

THIAMETHOXAM | GROUP 4A INSECTICIDE

Jewel

For Control of Listed Insect Pests Infesting Bushberry, Low Growing Berry, Small Fruit Vine, Brassica (Cole) Leafy Vegetables, Citrus Fruit, Cucurbit Vegetables, Fruiting Vegetables, Hops, Leafy Vegetables, Root Vegetables, Tobacco, and Tuberous and Corm Vegetables.

Sale, use and distribution of this product in Nassau and Suffolk counties in the state of New York is prohibited.

ACTIVE INGREDIENT:

Thiamethoxam: 3-(2-Chloro-5-thiazolylmethyl)tetrahydro-5-methyl-N-nitro-4H-1,3,5-oxadiazin-4-imine 75.0%

OTHER INGREDIENTS:

TOTAL: 100.0%

This product is a soluble granule insecticide.

KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you DO NOT understand this label, find someone to explain it to you in detail.)

See label booklet for complete First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

EPA Reg. No. 83529-228

EPA Est. No. AG 72159-GA-001; MA 83411-MN-001; MC 89332-GA-001;
SC 39578-TX-001; TX 07401-TX-001

The EPA Establishment Number is identified by the circled letters above that match the first two letters in the batch number.

Net Contents: 8 oz.

Manufactured For:

Sharda USA LLC 

7217 Lancaster Pike, Suite A
Hockessin, Delaware 19707

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> 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:	<ul style="list-style-type: none"> Take off contaminated clothing Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	
There is no specific antidote if ingested. Induce emesis or lavage stomach. Treat symptomatically.	
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call your poison control center at 1-800-222-1222 .	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves composed of Barrier Laminate, Butyl Rubber \geq 14 mils, Nitrile Rubber \geq 14 mils, Neoprene Rubber \geq 14 mils, Natural Rubber \geq 14 mils, Polyethylene, Polyvinyl Chloride \geq 14 mils, or Viton \geq 14 mils.
- Shoes plus socks

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

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-f)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops/plants or weeds. **DO NOT** apply this product or allow it to drift to blooming crops/plants or weeds while bees are foraging in or adjacent to the treatment area.

This product is highly toxic to bees exposed to direct treatment on blooming plants or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming plants. DO NOT apply this product or allow it to drift to blooming plants or weeds while bees are foraging in or adjacent to the treatment area.

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when cleaning equipment or disposing of equipment wash waters.

Groundwater Advisory

Thiamethoxam has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into the groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory

This product may impact surface water quality due to spray drift and runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of thiamethoxam water from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours.

PHYSICAL OR CHEMICAL HAZARDS

DO NOT use, pour, spill, or store near heat or open flame.

PROTECTION OF POLLINATORS



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

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

This product can kill bees and other insect pollinators.

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

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

- 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: <https://pesticidestewardship.org/pollinator-protection/>.

Pesticide incidents (for example, bee kills) should immediately be reported to the State/Tribal lead agency. For contact information for your state/tribe, go to: www.aapco.org. Pesticide incidents must 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 any 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 for food/feed crops and commercially grown ornamentals that are attractive to pollinators.

o 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.

o 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 apriary 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 must 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.

Use Restrictions

- **DO NOT** use Jewel in nurseries, greenhouses, plant propagation houses, or on any plants grown for use as transplants, except tobacco.
- **DO NOT** make an application of Jewel on crops grown from seed that are already treated with thiamethoxam.
- **DO NOT** apply Jewel with aerial equipment.
- **DO NOT** apply more than 0.188 lb. a.i. of thiamethoxam-containing products per acre per calendar year.
- **DO NOT** apply this product, by any application method, to linden, basswood, or other *Tilia* species in the State of Oregon.
- **New York State:**
 - This product is classified as restricted use.
 - Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties.
 - Soil application is prohibited on the Small Fruit Vine Climbing Subgroup 13-7(F).

This product can only be used in accordance with the Directions for Use on this label. **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 regulations.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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 composed of Barrier Laminate, Butyl Rubber \geq 14 mils, Nitrile Rubber \geq 14 mils, Neoprene Rubber \geq 14 mils, Natural Rubber \geq 14 mils, Polyethylene, Polyvinyl Chloride \geq 14 mils, or Viton \geq 14 mils.
- Shoes plus socks

PRODUCT INFORMATION

Jewel is a selective insecticide used to control listed sucking and chewing insects through contact and ingestion on the crops listed on this label.

- Make application of **Jewel** in a way that allows the insecticide to be absorbed by the plant roots. This may be done by a variety of application methods that are indicated in this label. The use of sufficient water volume will ensure that the **Jewel** contacts the roots, resulting in optimal uptake and performance.
- This products use is suitable with integrated pest management programs.
- When used in accordance with this label, **Jewel** has a wide margin of plant safety.

RESISTANCE MANAGEMENT RECOMMENDATIONS

THIAMETHOXAM | **GROUP** 4A | **INSECTICIDE**

For resistance management, **Jewel** contains Thiamethoxam and is classified in the neonicotinoids chemical class as a Group 4A insecticide, nicotinic acetylcholine receptor (nAChR) competitive modulators.

Any insect population may contain individuals naturally resistant to **Jewel** and other Group 4A insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies must be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of **Jewel** or other Group 4A insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. **DO NOT** rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues for the targeted pests between the individual components of a mixture.
- In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures must be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological, and other chemical control practices.

- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact Sharda USA LLC or representative (<https://shardausa.com/contact/>).

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Boom Applications:

- Users must only apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom must remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. 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 air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS (i.e., 15 mph). Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

APPLICATION INSTRUCTIONS

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

Soil Application

Spray nozzles or metering orifices must provide accurate and uniform spray deposition. Applications of **Jewel** can be made the following ways: in-furrow-at-planting, lay-by shanked application, or banded pre-emergence or post-emergence application. When making post-emergence applications, apply at the base of the plant so that optimum root uptake occurs. Calibrate sprayer before each use to help ensure accuracy of applications. To provide the most effective pest control, apply using sufficient water volume to provide thorough and uniform coverage. For information on spray equipment and calibration, consult sprayer manufacturers and/or State Extension Service specialists.

DO NOT apply **Jewel** with aerial equipment.

Dry Bulk Granular Fertilizer - Potatoes only: Many dry bulk fertilizers may be impregnated or coated with **Jewel** and used to control insects in potatoes. When making an application of **Jewel** with dry bulk granular fertilizer, follow all directions for use and precautions on the **Jewel** label contained in the potato direction for use section regarding rates per acre, pests controlled, and rotational crop restrictions. All individual State regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application, are the responsibility of the individual and/or company selling the insecticide/fertilizer mixture. Prepare the insecticide/fertilizer mixture by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray **Jewel** onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray onto the fertilizer only, avoiding the walls of the blender. **DO NOT** pour **Jewel** directly from the product container onto the fertilizer.

Blender Mixing Directions

Fill the blender with the required amount of dry bulk granular fertilizer to be used. Start the blender. Spray **Jewel** directly onto the moving fertilizer. Let the mixture to blend for at least 5 minutes or until uniform. Spread the insecticide/fertilizer mixture as soon as possible.

Calculate the amount of **Jewel** by the following formula:

$$\begin{array}{r} \text{Oz./Acre Jewel} \\ \hline \text{Lb./Acre Fertilizer} \end{array} \quad \times \quad 2,000 \text{ Lb./Ton} \quad = \quad \begin{array}{r} \text{Oz./Ton Jewel} \end{array}$$

Important: When more than 1,000 lb. per acre of dry bulk granular fertilizer is to be applied, mix **Jewel** with water to improve coverage on the dry fertilizer. Mix one part **Jewel** with up to 2 parts water (1:2) in a mix tank before application to fertilizer. Use a maximum of 2 qt. liquid per ton of fertilizer.

Precautions: **DO NOT** impregnate **Jewel** on straight unadulterated agricultural limestone because adsorption will not be achieved. Limestone prills, which contain a binding agent and fertilizer blends containing limestone can be impregnated.

Application: For best results, make an application of the mixture uniformly to the soil with properly calibrated equipment **immediately** after blending. Non-uniform application of the insecticide/fertilizer mixture may result in unsatisfactory insect control.

Chemigation

When applying **Jewel** alone or in combination with other pesticides registered for application through irrigation systems, it can be applied in irrigation water when following rates specified on this label. Make applications of this product only through low-pressure micro-sprinkler, drip type irrigation systems, or through sprinkler irrigation equipment (center pivot, solid set, hand move or moving wheel irrigation systems - **potatoes only**).

Directions for All Specified Types of Irrigation Systems

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 nonuniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. 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.

Dilute **Jewel** in the solution tank at a ratio of at least 5 parts of water to one part of **Jewel**. Injecting a larger volume of a more dilute solution will usually allow a more accurate calibration of the metering equipment. Meter the insecticide into the irrigation water during the irrigation cycle.

Using Water from Public Water Systems: DO NOT APPLY JEWEL THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. **Jewel** may be applied through irrigation systems, which may be supplied by a public water system only if the water from the public water system is 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. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements.

Operating Instructions for All Specified Types of Irrigation Systems

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.
2. 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.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
4. 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. 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.
7. 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.
8. **DO NOT** apply when wind speed favors drift beyond the area intended.

Application Instructions - Low Pressure Micro-Sprinkler or Drip Type Irrigation

Jewel must be applied on the schedule specified in the **CROP USE DIRECTIONS**, not according to the irrigation schedule. The following calibration and application techniques are provided for user reference, but **DO NOT** constitute a warranty of fitness for application through low-pressure micro-sprinkler or drip type irrigation equipment. Check with State and local regulatory agencies for potential use restrictions before applying any agricultural chemicals through irrigation equipment.

1. Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
2. Use only pressure injection or venturi equipment.
3. Determine the area to be treated in each irrigation run.
4. Measure the output of each of the emitters or drip tubes closest to and farthest from the injection point.
5. For calibration, substitute a concentrated detergent (such as Wisk) for the **Jewel** mixture in the injector (solution) tank. It is important to use the same volume of soap solution as the planned volume of **Jewel** solution when calibrating the system. The detergent will bubble as it leaves the emitters. Check the time period over which the bubbles occur for both the closest and farthest emitters. If these times are not within 2 minutes of each other, adjust the dilution ratio and/or the injection rate.

Step-by-Step Calibration and Application Instructions

Before starting to calibrate, operate the system until all of the emitters are putting out at equal flow rates or until the system is operating at full pressure.

1. Make up an indicator solution of detergent or fertilizer, using the same rate of indicator as the planned volume of **Jewel** to be used in the mix.
2. Set the injector to apply the indicator solution at the injection rate to be used in the actual **Jewel** application.
3. Attach a 12-inch length of flexible tubing over the emitter closest to the injection point, another 12-inch length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solutions are observed.

4. Begin injecting the indicator solution. Direct the flow from the flexible tubes into a small container. Begin timing when the indicator solution is first detected. Stop timing when the indicator solutions are no longer detected in the container.
5. If the period of detection of the indicator solution between the near and far emitter is within 2 minutes, comparable coverage will be obtained. If they are not, make adjustments by increasing the dilution ratio, using more water per part of **Jewel**, or adjust the injector to a slower flow rate.
6. Once the system is calibrated, dilute the needed amount of **Jewel** with water and any other tank mix partners in the injection tank at a minimum dilution of 15 parts water to 1 part **Jewel**. Follow the directions for mixing and equipment set up in the **MIXING PROCEDURES** section of this label for complete details.
7. **DO NOT** begin to inject **Jewel** into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
8. Inject the **Jewel** solution into the system at the beginning of the irrigation set in 1/2 - 1 inch of irrigation water.

Application Instructions - Sprinkler Irrigation Equipment (center pivot, solid set, hand move or moving wheel irrigation systems - Potatoes only)

Jewel alone or in combination with other products which are registered for application through sprinkler irrigation may be applied through irrigation systems. Apply this product through center pivot, solid set, hand move, or moving wheel irrigation systems. Lack of effectiveness or illegal pesticide residues can result from non-uniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. 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.

Calibration and Application Instructions

Jewel must be applied under the schedule specified in the specific **CROP USE DIRECTIONS**, not according to the irrigation schedule unless the events coincide.

Set the equipment to apply the minimum amount of water per acre. Run the system at 85 - 90% of the manufacturer's maximum rated travel speed. The following calibration and application techniques are provided for user reference, but **DO NOT** constitute a warranty of fitness for application through sprinkler irrigation equipment. Check with State and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

Center Pivot Irrigation Equipment

Notes: (1) Use only drive systems that provide uniform water distribution. (2) **DO NOT** use end guns when cheminating **Jewel** through center pivot systems because of non-uniform application. (3) Plug the first nozzle closest to the well-head to protect the water source.

1. Determine the size of the area to be treated.
2. Determine the time required to apply 0.1" - 0.25" of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. Run the system at 80 - 95% of the manufacturer's rated maximum travel speed.
3. Using water, determine the injection pump output when operated at normal line pressure.
4. Determine the amount of **Jewel**, and any tank mix partners, required to treat the area covered by the irrigation system.
5. Add the required amount of **Jewel**, any tank mix partners, and sufficient water to meet the injection time requirements to the solution tank. (See **MIXING PROCEDURES** section of this label.)
6. Make sure the system is fully charged with water before starting injection of the **Jewel** solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
7. Maintain constant agitation in the solution tank during the injection period.
8. Inject the specified amount of **Jewel** per acre continuously for one complete revolution of the system.
9. Stop the injection equipment after treatment is completed. Continue to operate the system until the **Jewel** solution has cleared all of the sprinkler heads.
10. Allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water.

Solid Set, Hand Move, and Moving Wheel Irrigation Equipment

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20 - 40 minute time interval.
3. Determine the amount of **Jewel** required to treat the area covered by the irrigation system.
4. Add the required amount of **Jewel**, and any other tank mix partners, into the same quantity of water used to calibrate the injection period. (See **MIXING PROCEDURES** section of this label.)

5. Operate the system at the same pressure and time interval established during the calibration.
6. Inject specified amount of **Jewel** per acre for either a 20 - 40 minute period at the end of a regular irrigation set, or as a 20 - 40 minute injection as a separate application not associated with a regular irrigation to maximize retention of the insecticide by the foliage.
7. Stop injection equipment after treatment is completed. Continue to operate the system until the **Jewel** solution has cleared the last sprinkler head. To ensure lines are flushed and free from remaining pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

MIXING PROCEDURES

Prepare no more spray mixture than is needed for the immediate operation. Prior to using this product, thoroughly clean spray equipment. Vigorous agitation is necessary for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation. **DO NOT** let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area. Keep product container tightly closed when not in use.

Jewel Alone

Add 1/2 of the required amount of water to the mix tank. While the agitator running, add the amount of **Jewel** needed to the tank. While still agitating, add the remaining amount of the water. Begin applying the solution after **Jewel** has completely dissolved into the mix water. Be sure to maintain agitation until all of the mixture has been applied.

Jewel + Tank Mixtures

Add half of the required amount of water to the mix tank. Before adding any tank mix partners, start running the agitator. Add the tank mix partners in the following order: (1) products packaged in water-soluble packaging, (2) wettable powders, (3) wettable granules (dry flowables) including **Jewel**, (4) liquid flowables, (5) liquids, (6) emulsifiable concentrates, and (7) surfactants/adjuvants. Be sure to let each tank mix partner fully dissolved before adding the next product. Provide sufficient agitation while adding the remainder of the water. Always maintain agitation until all of the mixture has been applied.

Note: When using **Jewel** in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including **Jewel**. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using **Jewel** in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations, which appear on the tank mix product label. **DO NOT** exceed any label dosage rate and follow the most restrictive label precautions and limitations. **DO NOT** mix this product with any product which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

Compatibility

Jewel is compatible with most commonly used pesticides, crop oils, adjuvants, and nutritional sprays. However, since it is not possible to test all possible mixtures, the user must pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with **Jewel**. To determine the physical compatibility of **Jewel** with other products, conduct a jar test, as described below.

Using a quart jar, add the proportionate amounts of the products to 1 qt. of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

The crop safety of all potential tank mixes on all crops has not been tested. Confirm the safety to the target crop before applying any tank mixture not specified on this label.

ROTATIONAL RESTRICTIONS

Treated areas may be replanted immediately following harvest, or as soon as practical following the last application, with any crop listed on this label or the following: sorghum, wheat, barley, canola, cotton, legume vegetables, corn, sunflower, mint (peppermint and spearmint), and oilseed crops (rapeseed, Indian rapeseed, Indian mustard seed, field mustard seed, black mustard seed, flax seed, safflower seed, crambe seed, and borage seed). Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. However, the cover crop may not be grazed or harvested for food or feed. For all other crops, a 120-day plant-back interval must be observed.

CROP USE DIRECTIONS

Bushberry Subgroup 13-07B

Crop	Pest	Rate per Acre per Application (Oz.)
Aronia berry, Black currant, Buffalo currant, Chilean guava, Edible honeysuckle, Elderberry, European barberry, Gooseberry, Highbush blueberry, Highbush cranberry, Huckleberry, Jostaberry, Juneberry, Native currant, Red currant, Salal, Sea buckthorn, and Cultivars, varieties and/or hybrids of these.	Aphids Grub Complex Japanese Beetle Leafhoppers	1.66 - 4.01

Specific Crop Use Directions

Use lower rates for short residual control and higher rates within the listed rate range for longer residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application of a surface band on each side of the row out to the plant canopy drip line or within the vegetation-free herbicide strip (calculated on a broadcast basis, but concentrated in the band). After the application, apply sufficient irrigation to incorporate the product into the plant's root zone, on the same day as the application.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 4.01 oz. (0.188 lb. a.i.) of **Jewel** or 0.188. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 75 days
- Make application after bud-break, but before the beginning of bloom (first open blooms).

Low Growing Berry Subgroup 13-07G (except Cranberry)

Crop	Pest	Rate per Acre per Application (Oz.)
Bearberry, Bilberry, Cloudberry, Lingonberry, Lowbush blueberry, Muntries, Partridgeberry, and Strawberry	Aphids Grubs Leafhoppers Strawberry Root Weevil Whiteflies	1.7 - 4.01

Specific Crop Use Directions

Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o In-furrow spray at the transplant depth, or a narrow surface band above the transplant during planting. For surface-banded applications, incorporate to root depth with sufficient sprinkle or drip irrigation within 24 hours.
 - o Post-transplant drench using sufficient water volume to ensure incorporation into the root zone.
 - o In trickle or drip irrigation water.
 - o As a plant hole treatment, just before or during transplant.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 4.01 oz. (0.188 lb. a.i.) of **Jewel** or 0.188 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 50 days

Small Fruit Vine Climbing Subgroup 13-07F (except Fuzzy Kiwi Fruit and Gooseberry*)

Crop	Pest	Rate per Acre per Application (Oz.)
Amur river grape, Grape, Kiwi fruit (hardy), Maypop, and Schisandra berry *Refer to the Bushberry Subgroup section for use directions for gooseberry.	Japanese Beetle Leafhoppers Mealybugs <i>Phylloxera</i> species Sharpshooters	2.67 - 5.67

Specific Crop Use Directions

Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

• Application Method: Make application using one of the following methods:

- o Make application of a surface band on each side of the row out to the plant canopy drip line or within the vegetation-free herbicide strip (calculated on a broadcast basis but concentrated in the band). After the application, apply sufficient irrigation to incorporate the product into the plant's root zone, on the same day as the application.
- o Make application by chemigation into the root zone through low-pressure micro-sprinkler, trickle, or drip type irrigation systems.
- o Hill drench in sufficient water (10 - 100 gals. of water per acre) to ensure incorporation into the root zone followed by irrigation.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 5.67 oz. (0.266 lb. a.i.) of **Jewel** or 0.266 lb. a.i. of thiamethoxam containing product per acre per calendar year.
- Pre-Harvest Interval (PHI): 60 days
- New York State: Soil application is prohibited on the Small Fruit Vine Climbing Subgroup 13-07F.

Brassica (Cole) Leafy Vegetables

Crop	Pest	Rate per Acre per Application (Oz.)
Head and Stem Brassica Broccoli, Broccoli (Chinese), Brussels sprouts, Cabbage, Cauliflower, Cavallo broccolo, Chinese Cabbage (mustard and Napa), and Kohlrabi	Aphids Flea Beetles Thrips Whiteflies	1.66 - 3.67
Leafy Brassica Greens Broccoli (raab), Chinese Cabbage (bok choy), Collards, Kale, Mizuna, Mustard greens, Mustard spinach, and Rape greens		

Specific Crop Use Directions
Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seed line during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 - Post-seeding, transplant, or hill drench using sufficient water volume (10 - 100 gals. of water per acre) to ensure incorporation into the root zone.
 - In trickle or drip irrigation water.
 - Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After treatment, incorporate with enough irrigation to move the chemical to the root zone.
- For planting systems where multiple rows are planted on beds, make application of **Jewel** according to one of the above methods.
- **Water Volume:** Apply specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 3.67 oz. (0.172 lb. a.i.) of **Jewel** or 0.172 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 30 days

Citrus Fruit

Crop	Pest	Rate per Acre per Application (Oz.)
Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (sour and sweet), Pummelo, and Satsuma mandarin	Aphids Armored Scales Citrus Black Fly Diaprepes Root Weevil (Larvae and Adults) Leafhoppers Mealybugs Root Weevil Sharpshooters Soft Scales Thrips Whiteflies	2.67 - 3.67

Specific Crop Use Directions

Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:

- **Soil Surface Band:** Make application of a surface band on each side of the row out to the plant canopy drip line or within the vegetation-free herbicide strip. After the application, apply sufficiently irrigate (10 - 100 gals. of water per acre) to thoroughly wet the root zone.
- **Chemigation:** Make application into the root zone through low pressure drip, trickle, micro-sprinkler, or equivalent equipment. After the application, sufficiently irrigate (10 - 100 gals. of water per acre) to thoroughly wet the root zone.
- **Drench:** Make application to the base of the tree as a drench around the trunk of the tree and outward in order to cover the tree's root zone. **DO NOT** exceed 1 qt. total solution per tree. Make application only on trees up to 8 ft. in height.

Restrictions:

- **DO NOT** apply more than 3.67 oz. (0.172 lb. a.i.) of **Jewel** or 0.172 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- **Pre-Harvest Interval (PHI):** 0 days
-  **Jewel** is highly toxic to bees exposed to direct treatment on blooming crops. **DO NOT** apply during pre-bloom or during bloom when bees are actively foraging. **DO NOT** apply **Jewel** or allow it to drift to blooming crops or weeds if bees are foraging in or adjacent to the treatment area. This is especially critical if there are adjacent orchards that are blooming. After a **Jewel** application, wait at least 5 days before placing beehives in the treated field. If bees are foraging in the ground cover and it contains any blooming plants or weeds, always remove flowers before making an application. This may be accomplished by mowing, disk ing, mulching, flailing, or applying a labeled herbicide. Consult with your local Cooperative Extension Service or State agency responsible for regulating pesticide use for additional pollinator safety practices.
- Make application prior to pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels.

Cucurbit Vegetables

Crop	Pest	Rate per Acre per Application (Oz.)
Chayote, Chinese waxgourd, Citron melon, Cucumber, Edible gourd, Gherkin, <i>Momordica</i> spp., Muskmelon, Pumpkin, Squash (summer and winter), and Watermelon	Aphids Cucumber Beetles (Suppression) Flea Beetles Leafhoppers Leafminers (Suppression) Thrips Whiteflies	1.66 - 3.67

Specific Crop Use Directions

Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seed line during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 - o Post-seeding, transplant, or hill drench using sufficient water volume (10 - 100 gals. of water per acre) to ensure incorporation into the root zone.
 - o In trickle or drip irrigation water.
 - o Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After treatment, incorporate with enough irrigation to move the chemical to the root zone.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 3.67 oz. (0.172 lb. a.i.) of **Jewel** or 0.172 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 30 days

Fruiting Vegetables

Crop	Pest	Rate per Acre per Application (Oz.)
Eggplant, Ground cherry, Pepino, Peppers (bell, chili, cooking, pimento, and sweet), Tomatillo, and Tomato	Aphids Colorado Potato Beetle Flea beetles Leafhoppers Leafminers (Suppression) Potato Psyllid Thrips Tomato Pinworm Whiteflies	1.66 - 3.67

Specific Crop Use Directions

Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seed line during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 - o Post-seeding, transplant, or hill drench using sufficient water volume (10 - 100 gals. of water per acre) to ensure incorporation into the root zone.
 - o In trickle or drip irrigation water.
 - o Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After treatment, incorporate with enough irrigation to move the chemical to the root zone.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 3.67 oz. (0.172 lb. a.i.) of **Jewel** or 0.172 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 30 day

Hops

Pest	Rate per Acre per Application (Oz.)
Garden Symphylan (<i>Scutigerella immaculata</i>) Hop Aphid (<i>Phorodon humuli</i>) Root Weevils	2.67

Specific Crop Use Directions
See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o Make application of a surface band on each side of the row out to the plant canopy drip line or within the vegetation-free herbicide strip (calculated on a broadcast basis but concentrated in the band). After the application, apply sufficient irrigation to incorporate the product into the plant's root zone, on the same day as the application.
 - o Make application by chemigation into the root zone through low-pressure micro-sprinkler, trickle, or drip type irrigation systems.
 - o Hill drench in sufficient water (10 - 100 gals. of water per acre) to ensure incorporation into the root zone followed by irrigation.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 2.67 oz. (0.125 lb. a.i.) of **Jewel** or 0.125 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 65 days

Leafy Vegetables

Crop	Pest	Rate per Acre per Application (Oz.)
Amaranth, Arugula, Cardoon, Celery, Celery (Chinese), Celtsuce, Chervil, Chrysanthemum (edible-leaved and garland), Corn salad, Cress (garden and upland), Dandelion, Dock, Endive, Fennel, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio, Rhubarb, Spinach (New Zealand and vine), and Swiss chard	Aphids Flea Beetles Leafhoppers Leafminers (Suppression) Whiteflies	1.66 - 3.67

Specific Crop Use Directions
Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seed line during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 - o Post-seeding, transplant, or hill drench using sufficient water volume (10 - 100 gals. of water per acre) to ensure incorporation into the root zone.
 - o In trickle or drip irrigation water.
 - o Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After treatment, incorporate with enough irrigation to move the chemical to the root zone.
- For planting systems where multiple rows are planted on beds, make application of **Jewel** according to one of the above methods.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 3.67 oz. (0.172 lb. a.i.) of **Jewel** or 0.172 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- Pre-Harvest Interval (PHI): 30 days

Root Vegetables Subgroup 1A (Except Sugarbeets)

Crop	Pest	Rate per Acre per Application (Oz.)
Radish	Aphids Flea Beetles Leafhoppers Whiteflies	1.7 - 2.17
Carrot, Celeriac, Chicory, Edible burdock, Garden beet, Ginseng, Horseradish, Oriental radish, Parsnip, Rutabaga, Salsify (black and Spanish), Skirret, Turnip, Turnip Rooted Chervil, and Turnip Rooted Parsley	Aphids Flea Beetles Leafhoppers Whiteflies	1.7 - 4.01

Specific Crop Use Directions
Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o In-furrow spray at the seeding or as a narrow surface band above the seed line during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 - o Immediately after seeding using sufficient water volume (10 - 100 gals. of water per acre) to ensure incorporation into the seed zone.
 - o In trickle or drip irrigation water.
- For planting systems where multiple rows are planted on beds, make application of **Jewel** according to one of the above methods.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- Make application at seeding or within 24 hours of seeding.
- **Radish - DO NOT** apply more than 2.17 oz. (0.102 lb. a.i.) of **Jewel** or 0.102 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- **Other Root Vegetables - DO NOT** apply more than 4.01 oz. (0.188 lb. a.i.) of **Jewel** or 0.188 lb. a.i. of thiamethoxam containing products per acre per calendar year.

Tobacco

Pest	Rate per 1,000 Plants (Oz.)
Aphids	0.17 - 0.43
Flea Beetles	0.27 - 0.43
Japanese Beetles	
Tomato Spotted Wilt Virus (TSWV) - Suppression of symptoms	
Thrips (Suppression)	0.27
Mole Crickets	0.43
Thrips	
Whiteflies	
Wireworms	

Specific Crop Use Directions

Use lower rates for short residual control and higher rates within the listed rate range for long residual control. Tomato Spotted Wilt Virus (TSWV) is vectored by thrips and controlling or suppressing thrips can help to reduce TSWV. Use the higher rate where TSWV pressure is higher. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - **Tray Treatment:** Make application to transplants while still in trays. Thoroughly water transplants. Then make application of the chemical evenly to the transplants. Immediately after application, spray transplants with enough water to wash the chemical off the foliage and into the soil. Set transplants in the field within two days after application. During transplanting, workers handling transplants must wear waterproof gloves. **DO NOT** make application of **Jewel** to float-bed water.
 - **Soil Treatment:** Mix appropriate amounts of **Jewel** in water and drench transplants as they are being placed in the ground.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- Make an application at transplant.
- **DO NOT** apply more than 2.67 oz. (0.125 lb. a.i.) of **Jewel** or 0.125 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- **DO NOT** make more than 1 soil or tray treatment application per calendar year.

Tuberous and Corm Vegetables

Crop	Pest	Rate per Acre per Application (Oz.)
Arracacha, Arrowroot, Canna, Cassava (bitter and sweet), Chayote (root), Chinese artichoke, Chufa, Dasheen, Ginger, Jerusalem artichoke, Leren, Potato, Sweet potato, Tuber, Turmeric, Yams, and Yam bean	Aphids Colorado Potato Beetle Flea Beetle Potato Leafhoppers Potato Psyllid Wireworm (Seed Piece only)	1.66 - 2.67

Specific Crop Use Directions
Use lower rates for short residual control and higher rates for long residual control. See rate conversion chart for rate per 1,000 linear ft. Refer to **RESISTANCE MANAGEMENT RECOMMENDATIONS** section for resistance management information.

- **Application Method:** Make application using one of the following methods:
 - o An in-furrow spray during planting. For best results, spray directly on the seed pieces in the furrow. Make application in sufficient water (10 - 100 gals. of water per acre) to ensure good coverage of seed pieces.
 - o Make application of specified amount of **Jewel** impregnated on dry granular fertilizer prior to or during planting.
 - o Make application at-plant emergence. Direct spray at the soil near the base of the plant during the last hilling operation. Incorporate into the root zone with sufficient overhead irrigation (10 - 100 gals. of water per acre) within 24 hours.
 - o Make application as a broadcast spray to the soil during the last hilling operation. Incorporate into the root zone with sufficient overhead irrigation (10 - 100 gals. of water per acre) within 24 hours.
 - o Make application at-plant emergence through overhead chemigation after hilling. Use from 0.1" - 0.5" of water.
- **Water Volume:** Make application of specified dosage in sufficient water volume (10 - 100 gals. of water per acre) to ensure uniform treatment and incorporation into the soil.

Restrictions:

- **DO NOT** apply more than 2.67 oz. (0.125 lb. a.i.) of **Jewel** or 0.125 lb. a.i. of thiamethoxam containing products per acre per calendar year.
- **DO NOT** make more than 1 soil application per calendar year.

Conversion Chart For Linear Application

	20"	30"	34"	36"	38"	40"	46"	60"	72"	78"	80"	84"	Row Spacing
	26,136	17,424	15,374	14,520	13,756	13,068	11,363	8,712	7,260	6,702	6,534	6,223	Linear Ft./A
Rate (Oz./Acre)	Rate in oz. of product per 1,000 linear feet for specified row spacing and rate per acre												Lb. a.i./A
1.66	0.06	0.10	0.11	0.11	0.12	0.13	0.15	0.19	0.23	0.25	0.25	0.27	0.078
2.67	0.10	0.15	0.17	0.18	0.19	0.20	0.23	0.31	0.37	0.40	0.41	0.43	0.125
3.67	0.14	0.21	0.24	0.25	0.27	0.28	0.32	0.42	0.51	0.55	0.56	0.59	0.172
4.01	0.15	0.23	0.26	0.28	0.29	0.31	0.35	0.46	0.55	0.60	0.61	0.64	0.188
4.67	0.18	0.27	0.30	0.32	0.34	0.36	0.41	0.54	0.64	0.70	0.71	0.75	0.219
5.67	0.22	0.33	0.37	0.39	0.41	0.43	0.50	0.65	0.78	0.85	0.87	0.91	0.266

STORAGE AND DISPOSAL

DO NOT contaminate water, foodstuffs, feed or seed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

CONTAINER HANDLING:

Nonrefillable HDPE Plastic (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

Nonrefillable HDPE Plastic (Capacity Greater Than 50 Pounds): Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. 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. Turn the container over onto its other 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

Nonrefillable HDPE Plastic, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. **DO NOT** reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom, and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or other procedures approved by State and local authorities.

All Other HDPE Plastic Refillable Containers: Refillable container. Refilling Container: Refill this container with this pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage including cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, **DO NOT** use the container. Check for leaks after refilling and before transporting. If leaks are found, **DO NOT** reuse or transport container. Disposing of Container: **DO NOT** reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom, and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Sharda USA LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Sharda USA LLC and Seller harmless for any claims relating to such factors.

Sharda USA LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or Sharda USA LLC and Buyer and User assume the risk of any such use. To the extent consistent with applicable law, SHARDA USA LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, neither Sharda USA LLC nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SHARDA USA LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SHARDA USA LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Sharda USA LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of Sharda USA LLC.

All trademarks are the property of their respective owners.

Jewel

For Control of Listed Insect Pests Infesting Bushberry, Low Growing Berry, Small Fruit Vine, Brassica (Cole) Leafy Vegetables, Citrus Fruit, Cucurbit Vegetables, Fruiting Averages, Hops, Leafy Vegetables, Root Vegetables, Tobacco, and Tuberous and Corm Vegetables.

Sale, use and distribution of this product in Nassau and Suffolk counties in the state of New York is prohibited.

ACTIVE INGREDIENT:

Thiamethoxam: 3-(2-Chloro-5-thiazolylmethyl)tetrahydro-5-methyl-N-nitro-4H-1,3,5-oxadiazin-4-imine.....

WT. BY %

75.0%

OTHER INGREDIENTS:

25.0%

TOTAL:

100.0%

This product is a soluble granule insecticide.

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do NOT understand this label, find someone to explain it to you in detail.)

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 - 20 minutes. • Call a poison control center or doctor for treatment advice. **IF INHALED:** • Move person to fresh air. • If person not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice. **IF IN EYES:** • Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN - There is no specific antidote if ingested. Induce emesis or lavage stomach. Treat symptomatically.

HOTLINE NUMBER - Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call your poison control center at 1-800-222-1222.

PRECAUTIONARY STATEMENTS - HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION - Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS - This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops/plants or weeds. **DO NOT** apply this product or allow it to drift to blooming crops/plants or weeds while bees are foraging in/or adjacent to the treatment area.

See attached booklet for complete Environmental Hazards information

PHYSICAL OR CHEMICAL HAZARDS - DO NOT use, pour, spill, or store near heat or open flame.

DIRECTIONS FOR USE - It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

STORAGE AND DISPOSAL

DO NOT contaminate water, foodstuffs, feed or seed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place. **PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods. **CONTAINER HANDLING:** Nonrefillable HDPE Plastic (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recan. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

See label booklet for complete First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

Manufactured For:

Sharda USA LLC, 7217 Lancaster Pike, Suite A, Hockessin, Delaware 19707

EPA Reg. No. 83529-228

EPA Est. No. AG 72159-GA-001; MA 83411-MN-001; MC 89332-GA-001;

SC 39578-TX-001; TX 07401-TX-001

The EPA Establishment Number is identified by the circled letters above that match the first two letters in the batch number.

Net Contents: 8 oz.