

ARINO™

INSECTICIDE/NEMATICIDE

POWERED BY **RINOTEC™** TECHNOLOGY

For control or suppression of foliar insects, mites, soil insects and nematodes in agricultural crops including potato, sweetpotato, onion, mint, almond, pistachio, walnut, olive, grape, citrus, peach, plum and nectarine.

Active Ingredient: Inactivated *Burkholderia rinojensis* strain A396 cells and spent fermentation media* 94.46%

Other ingredients: 5.54%

Total: 100.00%

* Contains not less than 330 µg of: (1S,4S,7Z,10S,16E,21R)-7-ethylidene-4,21-di(propan-2-yl)-2-oxa-12,13-dithia-5,8,20,23-tetrazabicyclo[8.7.6]tricos-16-ene-3,6,9,19,22-pentone per mL of RinoTec™: (1S,4S,7Z,10S,16E,21R)-7-ethylidene-4,21-di(propan-2-yl)-2-oxa-12,13-dithia-5,8,20,23-tetrazabicyclo[8.7.6]tricos-16-ene-3,6,9,19,22-pentone is an analytical marker in the active substance product.

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
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.
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 by a poison control center or doctor. • Do not give anything to an unconscious person.
If on skin	• 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 is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For non-emergency information on this product, call (1-800-858-7378), 8:00AM to 12:00PM Pacific Time, Monday-Friday. For medical emergencies, call the poison control center at 1-800-222-1222.	

EPA Reg. No.: 84059-34

(Batch)(Lot) No: Printed on Container

Manufactured by/for: Pro Farm Group, Inc.
1530 Drew Avenue, Davis, CA 95618
1-877-664-4476
info@profarmgroup.com



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JOB 236666

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION. Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with skin or clothing. Avoid breathing 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
- waterproof gloves
- shoes plus socks
- protective eyewear.

Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with an HE filter.

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

ENGINEERING CONTROLS:

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 170.607(d-f)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS:

Users should:

- 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

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs.*

Arino should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce effects to other non-target insects.

DIRECTIONS FOR USE

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

Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 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:

- Protective eyewear
- Coveralls
- Chemical resistant gloves (made from any waterproof material)
- Shoes plus socks

EXCEPTION: If the product is soil incorporated or soil injected, 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.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

For all other non-WPS uses: Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

Arino™ insecticide/nematicide powered by RinoTec™ Technology for use against the pests listed in the **Labeled Crops** section. Arino is a suspension concentrate that can be applied as a foliar spray, as an in-furrow or T-band application at planting, as a transplant water treatment, as a banded soil treatment, through chemigation or as a foliar spray using rotary or fixed-wing aircraft.

Arino is mixed with water or liquid fertilizer for application and may be used on crops listed on this label, including those grown for seed production. Arino controls and/or suppresses foliar insects, mites, nematodes and soilborne insects by interfering with feeding activity and/or life cycle of a pest via ingestion of treated plant material and triggering plant defense genes to produce defensive compounds exuded by plant roots. Arino controls and/or suppresses many pests including northern root-knot nematode, columbia root-knot nematode, lesion nematode, wireworm, navel orangeworm, codling moth, leafrollers, vine mealy bug, Gills mealy bug and spider mites infesting labeled crops and plants.

Arino can be used in field environments for the control of any labeled pest according to instructions in the **Use Instructions and Labeled Crops** sections.

INTEGRATED PEST MANAGEMENT

Arino is recommended for use as part of an Integrated Pest Management (IPM) program, which may include the use of pest-resistant crop varieties, cultural practices, crop rotation, biological control agents, pest scouting and pest forecasting systems aimed at preventing economic pest damage. Practices known to reduce insect pest development should be followed. Consult your state cooperative extension service or local agricultural authorities for additional IPM strategies established in your area.

INSECT, MITE AND NEMATODE RESISTANCE MANAGEMENT

Some insect, mite, and nematode pests are known to develop resistance to products used repeatedly for insect, mite and nematode control. The mode of action of Arino within the insect or mite cell is currently unknown but is believed to be unique from other known modes of action and has not yet been classified by the Insect Resistance Action Committee. An insect, mite or nematode pest management program that includes alternation or tank mixes between Arino and other labeled insecticides, miticides or nematicides that have a different mode of action than Arino is essential to prevent resistant pest populations from developing.

USE INSTRUCTIONS

MIXING DIRECTIONS

Shake well before use. Slowly invert container several times to assure uniform mixture of formulation prior to adding product to the spray tank.

Important –Fill tank $\frac{1}{2}$ to $\frac{3}{4}$ of desired amount of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding Arino. Add the desired volume of Arino to the mix tank and the remaining volume of water and continue circulation. Maintain circulation while loading and spraying. Do not mix more Arino than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

SHAKE WELL BEFORE USE

TANK MIXING

Do not combine Arino in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions. Add water-soluble bags first followed by other dry products including water-soluble granules, water-dispersible granules and wettable powders. Then add Arino and other water-based suspension concentrates followed by water-soluble concentrates, suspo-emulsions, oil-based suspension concentrates, emulsifiable concentrates; surfactants, oils, and adjuvants; soluble fertilizers and drift retardants.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test with the assumption of 5 gallons of water or liquid fertilizer per acre application. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add the components to be mixed in the order specified in the previous paragraph. After thoroughly mixing, let this mixture stand for 15 minutes and assess by looking for separation, large flakes or other precipitates, gels or other signs of incompatibility. If the combination remains mixed or can readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

TANK-MIX PRECAUTIONS

Arino may be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. Do not mix with products that contain a label prohibition against tank mixing. Crop varieties can differ in their responsiveness to tank mixtures, and environmental conditions can have an influence on product performance and crop response. It is not possible to test Arino alone or with all possible tank mix combinations on all varieties under all environmental conditions. When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on Arino product labeling or in other Pro Farm Group product use instruction, it is important to check crop safety first. To test for crop safety, prepare a small volume of the intended tank mixture, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur. Use of Arino in any tank mixture applications that is not specifically described on Arino labeling or in other Pro Farm Group product use instructions, could potentially result in crop injury. Follow the precautions on this label and on the label for any other product to be used in tank mixtures before making such applications to your crops. Follow the most restrictive labeling. Pro Farm Group will not be responsible for any crop injury arising from the use of a tank mixture that is not specifically described on Arino labeling or in other Pro Farm Group product use instruction.

USE DIRECTIONS – SOIL TREATMENT

Arino can be applied by soil treatment to protect against labeled soilborne pests. In general, Arino can be applied by the following methods unless specified differently in the crops section.

In-Furrow Applications: At planting, apply Arino as an in-furrow application or as a 5-7 inch band (T-band) over an open furrow at the rate of 20 fluid ounces per acre according to the chart below. Apply Arino in a minimum of 3 gallons of water per acre so the spray is directed over the seed furrow just before the seeds are covered. Arino applied as a T-band should be lightly incorporated into the top 1 inch of soil by drag chains or tines. Arino can be mixed with liquid fertilizer in lieu of water where a jar test confirms physical compatibility. Applicators should confirm compatibility with a jar test prior to application.

Rate	In-Furrow and T-band Application Rates Product per 1000 ft. row.							
	7.5" Rows	15" Rows	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
20 fluid ounces per acre	0.29 fluid ounces	0.57 fluid ounces	1.15 fluid ounces	1.23 fluid ounces	1.30 fluid ounces	1.38 fluid ounces	1.45 fluid ounces	1.53 fluid ounces

7.5" = 69,697 row ft./acre, 15" = 34,848 row ft./acre, 30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

In-furrow applications of Arino should follow planting of RinoTec™ technology treated seed.

USE DIRECTIONS - GROUND AND AERIAL APPLICATION FOR FOLIAR PEST CONTROL

Apply Arino at a rate of 20 fluid ounces per acre in ground and/or aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts unless specified differently in the crops section. Attention should be given to sprayer speed and calibration, wind speed, spray pressure, nozzle type and size, and foliar canopy to ensure adequate spray coverage. For some crops, directed drop nozzles by ground machine are required. Application methods that increase deposition on lower crop canopy and underside of leaf surfaces are likely to improve pest control.

For ground, airblast, and aerial applications, do not apply when wind speeds exceed 15 mph at the application site.

Refer to table in the "SPRAY DRIFT BUFFERS" section of this label for buffer distance ranges required.

Arino is an insecticide, miticide and nematocide for use against listed pests. Close scouting and early attention to infestations are highly recommended. Proper timing of application targeting newly hatched larvae, nymphs or immature pests is important for optimal results. Under heavy pest populations, shorten the spray interval, and/or apply in tank mixture with another product that also has activity on the target pest. A single application may not be sufficient to achieve the desired level of control. Treat early after egg hatch and monitor population to be certain economic threshold are not reached. Repeat foliar applications at a 4 to 10 day interval depending upon plant growth, insect and/or mite activity, and other factors.

Use adjuvants with Arino to improve control of insect and mite pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces or when rainfall may remove spray deposits. Avoid adjuvants, adjuvant rates or water volumes that result in the accumulation of spray deposits on leaf margins. Avoid adjuvants containing organosilicones and/or oils labeled as penetrants on certain sensitive commodities unless prior experience has shown the spray mixture to be safe to the treated crop and variety. Acidifying adjuvants are not recommended unless the pH of the spray mixture is above 8.0. When making foliar sprays, use drift retardants to improve deposition of spray mixture on the target application site.

Foliar Spray Applications with Ground Equipment

Use calibrated power-operated ground equipment including hand-held and backpack sprayers capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre should be used, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift. A minimum of 3 gallons per acre should be used with electrostatic sprayers. Ensure uniform crop coverage. Refer to table in the "SPRAY DRIFT BUFFERS" section of this label for distance ranges required.

Foliar Spray Applications with Tree & Vine Sprayers

- For trees, apply Arino in at least 100 gallons of spray solution per acre. For small sized trees, apply in at least 50 gallons of spray solution per acre. Applying Arino at spray volumes lower than directed can make it harder to obtain thorough crop coverage and may reduce performance.
- For vines, apply Arino in at least 50 gallons of spray solution per acre. Applying Arino at spray volumes lower than directed can make it harder to obtain thorough crop coverage and may reduce performance.
- Air assisted tree and vine sprayers, including airblast sprayers, carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift:
 - 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.
 - Movement of spray that goes beyond the edge of the cultivated area may be minimized by practices such as spraying the outside row only from outside the planting.
 - Do not spray when wind speed favors drift beyond the area intended for use.
- Refer to table in the "SPRAY DRIFT BUFFERS" section of this label for buffer distance ranges required.

Aerial Application and Drift Reduction Advisory Information

- **General:** Apply in a spray volume of 3 or more gallons per acre on row crops and 10 or more gallons per acre on tree, orchard or vine crops. Because of reduced coverage, insect control by aerial application may be less than control by ground application.
- **Spray drift:** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

- Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.
- **Information on droplet size:** The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).
- **Controlling droplet size:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage. **Nozzle orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. **Nozzle type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Use low-drift nozzles, such as solid stream nozzles that are oriented straight back to produce the largest droplets and the lowest drift.
- **Boom width:** For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3–10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If the application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.
- **Application height:** Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).
- **Wind:** Drift potential is lowest between wind speeds of 2–10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.
- **Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.
- **Temperature inversions:** Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source 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.
- **Sensitive areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce effects to other non-target insects.
- Refer to table in the "SPRAY DRIFT BUFFERS" section of this label for buffer distance ranges required.

USE DIRECTIONS – CHEMIGATION SOIL APPLICATIONS USING DRIP AND MICRO-SPRINKLER SYSTEMS

Apply Arino through drip or micro-sprinkler/sprayer irrigation systems where specified on this label at a rate of 20 fluid ounces per acre unless specified differently in the crops section. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system including indoor and greenhouse systems used for pesticide applications directly to a public water system. The irrigation system must provide uniform water distribution. Arino must be applied in a manner that ensures the product reaches the root zone to effectively control soil-borne pests. The length of control provided depends on the rate applied, the pest being controlled, soil type, soil moisture, soil pH, etc.

Multiple applications can be made on a 7–28-day interval for soil insect and nematode treatments.

Refer to table in the "SPRAY DRIFT BUFFERS" section of this label for buffer distance ranges required.

Chemigation - Tree / Orchard / Vine Plantings

Apply 20 fluid ounces per acre by chemigation into the root zone through low-pressure micro sprinkler, drip, or trickle irrigation equipment unless specified differently in the labeled crops section. For optimal results soil should be pre-wetted prior to chemigation. Multiple applications may be necessary over multiple years to suppress soil-dwelling pest populations. Inject Arino in the final 30-60 minutes of an irrigation cycle, sufficient to wet the root zone.

For situations where individual trees are being replanted, saturate the root ball and the soil at the planting site to the depth/ volume of the anticipated root zone of the new planting with a 0.20% v/v (0.256 fluid ounces per gallon) solution of Arino. Subsequent applications should follow within 7 - 28 days.

Chemigation - Spray Mixture Preparation

First prepare a suspension of Arino in a mix tank. Slowly invert or agitate the container of Arino several times to assure uniform mixture of formulation prior to adding product to mix tank. Fill tank $\frac{1}{2}$ to $\frac{3}{4}$ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of Arino, and then the remaining volume of water. Then set the irrigation system to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start irrigation system and uniformly inject the suspension of Arino into the irrigation water line to deliver the desired rate per acre. Inject the suspension of Arino with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine Arino with pesticides, surfactants, or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. Arino has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

SHAKE WELL BEFORE USE

Chemigation - General Requirements

- 1) Apply this product only through drip or micro-sprinkler/sprayer irrigation systems where specified on this label. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system used for pesticide applications directly to a public water system. Arino is not labeled for use in greenhouse or indoor irrigation systems. The irrigation system must provide uniform water distribution.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) 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.
- 6) 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.
- 7) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 8) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 9) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 10) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

- 11) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 12) 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.
- 13) 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.
- 14) 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.
- 15) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 16) Check to be sure that the system provides a uniform waterflow.
- 17) Irrigate crop with sufficient water to wet the root zone. Then, begin flow of the solution containing product solution from the chemical tank for a period to uniformly distribute the material. Discontinue flow of the Arino mixture and let the system continue to run only as necessary to purge the line with fresh water. Let the Arino solution remain in the root zone of the crop.

Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) 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.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow 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 flow 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.

ROTATIONAL CROP RESTRICTIONS

There are no plant-back restrictions following application of Arino.

IMPORTANT NOTE: SAFETY TO BENEFICIAL ORGANISMS

Prior to treating an entire crop where the release of beneficial insects serves as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

SPRAY DRIFT BUFFERS

Arino must be applied in a manner that delivers application droplet sizes in the range of fine to very coarse in accordance with ASABE Standard S-571.1. Electrostatic sprayers only, are allowed to deliver droplet sizes in the range of very fine to very coarse.

Spray drift buffers are required downwind when applying Arino via Groundboom, Soil Broadcast, Chemigation, Electrostatic Ground Sprayers, and aerial application to protect non-target invertebrates and bees. The spray drift buffer is the distance in feet between the application site and the non-treated land. Roadways and headlands adjacent to the application site may be used to comply with the spray drift buffer requirement. Use the table below to determine the buffer zone that best fits your application scenario.

For ground boom applications a 50% reduction in buffer distance can be made if:

- The application is made with a hooded sprayer.

Application methods not listed in the table below are exempt from buffer zones.

Application Method	Minimum Buffer Distance ++			
	Coarse to Very Coarse+	Medium to Coarse+	Fine to Medium+	Very Fine to Fine +
Ground boom Soil broadcast Micro Sprinkler Chemigation Tree & Vine Sprayers	4 ft	4 ft	4 ft	Not Allowed
Electrostatic Ground Sprayers - low boom+++	4 ft	4 ft	4 ft	10 ft
Electrostatic Ground Sprayers - high boom and air assist	4 ft	4 ft	4 ft	20 ft
Aerial Application	27 ft	33 ft	66 ft	Not Allowed

(+) Application droplet size as defined in ASABE Standard S-572.1

(++) Where states or local authorities have more stringent regulations, they should be observed.

(+++) Electrostatic Ground Sprayers – low boom defined as 20 inches or less from the nozzle to the spray deposition target.

IMPORTANT NOTE: CROP AND PLANT TOLERANCE

Arino has been evaluated on a wide range of plants according to use directions on this label for crop safety. Not all crops within a crop group, and not all varieties, cultivars, or hybrids of crops within a crop group or under all environmental conditions or growing circumstances have been evaluated. Do not tank mix with products that contain a label prohibition against tank mixing. Prior to treating entire crop, test a small portion of the crop for sensitivity and assess for crop tolerance.

LABELED CROPS

Crops: Potato and cultivars, varieties, and/or hybrids of these.

Placement and use: For best results, apply at planting in-furrow.

Rate: 20 fluid ounces per acre

Soil pests controlled or suppressed:

- Columbia root-knot nematode (*Meloidogyne chitwoodi*)
- lesion nematodes (*Pratylenchus* spp)
- northern root-knot nematode (*Meloidogyne hapla*)
- sting nematodes (*Belonolaimus* spp)
- stubby-root nematodes (*Paratrichodorus* spp)
- stunt nematodes (*Tylenchorhynchus* spp)
- white grubs (*Phyllophaga* spp)
- wireworms (*Elateridae* spp)

Pre-harvest Interval (PHI): 0 days

(*) not for use in California

Crops: Garlic, Onion (bulb), Onion (Welsh) and Shallot and cultivars, varieties, and/or hybrids of these

Placement and use: For best results, apply at planting in-furrow.

Rate: 20 fluid ounces per acre

Soil pests controlled or suppressed:

- Columbia root-knot nematode (*Meloidogyne chitwoodi*)
- lesion nematodes (*Pratylenchus* spp)
- northern root-knot nematode (*Meloidogyne hapla*)
- sting nematodes (*Belonolaimus* spp)
- stubby-root nematodes (*Paratrichodorus* spp)
- stunt nematodes (*Tylenchorhynchus* spp)
- white grubs (*Phyllophaga* spp)
- wireworms (*Elateridae* spp)

Pre-harvest Interval (PHI): 0 days

(*) not for use in California

Crops: Sweet potato, yams, carrot, ginseng and cultivars, varieties, and/or hybrids of these.

Placement and use: **Soil Treatments:** For best results, apply as a pre-plant incorporated treatment no more than 3 days prior to planting or at planting/ transplanting in the transplant water or fertilizer. Repeat treatment 14 to 21 days after planting/transplanting made as a 5-7 inch banded application directed at the base of the plant or as part of the hilling operation to extend control. A one-half to one inch irrigation or rainfall is required to incorporate surface applied treatments into the soil root zone.

Foliar Treatments: For best results, apply with ground application equipment with sufficient water volume to ensure complete coverage of the canopy foliage. Ensure uniform spray deposition of top and bottom leaf surfaces approaching but not reaching the point of run-off. Avoid washing the material off the treated foliage by avoiding overhead irrigation for 3 days after application.

Soil Treatment Rate: 20 fluid ounces per acre

Foliar Treatment Rate: 18-20 fluid ounces per acre

Soil pests controlled or suppressed:

- guava root-knot nematode* (*Meloidogyne enterolobii*)
- northern root-knot nematode (*Meloidogyne hapla*)
- sting nematode (*Belonolaimus longicaudatus*)
- white grubs (*Phyllophaga* spp)
- wireworms (*Elateridae* spp)

Foliar insects controlled or suppressed:

- western flower thrips (*Frankliniella occidentalis*)
- eastern flower thrips* (*Frankliniella tritici*)
- sweet potato whitefly (*Bemisia tabaci*)
- spider mites (*Tetranychus* spp)

Pre-harvest Interval (PHI): 0 days

(*) not for use in California

Crops: Calamondin, Citrus citron, Citrus hybrids (*Citrus* spp., chironja, tangelo, tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin, Orange (sweet and sour), Pummelo, Satsuma mandarin, Tangerine, Tangelo, Tangor, Uniq fruit, cultivars, varieties and/or hybrids of these.

Rate: 20 fluid ounces per acre

Placement and use: For best results, apply with sufficient water volume in an air assisted sprayer to ensure complete coverage of the canopy foliage.

Foliar Insects Controlled or Suppressed:

- brown marmorated stink bug (*Halyomorpha halys*)
- citrus cutworm* (*Egira curialis*)
- citrus mealybug (*Planococcus citri*)
- citrus red mite (*Panonychus citri*)
- citrus thrips (*Scirtothrips citri*)
- Gill's mealybug (*Ferrisia gilli*)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

Crops: Apricot, Nectarine, Peach, Plum, Plum (Chickasaw), Plum (Damson), Plum (Japanese), Plumbot, Prune, Capulin, Jujube, Sloe, cultivars, varieties, and/or hybrids of these.

Placement and use: For best results, apply with sufficient water volume in an air assisted sprayer to ensure complete coverage of the canopy foliage.

Rate: 20 fluid ounces per acre

Foliar Insects Controlled or Suppressed:

- brown marmorated stink bug (*Halyomorpha halys*)
- Pacific spider mite (*Tetranychus pacificus*)
- peach twig borer (*Anarsia lineatella*)
- San Jose scale (*Diaspidiotus perniciosus*)
- twospotted spider mite (*Tetranychus urticae*)
- western flower thrips (*Frankliniella occidentalis*)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

Crops: Grape, Kiwifruit (fuzzy and hardy) and cultivars, varieties and/or hybrids of these.
Rate: 20 fluid ounces per acre
Placement and use: For best results, apply with sufficient water volume in an air assisted sprayer to ensure complete coverage of the canopy foliage.

Foliar Insects Controlled or Suppressed:

- Gill's mealybug (*Ferrisia gilli*)
- grape mealybug (*Pseudococcus maritimus*)
- longtailed mealybug* (*Pseudococcus longispinus*)
- omnivorous leafroller (*Platynota stultana*)
- Pacific spider mite (*Tetranychus pacificus*)
- twospotted spider mite (*Tetranychus urticae*)
- vine mealybug (*Planococcus ficus*)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

Crops: Almond, Pistachio, Walnut (Black and English), cultivars, varieties, and/or hybrids of these.
Rate: 20 fluid ounces per acre
Application and Timing: For best results, apply with sufficient water volume in an air assisted sprayer to ensure complete coverage of the canopy foliage.

Foliar Insects Controlled or Suppressed:

- brown marmorated stink bug (*Halyomorpha halys*)
- codling moth (*Cydia pomonella*)
- Gill's mealybug (*Ferrisia gilli*)
- leaffooted plant bugs (*Leptoglossus* spp)
- navel orangeworm (*Amyelois transitella*)
- obliquebanded leafroller* (*Choristoneura rosaceana*)
- Pacific spider mite (*Tetranychus pacificus*)
- peach twig borer (*Anarsia lineatella*)
- San Jose scale (*Diaspidiotus perniciosus*)
- twospotted spider mite (*Tetranychus urticae*)
- walnut husk fly (*Rhagoletis completa*)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

Crops: Olive cultivars, varieties, and/or hybrids of these.
Rate: 20 fluid ounces per acre
Application and Timing: For best results, apply with sufficient water volume in an air assisted sprayer to ensure complete coverage of the canopy foliage.

Foliar Insects Controlled or Suppressed:

- olive fruit fly (*Bactrocera oleae*)
- western flower thrips (*Frankliniella occidentalis*)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

Crops: Mint, spearmint, peppermint, Korean mint, calamint, Mexican mint, corn mint, cultivars, varieties, and/or hybrids of these.

Placement and use: Soil Treatments: For best results, apply as a broadcast application to established stands at the break of dormancy and after each cutting. A one-half to one-inch irrigation or rainfall is required to incorporate the material into the soil root zone. To extend control, repeat applications every 7 to 22 days.

Foliar Treatments: For best results, apply with ground application equipment with sufficient water volume to ensure complete coverage of the canopy foliage. Avoid washing the material off the treated foliage by avoiding overhead irrigation for 3 days after application.

Rate: 20 fluid ounces per acre

Soil pests controlled or suppressed:

- Columbia root-knot nematode (*Meloidogyne chitwoodi*)
- lesion nematodes (*Pratylenchus* spp)
- mint nematode* (*Longidorus elongatus*)
- northern root-knot nematode (*Meloidogyne hapla*)
- pin nematodes* (*Paratylenchus* spp)
- ring nematodes (*Criconeimella xenoplax*)
- stubby-root nematodes (*Paratrichodorus* spp)
- wireworms (*Elateridae* spp)
- white grubs (*Phyllophaga* spp)

Foliar insects controlled or suppressed:

- twospotted spider mite (*Tetranychus urticae*)
- western yellowstriped armyworm (*Spodoptera praefica*)

Pre-harvest Interval (PHI): 0 days

(*) not for use in California

Crops: Cereal grains including corn (field, popcorn, corn grown for seed, corn grown for silage) and sorghum (milo).

Rate: 20 fluid ounces per acre

Application and Timing: For best results, apply at planting in-furrow.

Soil Pests Controlled or Suppressed:

- western corn rootworm larvae (*Diabrotica virgifera virgifera*)
- northern corn rootworm larvae (*Diabrotica barberi*)
- southern corn rootworm larvae (*Diabrotica undecimpunctata howardi* Barber)
- Mexican corn rootworm larvae (*Diabrotica virgifera zea*)
- wireworms (*Elateridae* spp)
- white grubs (*Phyllophaga* spp)
- lesion nematodes (*Pratylenchus* spp)
- sting nematodes (*Belonolaimus* spp)
- stunt nematodes (*Tylenchorhynchus* spp)
- stubby-root nematodes (*Paratrichodorus* spp)
- dagger nematodes (*Xiphinema* spp)
- lance nematodes (*Haplolaimus* spp)
- needle nematodes (*Longidorus* spp)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

Crops: Forage, fodder and straw of cereal grains including corn (field, popcorn, corn grown for seed, corn grown for silage) and sorghum (milo).

Rate: 20 fluid ounces per acre

Application and Timing: For best results, apply at planting in-furrow.

Soil Pests Controlled or Suppressed:

- western corn rootworm larvae (*Diabrotica virgifera virgifera*)
- northern corn rootworm larvae (*Diabrotica barberi*)
- southern corn rootworm larvae (*Diabrotica undecimpunctata howardi* Barber)
- Mexican corn rootworm larvae (*Diabrotica virgifera zea*)
- wireworms (*Elateridae* spp)
- white grubs (*Phyllophaga* spp)
- lesion nematodes (*Pratylenchus* spp)
- sting nematodes (*Belonolaimus* spp)
- stunt nematodes (*Tylenchorhynchus* spp)
- stubby-root nematodes (*Paratrichodorus* spp)
- dagger nematodes (*Xiphinema* spp)
- lance nematodes (*Haplolaimus* spp)
- needle nematodes (*Longidorus* spp)

Pre-harvest Interval (PHI): 0 Days

(*) not for use in California

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place. Do not freeze.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling:

For plastic containers less than or equal to 5 gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

For plastic containers greater than 5 gallons: 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 incineration.

[and/or, as applicable to container type]

For refillable containers: Refillable container. Refill this container with Arino 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 a 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 rinsing procedure two more times.



Pro Farm Group is a member of the Ag Container Recycling Council. Visit <http://www.acrecycle.org/contact> for information on how to arrange pick-up of this empty pesticide container.

Pro Farm Group

WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

ARINO™

INSECTICIDE/NEMATICIDE

POWERED BY **RINOTEC™** TECHNOLOGY

For control or suppression of foliar insects, mites, soil insects and nematodes in agricultural crops including potato, sweetpotato, onion, mint, almond, pistachio, walnut, olive, grape, citrus, peach, plum and nectarine.

Active Ingredient: Inactivated *Burkholderia rinojensis* strain A396 cells and spent fermentation media* 94.46%
Other ingredients: 5.54%
Total: 100.00%

* Contains not less than 330 µg of: (1S,4S,7Z,10S,16E,21R)-7-ethylidene-4,21-di(propan-2-yl)-2-oxa-12,13-dithia-5,8,20,23-tetrazabicyclo[8.7.6]tricos-16-ene-3,6,9,19,22-pentone per mL of RinoTec™: (1S,4S,7Z,10S,16E,21R)-7-ethylidene-4,21-di(propan-2-yl)-2-oxa-12,13-dithia-5,8,20,23-tetrazabicyclo[8.7.6]tricos-16-ene-3,6,9,19,22-pentone is an analytical marker in the active substance product.

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
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.
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 by a poison control center or doctor. • Do not give anything to an unconscious person.
If on skin	• 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 is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For non-emergency information on this product, call (1-800-858-7378), 8:00AM to 12:00PM Pacific Time, Monday-Friday. For medical emergencies, call the poison control center at 1-800-222-1222.	

EPA Reg. No.: 84059-34

(Batch)(Lot) No: Printed on Container

Manufactured by/for: Pro Farm Group, Inc.
1530 Drew Avenue, Davis, CA 95618
1-877-664-4476
info@profarmgroup.com

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EPA Est. No.: 84059-MI-001

Net Contents: ☒ 2.5 gallons

PEEL BACK BOOK HERE

105411

PF 236666

PROOF

THIS PROOF IS TO BE CHECKED FOR ACCURACY

Please review and approve **Text, Spelling, Copy Placement, Size, Shape, Colors** and **Dieline**.

Authorized signature accepts responsibility for accuracy of all copy, color break and artwork. Cimarron Label is not liable for any discrepancies subsequently identified.

PLEASE NOTE: Due to color variance between printers/monitors, the colors represented by this proof cannot be deemed accurate. Please refer to a color matching system such as the Pantone Matching System for a truer representation of spot colors.

THIS PROOF IS NOT ACCURATE FOR COLOR-MATCH.

Dieline does not print.



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DATE	JOB NUMBER	CUSTOMER
03-07-2025	236666	PROFARM
LABEL SIZE	BOOKLET SIZE	
6.25" x 5.5"	5.25" x 4.5"	
LABEL COLORS	BOOKLET OUTSIDE COLORS	BOOKLET INSIDE COLORS
 BLK	 161	 BLK
PATTERN VARNISH: ☐ YES ☒ NO		

Form: CS 006B - 3/29/2017

☐ ARTWORK IS APPROVED

☐ REVISED PROOF NEEDED

**WE CANNOT PROCESS
THIS ORDER WITHOUT AN
AUTHORIZED SIGNATURE**

Signed

Date

3/10/25