leafhoppers		
Potato psyllid		
Pests/Diseases Suppressed		
Symptoms of:		
Net necrosis (PLRV)	0.45 to 0.65	6.5 to 10.0
Potato leaf roll virus (PLRV)		
Potato yellows		
Wireworms (with in-furrow spray at-planting)		

Restrictions

Maximum Wrangler Insecticide allowed per year when making soil applications: **10.0 fluid ounces per acre** (0.31 pound active ingredient per acre)

Instructions

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

1. In-furrow spray during planting directed on seed pieces or seed potatoes;
2. Subsurface side-dress on both sides 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, Wrangler Insecticide applications must be placed below soil-surface and in contact with seed piece or within root-zone. For potatoes grown on highly permeable soils with shallow water table, at-plant applications of Wrangler Insecticide may be made in a 2 to 4 inch band (width of planter shoe opening) and completely covered.

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POTATO
(Seed Piece Treatment)

Pests Controlled	Rate Fl Oz/100 Lb Seed	Rate Fl Oz/A**
Aphids	0.2 to 0.4	4.0 to 8.0
Colorado potato beetle		
Flea beetles		
Leafhoppers		
Potato psyllid		
Wireworms (seed-piece protection)		
Pests/Diseases Suppressed		
Symptoms of:		
Net necrosis (PLRV)	0.4	8.0
Potato leaf roll virus (PLRV)		
Potato yellows		

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

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

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

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

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POTATO - foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	1.52
Colorado potato beetle	
Flea beetles	
Leafhoppers	
Psyllids	

Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **7 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **6.4 fluid ounces per acre** (0.2 pound active ingredient per acre)

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

TOBACCO - soil treatment

Pests Controlled	Rate Fl Oz/1000 Plants (as seedling tray drench)	Rate Fl Oz/1000 Plants (in-furrow or transplant-water)
Aphids	0.5	0.7
Flea beetles		
Mole crickets	0.7 to 1.4	0.9 to 1.4
Whiteflies		
Wireworms		
Pests/Diseases Suppressed		
Cutworms	0.7 to 1.4	0.9 to 1.4
Symptoms of:		
Tomato spotted wilt virus (TSWV)		

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Tobacco - soil treatment cont'd.:

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications or foliar sprays to seedlings: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions

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

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

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

TOBACCO – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	0.8 to 1.6
Flea beetles	1.6
Japanese beetles	

Restrictions

Pre-Harvest Interval (PHI): **14 day**s

Minimum interval between applications: **7 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **8.9 fluid ounces per acre** (0.28 pound active ingredient per acre)

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

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VEGETABLE and SMALL FRUIT CROPS
Application Directions – Wrangler Insecticide

Restrictions
Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

BRASSICA (COLE) LEAFY VEGETABLES - soil treatment
Including: Broccoli, Broccoli raab (*rapini*), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (*gai lon*) broccoli, Chinese (*bok choy*) cabbage, Chinese (*napa*) cabbage, Chinese mustard (*gai choy*) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip tops (leaves)
AND
LEAFY VEGETABLES - soil treatment
Including: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Cilantro, Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Raddicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian Spinach)), Watercress (commercial production only, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate Fl Oz/A (on 36 inch rows)
Aphids	5.0 to 12.0
Leafhoppers	
Thrips (foliage feeding thrips only)	
Whiteflies	

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

Instructions
Apply specified dosage of Wrangler Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;

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Brasicca (Cole) Leafy Vegetables - soil treatment and Leafy Vegetables - soil treatment cont'd.:

3. Narrow (2 inches or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5 inches 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. Wrangler Insecticide must be incorporated into root-zone.
7. Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

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

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

Pests Controlled	Rate Fl Oz/A
Aphids	1.5
Flea beetles	
Leafhoppers	
Whiteflies	

Restrictions

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

Minimum interval between applications: **5 days**

Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **7.68 fluid ounces per acre** (0.24 pound active ingredient per acre)

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

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

LEAFY VEGETABLES[1] – foliar treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids	1.5
Flea beetles	
Leafhoppers	
Whiteflies	

Restrictions

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

Minimum interval between applications: **5 days**

Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **7.6 fluid ounces per acre** (0.24 pound active ingredient per acre)

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

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

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

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

Pests Controlled	Rate Fl Oz/A
Aphids	5.0 to 12.0
Leafhoppers	
Thrips (foliage feeding thrips only)	
Whiteflies	

Restrictions
Pre-Harvest Interval (PHI): **45 days**
Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

Instructions
Apply specified dosage of Wrangler Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2 inches or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5 inches 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. Wrangler Insecticide must be incorporated into root zone.
7. Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

BULB VEGETABLES (*Allium* sp.)[1] - soil treatment
Including: Chinese chive (fresh leaves), Chive (fresh leaves), Daylily (bulb), Elegans hosta, Fritillaria (bulb and leaves), Garlic (common group, great-headed group, serpent group), Kurrat group, Leek group (including common, lady's and wild), Lily (bulb), Onion (bulb and green leaves including: common group, Beltsville bunching, Chinese bulb, fresh, green, macrostem, Pearl group, potato onion group, tree onion-tops, Welsh-tops), Shallot, plus cultivars, varieties, and/or hybrids of these.

Pests Controlled	Rate Fl Oz/A
Thrips (foliage feeding thrips only)	16.0

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Bulb Vegetables (Allium sp.)[1] - soil treatment cont'd.:

Restrictions:

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

Maximum Wrangler Insecticide allowed per crop season: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre)

Applications made to higher organic matter soils may result in reduced or shortened activity on pest.

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

Instructions

Apply specified dosage in one of the following methods:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
4. Post-seeding drench, transplant-water drench, or hill drench.

CUCURBIT VEGETABLES - soil treatment

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

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

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 12.0
Cucumber beetles	
Leafhoppers	
Thrips (foliage-feeding thrips only)	
Whiteflies	
Pests/Diseases Suppressed	
Bacterial wilt (as vectored by various cucumber beetles)	8.0 to 12.0
Leaf silvering resulting from whitefly feeding	

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Cucurbit Vegetables - soil treatment cont'd.:

Restrictions

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

Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

Instructions

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

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2 inches or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5 inches 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. Wrangler Insecticide must be incorporated into root-zone.

Planthouse Application Instructions*

Pests Controlled	Rate Fl Oz/1000 Plants
Aphids Whiteflies	0.05

Restrictions

Maximum amount of Wrangler Insecticide applied in the planthouse: **0.05 fluid ounce** (0.00156 pound active ingredient) per **1000 plants.**

Maximum number Wrangler Insecticide applications in planthouse: **1**

Instructions:

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

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

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Cucurbit Vegetables - soil treatment
Planthouse Application Instructions* cont'd.:

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

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

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

FRUITING VEGETABLES[1] - soil treatment
Including: Eggplant, Ground cherry, Okra, Pepinos, Pepper (including bell, chili, cooking, pimento and sweet) Tomato, and Tomatillo
Field application instructions. See details below for additional planthouse instructions.

Pests Controlled	Rate Fl Oz/A
Aphids	Okra and Pepper
Colorado potato beetle	8.0 to 16.0
Flea beetles	
Leafhoppers	
Thrips (foliage-feeding thrips, only)	Other Crops
Whiteflies	8.0 to 12.0
Pests/Diseases Suppressed	
Symptoms of:	Okra and Pepper
Tomato mottle virus	8.0 to 16.0
Tomato spotted wilt virus	Other Crops
Tomato yellow leaf curl virus	8.0 to 12.0

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Wrangler Insecticide allowed on pepper and okra crops per crop season when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)
Maximum Wrangler Insecticide allowed on other fruiting crops per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

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Fruiting Vegtables[1] - soil treatment cont'd.:

Instructions

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

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. In-furrow spray directed on or below seed;
3. Narrow (2 inches or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5 inches 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. Wrangler Insecticide must be incorporated into root-zone.

Planthouse Application Instructions[2]

Pests Controlled	Rate Fl Oz/1000 Plants
Aphids	0.05
Whiteflies	

Restrictions

Maximum amount of Wrangler Insecticide applied in the planthouse: **0.05 fluid ounce** (0.00156 pound active ingredient) per **1000 plants.**
Maximum number Wrangler Insecticide applications in planthouse: **1**

Instructions

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

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

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

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Planthouse Application Instructions [2] cont'd.:

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

Not all varieties of fruiting vegetables have been tested for tolerance to Wrangler Insecticide applied to seedling flats. Therefore 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 24(c) labeling.
[2]Use not permitted in CA unless otherwise directed by state-specific 24(c) labeling.

FRUITING VEGETABLES[1] – foliar treatment
Including: Eggplant, Ground cherry, Okra, Pepinos, Pepper (including bell, chili, cooking, pimento, and sweet), Tomato, and Tomatillo

Pests Controlled	Rate Fl Oz/A
Aphids	1.5 to 2.4
Colorado potato beetle	
Leafhoppers	
Whiteflies	
Pepper weevil	2.4

Restrictions
Pre-Harvest Interval (PHI): **0 day**
Minimum interval between applications: **5 days**
Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **7.6 fluid ounces per acre** (0.24 pound active ingredient per acre)
[1]Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.
For pepper weevil, apply specific dosage of Wrangler Insecticide by ground equipment only, timing applications prior to a damaging population

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Fruiting Vegetables[1] – foliar treatment cont'd.:

becoming established. Good coverage of foliage and fruit is necessary for optimum control. Applications of Wrangler Insecticide must be incorporated into a full-season program where alternations of effective products from multiple classes of chemistry and different modes of action are-utilized in a blocked or windowed approach.
For additional information, please contact your Loveland Products, Inc. representative, Extension Specialist, or crop advisor.
When targeting adult whiteflies, use higher listed rates.

GREENHOUSE VEGETABLES* - soil treatment
(Mature plants in production greenhouses)
Cucumber, Tomato, only

Pests Controlled	Rate Fl Oz/1000 Plants
Aphids	0.7
Whiteflies	

Restrictions
Pre-Harvest Interval (PHI): **0 days**
Maximum number of Wrangler Insecticide applications per crop season when making soil applications: **1**

Instructions
Apply specified dosage in a minimum of 16.0 gallons of water for tomatoes and 21.0 gallons of water for cucumbers using soil drenches, micro-irrigation, drip irrigation, or hand-held or motorized calibrated irrigation equipment. Make applications only to plants grown in field-type soils, potting media, or mixtures thereof. Do not apply to plants grown in nonsoil 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.
Apply when infestation pressure surpasses threshold and beneficials are not able to maintain pest populations below damage thresholds. Repellency of bumble bee pollinators and negative effects on some beneficials (*Orius* spp.) can occur when Wrangler Insecticide is applied.
Many varieties of vegetables have been tested for tolerance to Wrangler Insecticide and show good safety. However, certain varieties may show more sensitivity to Wrangler Insecticide. Therefore, treat a few plants before treating the whole greenhouse.

*Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

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LEGUME VEGETABLES except soybean, dry - soil treatment
Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean
Bean (*Lupinus* spp., includes grain lupin, sweet lupin, white lupin, and white sweet lupin)
Bean (*Phaseolus* spp., includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean)
Bean (*Vigna* spp., includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, yardlong bean)
Pea (*Pisum* spp., includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea)
Other Beans and Peas (Broad bean (fava), Chickpea (garbanzo bean), Guar, Jackbean, Lablab bean (hyacinth bean), Lentil, Pigeon pea, Soybean (immature seed), Sword bean)

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 12.0
Leafhoppers	
Thrips (foliage feeding thrips, only)	
Whiteflies	
Pests/Diseases Suppressed	
Symptoms of:	8.0 to 12.0
Bean common mosaic virus (BCMV)	
Bean golden mosaic virus (BGMV)	
Beet curly top hybrigeminivirus (BCTV)	

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

Instructions
Apply specified dosage of Wrangler Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.
2. In-furrow spray at planting directed on or below seed;
3. In a narrow (2 inches or less) surface band over seed-line during planting incorporated to a depth of 1 to 1.5 inches 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.
6. Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

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LEGUME VEGETABLES[1] except soybean, dry - foliar treatment
Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean
Bean (*Lupinus* spp., includes grain lupin, sweet lupin, white lupin, and white sweet lupin)
Bean (*Phaseolus* spp., includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean)
Bean (*Vigna* spp., includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, yardlong bean)
Pea (*Pisum* spp., includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea)
Other Beans and Peas [Broad bean (fava), Chickpea (garbanzo bean), Guar, Jackbean, Lablab bean (hyacinth bean), Lentil, Pigeon pea, Soybean (immature seed), Sword bean]

Pests Controlled	Rate Fl Oz/A
Aphids	1.4
Leafhoppers	
Whiteflies	

Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **7 days**
Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **4.2 fluid ounces per acre** (0.13 pound active ingredient per acre)
[1]Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

ROOT VEGETABLES* - soil treatment

Including: Beet (garden)[1], Burdock (edible)[1], Carrot[1], Celeriac[1], Chervil (turnip-rooted)[1], Chicory[1], Ginseng, Horseradish, Kava[1,2], Parsley (turnip-rooted), Parsnip[1], Radish[1], Oriental radish (daikon)[1], Rutabaga[1], Salsify (oyster plant), Salsify (black)[1], Salsify (Spanish), Skirret and Turnip[1]

Pests Controlled	Rate Fl Oz/1000 Row-Ft	Rate Fl Oz/A
Aphids	0.35 to 0.85	5.0 to 12.0
Flea beetles		
Leafhoppers		
Thrips (foliage-feeding thrips only)		
Whiteflies		

Restrictions

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

Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

Maximum Wrangler Insecticide applications per crop season: **1**

Instructions

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

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

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

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

[2]Use not permitted in California unless otherwise directed by state-specific 24(c) labeling

*Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

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ROOT VEGETABLES[1] - foliar treatment

Including: Beet (garden)[2], Burdock (edible)[2], Carrot[2], Celeriac[2], Chervil (turnip-rooted)[2], Chicory[2], Ginseng, Horseradish, Kava[2,3], Parsley (turnip-rooted), Parsnip[2], Radish[2], Oriental radish (daikon)[2], Rutabaga[2], Salsify (oyster plant), Salsify (black)[2], Salsify (Spanish), Skirret, Turnip[2]

Pests Controlled	Rate Fl Oz/A
Aphids	1.4
Flea beetles	
Leafhoppers	
Whiteflies	

Restrictions

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

Minimum interval between applications: **5 days**

Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **1.4 fluid ounces per acre** (0.044 pound active ingredient per acre) on Radish, **4.2 fluid ounces per acre** (0.13 pound active ingredient per acre) on other crops.

Maximum Wrangler Insecticide application(s) per crop season: **1 on radish, 3 on all other crops**.

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

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

[3]Use not permitted in California unless otherwise directed by state-specific 24(c) labeling.

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

SOYBEAN* - foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	1.5
Bean leaf beetle	
Cucumber beetles/Rootworm adults	
Japanese beetle (adults)	
Leafhoppers	
Whiteflies	

Cont'd. next page

Soybean - foliar treatment cont'd.:*

Restrictions:
Pre-Harvest Interval (PHI): **21 days**
Minimum interval between applications: **7 days**
Maximum Wrangler Insecticide amount allowed per year when making foliar applications: **4.5 fluid ounces per acre** (0.14 pound active ingredient per acre)

*Use not permitted in California or New York unless otherwise directed by state-specific 24(c) labeling.

STRAWBERRY[1] - soil treatment

Annual and Perennial Crops

Pests Controlled	Rate Fl Oz/A
Aphids	12.0 to 16.0
Whiteflies	

Restrictions
Pre-Harvest Interval (PHI): **14 days**
Maximum Wrangler Insecticide allowed per crop season when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions
Apply specified dosage of Wrangler Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening;
2. As a plant material or plant hole treatment just prior to, or during transplanting.
3. As a band spray over-the-row in a minimum of 20.0 gallons of water per acre, followed immediately by overhead irrigation to incorporate product into root zone. Do not use plastic or other mulches that limit movement of Wrangler Insecticide into root zone.

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

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Strawberry*[1] *– soil treatment cont'd.:

Post-harvest Use on Perennial Crops

Pests Controlled	Rate Fl Oz/A
White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle, Oriental beetle)	8.0 to 12.0

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre).

Instructions

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 Wrangler Insecticide in one of the following methods:

1. As a ground spray via boom or backpack sprayer in a minimum of 20.0 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 inch irrigation.

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

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

STRAWBERRY – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids Spittlebugs Whiteflies	1.5

Restrictions

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

Minimum interval between applications: **5 days**

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Strawberry – foliar treatment cont'd.:

Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **4.5 fluid ounces per acre** (0.14 pound active ingredient per acre)
Do not apply during bloom or within 10 days prior to bloom or when bees are foraging.

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

SUGAR BEET* - soil treatment
(for use only in CA)

Pests Controlled	Rate Fl Oz/A
Aphids	3.0 to 6.0
Flea beetles	
Leafhoppers	
Whiteflies	
Pests/Diseases Suppressed	
Symptoms of:	
Western yellows/Beet curly top hybrigeminivirus (BCTV)	3.0 to 6.0

Restrictions

Maximum Wrangler Insecticide allowed per year when making soil applications: **6.0 fluid ounces per acre** (0.18 pound active ingredient per acre)
Maximum imidacloprid allowed per year: **0.18 pound active ingredient per acre** (from any formulation) on any row spacing
Do not apply immediately prior to bud opening or during bloom or when bees are foraging.

Instructions

Apply specified dosage of Wrangler Insecticide in the following method:

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

The low rate may be applied to aid establishment of stands in whitefly areas, or for early season control of the other pests listed.
*Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

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TUBEROUS and CORM VEGETABLES* - soil treatment

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

Pests Controlled	Rate Fl Oz/1000 Row-Ft	Rate Fl Oz/A
Aphids	0.35 to 0.85	5.0 to 12.0
Flea beetles		
Leafhoppers		
Thrips (foliage feeding thrips only)		
Whiteflies		

Restrictions

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

Maximum Wrangler Insecticide allowed per crop season when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

Maximum Wrangler Insecticide applications per crop season: **1**

Instructions

Apply specified dosage of Wrangler Insecticide 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 0.3 fluid ounce per 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 listed rates where infestations occur later in crop development, or where pest pressure is continuous. Wrangler Insecticide rates less than 0.35 fluid ounce per 1000 row-feet may not provide adequate residual pest control. Wrangler Insecticide treated crops grown on very high organic matter soils (muck) may also require additional pest management control.

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

*Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

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TUBEROUS AND CORM VEGETABLES[1] - foliar treatment

Including: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible, Queensland arrowroot), Cassava (bitter and sweet)[2], Chayote (root), Chufa, Dasheen (taro)[2], Ginger, Leren, Sweetpotato[2], Tanier (cocoyam)[2], Turmeric, Yam bean, (jicama, manioc pea), Yam (true)[2], (For applications on potato, see FIELD CROPS section)

Pests Controlled	Rate Fl Oz/A
Aphids	1.4
Flea beetle	
Leafhoppers	
Whiteflies	

Restrictions

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

Minimum interval between applications: **5 days**

Maximum Wrangler Insecticide allowed per crop season when making foliar applications: **1.4 fluid ounces per acre** (0.044 pound active ingredient per acre) on Radish, **4.2 fluid ounces per acre** (0.13 pound active ingredient per acre) on other crops.

Maximum Wrangler Insecticide application(s) per crop season: **1 on radish, 3 on other crops.**

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

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

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

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Wrangler Insecticide Conversion Chart for Linear Application

RATE:	Rate: Fl Oz/1000 row-ft Based on average row spacing (in inches)							
Fl Oz/A	10	15	20	25	30	35	40	45
5	0.10	0.14	0.19	0.24	0.29	0.33	0.38	0.43
6	0.11	0.17	0.23	0.29	0.34	0.40	0.46	0.51
7	0.13	0.20	0.27	0.33	0.40	0.47	0.53	0.60
8	0.15	0.23	0.30	0.38	0.46	0.53	0.61	0.68
9	0.17	0.26	0.34	0.43	0.51	0.60	0.68	0.77
10	0.19	0.29	0.38	0.48	0.57	0.67	0.76	0.86
12	0.23	0.34	0.46	0.57	0.69	0.80	0.92	1.03
14	0.27	0.40	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

TREE, BUSH and VINE CROPS
Application Directions – Wrangler Insecticide

BANANA and PLANTAIN - soil treatment

Pests Controlled	Rate Fl Oz/A
Aphids Leafhoppers	8.0 to 16.0
Pests/Diseases Suppressed	
Scales	8.0 to 16.0

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions

Apply specified dosage of this product in the following method:

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

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BANANA and PLANTAIN – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	3.2
Leafhoppers	
Thrips	

Restrictions

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

Minimum interval between applications: **14 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre)

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

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

BUSHBERRY - soil treatment

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

Pests Controlled	Rate Fl Oz/A
Japanese beetle (adults, feeding on foliage)	8.0 to 16.0
White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and Oriental beetle)	

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Bushberry - soil treatment cont'd.:

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions

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

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

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

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 Wrangler Insecticide to moist soil. If necessary, apply one hour of irrigation water immediately before application of Wrangler Insecticide. To facilitate movement of Wrangler Insecticide into the soil and root-zone, 1/2 to 1 inch of irrigation water or rainfall must be applied or received within 24 hours of application.

BUSHBERRY – foliar treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids Leafhoppers / Sharpshooters	1.2 to 1.6
Blueberry maggot Japanese beetle (adults), Thrips (foliage-feeding thrips only)	2.4 to 3.2

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Bushberry – foliar treatment cont'd.:

Restrictions
Pre-Harvest Interval (PHI): **3 days**
Minimum interval between applications: **7 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre)
Maximum Wrangler Insecticide allowed per year when making foliar applications: **5**
Minimum application volume (water): 20.0 GPA – ground, 5.0 GPA – aerial.
Do not apply pre-bloom or during bloom or when bees are foraging.

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

CANEBERRY - soil treatment
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 Fl Oz/A
Aphids Leafhoppers Whiteflies	8.0 to 16.0
Rednecked cane borer	12.0 to 16.0
Pest Suppressed	
Thrips (foliage feeding thrips only)	8.0 to 16.0

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Caneberry - soil treatment cont'd.:

Restrictions:

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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

Applications:

Apply specified dosage in one of the following methods:

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.

CITRUS (Containerized) – Soil Treatment

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, and other cultivars and/or hybrids of these.

Pests Controlled	Rate mL/ft^3 Container Media
Aphids	0.375
Asian citrus psyllid	
Black fly	
Citrus leafminer	
Leafhoppers / Sharpshooters	
Mealybugs	
Scales	
Whiteflies	
Citrus root weevil (larval complex)	0.625 to 1.25
Pests/Diseases Suppressed	
Citrus thrips (foliage feeding thrips only)	1.25

Instructions

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

CITRUS (Field) - soil treatment

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, and other cultivars and/or hybrids of these.

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 16.0
Asian citrus psyllid	
Black fly	
Citrus leafminer	
Leafhoppers / Sharpshooters	
Mealybugs	
Scales	
Termites (FL only)	
Whiteflies	
Pests/Diseases Suppressed	
Citrus nematode	16.0
Symptoms of:	
Citrus tristeza virus CTV through vector control	
Citrus yellows	
Thrips (foliage feeding thrips only)	

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions

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

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

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Citrus (Field) - soil treatment cont'd.:

2. Soil surface band spray on both sides of the tree. Overlap bands at the base of the tree to create a continuous band within the drip-line area of the tree, to be followed immediately with light sprinkler irrigation sufficient to move the product into the upper portion of the root-zone. This method is suitable for very coarse soils with 0.75% organic matter or less;
3. Drench to base of tree not exceeding 1.0 quart total solution/tree immediately around trunk of tree and extending outward covering the entire fibrous root system of the tree. Only suitable for trees up to 8 feet tall;
4. For control of existing termite infestations, apply specified dosage in 1.0 to 4.0 quarts of total solution volume, depending on size of tree, as a drench application to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk.
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 Wrangler Insecticide over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response.

CITRUS (Field) – foliar treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids Asian citrus psyllid Blackfly Leafhoppers / Sharpshooters Leafminers Mealybugs Scales Whiteflies	4.0 to 8.0 (depending on tree size, target pest, and infestation pressure)

Pests Suppressed	Rate Fl Oz/A
Thrips (foliage-feeding thrips only)	4.0 to 8.0

Restrictions

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

Minimum interval between applications: **10 days**

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Citrus (Field) – foliar treatment cont'd.:

Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre)

Do not apply during bloom or within 10 days prior to bloom or when bees are foraging.

Application

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

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

COFFEE - soil treatment

Pests Controlled	**Rate Fl Oz/A**
Aphids	8.0 to 16.0
Leafhoppers	
Leafminer	
Pests/Diseases Suppressed	
Scales	8.0 to 16.0

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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

Instructions

Apply specified dosage in one of the following methods:

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

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COFFEE – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	3.2
Leafhoppers	
Whiteflies	

Pests Suppressed	Rate Fl Oz/A
Scales	3.2

Restrictions

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

Minimum interval between applications: **7 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre)

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

Applications

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

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control.

Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

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CRANBERRY - soil treatment

Pests Controlled	Rate Fl Oz/A
Rootgrubs (*Scarabaeidae*) Rootworms (*Chrysomelidae*)	8.0 to 16.0

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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

Instructions

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

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

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

Rootgrubs and Rootworms

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

Wrangler Insecticide has not been tested for crop response in tank mixes with other registered fungicides or insecticides. If tank mixing is desired, premix a sample of the Wrangler Insecticide and the desired fungicide or insecticide partner at labeled rates and apply to a small area. Evaluate crop response within 48 hours and for at least 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.

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GRAPE - soil treatment
Including: American bunch grape, Muscadine grape and Vinifera grape

Pests Controlled	Rate Fl Oz/A
European fruit lecanium	8.0 to 16.0
Leafhoppers/Sharpshooters	
Mealybugs	
*Phylloxera** spp.	
Pests/Diseases Suppressed	
Grapeleaf skeletonizer	12.0 to 16.0
Nematodes	
Pierce's disease	

Restrictions
Pre-Harvest Interval (PHI): **30 days**
Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions
Apply specified dosage of Wrangler Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. Subsurface side-dress shanked into the root-zone on both sides of the plants followed by irrigation;
3. Hill drench in sufficient water to insure incorporation into the root-zone followed by irrigation.
4. For suppression of nematodes, apply 16.0 fluid ounces in a single application or two 8.0 fluid ounces applications on a 30- to 45-day interval. Apply only by 1) chemigation into root-zone through above ground low-pressure drip, trickle, micro-sprinkler, or equivalent equipment; or 2) French plow technique, followed immediately by sufficient irrigation to move the product into the entire root-zone of the plant. Repeated and regular use of Wrangler Insecticide over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response.
   For optimal results, make application(s) between bud-break and the pea-berry stage. A total of 16.0 fluid ounces per acre is recommended under any of the following conditions:

1. Where 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 Wrangler Insecticide over several, consecutive growing seasons controls existing *Phylloxera* infestations over time or prevents *Phylloxera* from becoming established.

GRAPE – foliar treatment
Including: American bunch grape, Muscadine grape, and Vinifera grape

Pests Controlled	Rate Fl Oz/A
Leafhoppers / Sharpshooters	1.2 to 1.6
Mealybugs	
Grape skeletonizer	1.5 to 1.6

Restrictions
Pre-Harvest Interval (PHI): **0 days**
Minimum interval between applications: **14 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **3.2 fluid ounces per acre** (0.1 pound active ingredient per acre)
Apply Wrangler Insecticide by ground application only.
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

HOP - soil treatment

Pests Controlled	Rate Fl Oz/A
Aphids	9.6

Restrictions
Pre-Harvest Interval (PHI): **60 days**
Maximum Wrangler Insecticide allowed per year when making soil applications: **9.6 fluid ounces per acre** (0.3 pound active ingredient per acre)

Instructions
Apply specified dosage of Wrangler Insecticide in one of the following methods:
1. Chemigation into root-zone through low-pressure drop, 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.
4. Use the higher listed dosage where extended residual control is desired or for treating larger vines with dense foliage volume.

HOP – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	3.2

Restrictions
Pre-Harvest Interval (PHI): **28 days**
Minimum interval between applications: **21 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **9.6 fluid ounces per acre** (0.3 pound active ingredient per acre).

Applications
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

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

Pests Controlled	Rate Fl Oz/A
Aphids (including woolly apple aphid)	8.0 to 12.0
Leafhoppers	

Restrictions
Pre-Harvest Interval (PHI): **21 days**
Maximum Wrangler Insecticide allowed per year when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)
Do not apply pre-bloom or during bloom or when bees are foraging.

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

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POME FRUIT – foliar treatment

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

Pests Controlled	Rate Fl Oz/A
Leafhoppers	1.6 to 3.2
Aphids (except woolly apple aphid)	3.2
Apple maggot	
Leafminers	
San Jose scale	
FOR PEAR ONLY:	
Mealybugs	8.0
Pear psylla	

Restrictions

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

Minimum interval between applications: **10 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre).

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

Applications

Combine applications targeting apple maggots with an approved sticker at the manufacturer's specified rates.

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

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POMEGRANATE - soil treatment

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 16.0
Leafhoppers / Sharpshooters	
Whiteflies	

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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

Instructions

Apply specified dosage of this product in the following method:

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

POMEGRANATE - foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids	3.2
Leafhoppers / Sharpshooters	
Whiteflies	

Pests Suppressed	Rate Fl Oz/A
Scales	3.2

Restrictions

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

Minimum interval between applications: **7 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **9.6 fluid ounces per acre** (0.3 pound active ingredient per acre).

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

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Pomgranate- foliar treatment cont'd.:

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

STONE FRUIT - soil treatment

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

In-field, Soil Application

Pests Controlled	Rate Fl Oz/A
Aphids (including woolly apple aphid)	8.0 to 12.0
Leafhoppers	

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making soil applications: **12.0 fluid ounces per acre** (0.38 pound active ingredient per acre)

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

Instructions

Apply specified dosage of Wrangler Insecticide in the following method:

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

Pre-plant, Root Dip Application

Pests Controlled	Rate Fl Oz/10.0 Gal Root-Dip Solution
Black peach aphid (infesting roots)	1.0

Mix Wrangler Insecticide at **1.0** fluid ounce per 10.0 gallons of water. Thoroughly wet bare-root transplant to slightly above the graft union by soaking roots in the Wrangler Insecticide solution for up to 5 minutes. Allow solution to dry on roots and transplant trees as soon as possible following treatment.

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

Pests Controlled	Rate Fl Oz/A
Aphids	1.6 to 3.2
Green June beetle	
Japanese beetle	
Leafhoppers / Sharpshooters	
Plant bugs	
Rose chafer	
San Jose scale	
Cherry fruit fly	2.4 to 3.2

Pests Suppressed	Rate Fl Oz/A
Plum curculio	3.2
Stink bugs	

Restrictions for Apricot, Nectarine, Peach:
Pre-Harvest Interval (PHI): **0 days**
Minimum interval between applications: **7 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **9.6 fluid ounces per acre** (0.3 pound active ingredient per acre).
Minimum application volume (water): 50.0 GPA – ground application, 25.0 GPA – aerial application.
Do not apply pre-bloom or during bloom or when bees are foraging.
Restrictions for Cherries, Plums, Plumcot, Prune:
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **10 days**
Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre).
Minimum application volume (water): 50.0 GPA – ground application, 25.0 GPA – aerial application.
Do not apply pre-bloom or during bloom or when bees are foraging.

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Stone Fruit – foliar treatment cont'd.:

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

TROPICAL FRUIT - soil treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids	12.0 to 16.0
Avocado lacebug	
Leafhoppers	
Whiteflies	
Pests/Diseases Suppressed	
Scales	16.0
Thrips (foliage-feeding thrips only)	

Restrictions

Pre-Harvest Interval (PHI): **6 days**

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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

Instructions

Apply specified dosage of Wrangler Insecticide in the following method:

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

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TROPICAL FRUIT - foliar treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids	3.2
Leafhoppers / Sharpshooters	
Mealybugs	
Thrips (foliage-feeding thrips only)	
Whiteflies	

Pests Suppressed	Rate Fl Oz/A
Scales	3.2

Restrictions

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

Minimum interval between applications: **10 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre).

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

Applications

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial application of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

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TREE NUTS (except Almond) - Soil Treatment
Including: Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut (black and English)

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 16.0
Leafhoppers/Sharpshooters	
Mealybugs	
Spittlebugs	
Termites	
Whiteflies	
Pests/Diseases Suppressed	
Pecan scab (from reduction in honeydew deposition)	8.0 to 16.0
Thrips (foliage-feeding thrips only)	16.0

Restrictions
Pre-Harvest Interval (PHI): **7 days**
Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)
Do not apply pre-bloom or during bloom or when bees are foraging.

Instructions
Apply specified dosage prior to or at onset of pest infestation in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.
   Pre-wet soil prior to applications of this product and allow soil to dry following application and prior to subsequent irrigation;
2. Emitter or spot application in a minimum of 4.0 fluid ounces of mixture/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 10.0 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 to 24 inches to obtain optimum control. Allow soil to dry following treatment and prior to applying any irrigation.

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Tree Nuts (except Almond) - Soil Treatment cont'd.:

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

TREE NUTS (except Almond) - Foliar Treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids (except black pecan aphid) Leafhoppers/Sharpshooters *Phylloxera* spp. (leaf infestations) Spittlebugs Whiteflies	1.5 to 3.0
Black pecan aphid Mealybugs San Jose scale	3.0

Restrictions

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

Minimum interval between applications: **6 days**

Maximum Wrangler Insecticide allowed per year when making foliar applications: **10.4 fluid ounces per acre** (0.36 pound active ingredient per acre)

Minimum application volume (water); 50.0 GPA – ground application, 25.0 GPA – aerial application.

Do not apply within 10 days prior to bloom or during bloom or when bees are foraging.

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout field and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests. Aerial applications of Wrangler Insecticide may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full-size mature trees or vines.

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Tree Nuts (except Almond) - Foliar Treatment cont'd.:

Applications:

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

CHRISTMAS TREE - soil treatment

Pests Controlled	Rate Fl Oz/A
White grub complex (damage from grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and Oriental beetle)	8.0 to 16.0

Restrictions

Maximum Wrangler Insecticide allowed per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

Instructions

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

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

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

CHRISTMAS TREE – foliar treatment

Pests Controlled	Rate Fl Oz/A
Aphids Adelgids Sawflies	1.6 to 3.2

Restrictions

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

Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre).

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Christmas Tree – foliar treatment cont'd.:

Applications

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

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant such as LI 700 to improve coverage. Wrangler Insecticide may not knock down established and heavy insect populations. Two applications may be required to achieve control. Scout fields and re-treat if needed. Tank mix Wrangler Insecticide with other insecticides for knockdown of pests or for improved control of other pests.

POPLAR/COTTONWOOD[1] - soil treatment

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

Pests Controlled	Rate Fl Oz/A
Aphids	8.0 to 16.0
Cottonwood leaf beetle	
Pests/Diseases Suppressed	
Phylloxerina popularia	8.0 to 16.0

Restrictions

Maximum Wrangler Insecticide allowed at-plant per year when making soil applications: **16.0 fluid ounces per acre** (0.50 pound active ingredient per acre)

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

Instructions

Apply specified dosage of Wrangler Insecticide in the following method:

1. Chemigation through low-pressure drip irrigation.
   For Cottonwood leaf beetle, protection against damage will occur when application is made early, when the beetles first begin feeding. Larger trees may require earlier treatment as a result of slower uptake.
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, use 0.25 inch per acre.)

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

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Cutting/Whip Applications. See details above for Field Applications.

Pests Controlled	Cutting/Whip Soaking Solution Rate: Fl Oz Wrangler Insecticide needed/100 gal
Cottonwood leaf beetle	6.6 to 13.3 (unhydrated cuttings/whips) 13.3 to 20.0 (partially hydrated cuttings/whip)
Pests Suppressed	
Aphids	6.6 to 13.3 (unhydrated cuttings/whips)
Phylloxerina popularia	13.3 to 20.0 (partially hydrated cuttings/whip)

Restrictions

Maximum Wrangler allowed at-plant per year: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre).
[1]Use not permitted in California unless otherwise directed by state-specific 24(c) labeling.

Applications

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

Apply Wrangler Insecticide in of the following cuttings/whips soaking methods:

- For freshly cut (unhydrated) cuttings/whips, soaking plant material in specified solution concentration for 24 hours prior to cold storage. After removal from cold storage, plant as needed.
- For previously hydrated cuttings/whips removed from cold storage, allow plant material to reach room temperature and soak in specified solution concentration for 24 hours prior to planting.

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

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

Pests Controlled	Rate Fl Oz/A
Aphids	1.6 to 3.2
Leaf beetles	

Restrictions
- Minimum interval between applications: **10 days**
- Maximum Wrangler Insecticide allowed per year when making foliar applications: **16.0 fluid ounces per acre** (0.5 pound active ingredient per acre).
- Do not apply pre-bloom or during bloom or when bees are foraging.

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

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

COMMERCIAL POULTRY FACILITIES

POULTRY HOUSING STRUCTURES

Pests Controlled	Rate Fl Oz/1000 Ft^2
Darkling beetles	3.0
Hide beetles (Dermestids)	(90 mL)

Application Methods
Apply between flocks after de-caking and sanitation procedures have been completed. Apply as a spot, crack and crevice, or surface spray on floors, walls, and support beams of structure. Apply using a minimum of 0.5 to 2.0 gallons of spray mixture per 1000 square feet. To prepare the spray mixture, fill the spray tank with 1/2 the required amount of water, then add the specified amount of Wrangler Insecticide. Add the remaining water while agitating or mixing. Maintain constant agitation while applying.
Apply spray mixture to the entire footing including 1 foot up the wall above the footing, and in 3 to 4 foot wide bands directly beneath all feed lines. The areas beneath the feed lines typically harbor large numbers of adult and larval stages of the target pest when an infestation occurs. Measure these areas to determine the appropriate amount of spray mixture to apply. For structures that are prone to large infestations, treat the

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Commercial Poultry Facilities
Poultry Housing Structures cont'd.:

footings including 1 foot up the wall and the entire floor area of the structure.

Cracks and crevice areas also are prone to large infestations of the target pest. Apply as a crack and crevice treatment around wall insulation or other areas that may harbor the target pest. If structures have supporting beams, treat the floor with a 1 foot band around each beam and apply 2 feet up the beam.

For structures prone to extreme infestation, treat the entire structure with a broadcast application. Apply 3.0 fluid ounces in 2.0 gallons of water per 1000 square feet of surface. Apply as a broadcast spray to areas where litter has accumulated (floor, under feed and water lines, lower sections of walls, corners).

Remarks

In order to avoid problems with pest resistance to imidacloprid, rotate to an insecticide with a different mode of action every 2 to 3 flocks. Rotate between 3 different insecticide mode of action classes labeled for control of target pests during a calendar year.

Restrictions

DO NOT apply when birds are present.

DO NOT allow food or feed to be contacted by the spray.

Remove feed and water from the treatment area before applying.

Pests Controlled	Rate Fl Oz/Gal
Nuisance ants	0.125 to 0.250 (0.75 to 1.5 tsp)

Application Methods

Apply as a crack and crevice or wall void treatment inside structures. Apply to cracks, crevices, drilled holes, onto walls, around entry points such as doors, windows, vents, eaves, soffits, and utility access openings. If nests are present in voids, apply into the void if possible. Apply evenly to treatment surfaces but not to the point of runoff. Apply to areas around the exterior of the structure where ants may be present (soil, turf, ornamental shrubs and plantings, and groundcover in close proximity to or touching the structure). For above-ground nests, such as in wood posts, decks, or fences, or in trees, spray into holes/openings where ants are traveling and on the wood surface.

Restrictions

DO NOT use for control of native or imported fire ants, harvester ants or pharaoh ants. Keep people and pets out of treated areas until sprays have dried.

DO NOT allow this product to contact blooming plants if bees are foraging in the treatment area.

STORAGE AND DISPOSAL

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

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

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

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

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

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

Storage & Disposal cont'd.:
For packages greater than 56 gallons: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.
For refillable containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.
For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.

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