



**With CYAZYPYR® active**

For foliar applications to brassica (leafy, and head and stem), bulb, cucurbit, fruiting, leafy green, leaf petiole, legume, root and tuberous and corm vegetables; commercially grown greenhouse cucumber, eggplant, pepper and tomato; cotton, oil seed crops; strawberries; bushberries; caneberries; coffee; low growing berries; peanuts; soybeans; citrus, pome, and stone fruits; tree nuts; and tobacco for pest management of sucking and chewing insects that can vector certain plant diseases, aiding in optimization of the crop's potential.

**ACTIVE INGREDIENT:**

Cyantraniliprole

3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino) carbonyl]phenyl]-1H-pyrazole-5-carboxamide .....10.20%

OTHER INGREDIENTS: ..... 89.80%

TOTAL: .....100.00%

KRADAN is a suspoemulsion (oil in water emulsion). SHAKE WELL BEFORE USING.

Contains 0.83 lb. active ingredient per gallon.

EPA Reg. No. 279-9615-100202

EPA Est. No. 279-NY-1

Not for sale, sale into, distribution and/or use in Nassau and Suffolk counties of New York State.

**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 the label, find someone to explain it to you in detail.)

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

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

<b>FIRST AID</b>	
If on skin	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If in eyes	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>For questions regarding emergency medical treatment, you may contact CHEMTREC at (800) 424-9300 for information.</p>	

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils
- Shoes plus socks.

After the product has been diluted in accordance with label directions for use, shirt, pants, socks, and shoes are sufficient Personal Protective Equipment. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

#### USERS SHOULD:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### PHYSICAL OR CHEMICAL HAZARDS

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

**Surface Water Advisory:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several weeks 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 cyantraniliprole from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

**Ground Water Advisory:** This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

### 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 resulting from 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 in and around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

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

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

## 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.

**ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS:** Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email [ESPP@epa.gov](mailto:ESPP@epa.gov).

### 1. 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.

### 2. FOR FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS



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

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

### RESTRICTIONS

- Do not make ground applications within 25' or aerial applications within 50' of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds). Do not cultivate within 30' of these aquatic areas to allow growth of a vegetative filter strip.
- For foliar uses, do not apply during rain.
- When making air blast applications to orchard crops, including citrus, with sparse canopies a 25 foot buffer is required between the application site and all adjacent areas except for roads (and other paved or gravel surfaces), agricultural areas (fields that have been planted into or prepared for planting), and structural areas (buildings or other man-made structures with walls and/or a roof). A sparse canopy occurs during the period of dormancy starting from first leaf drop at the end of the season until vegetation is fully leafed out in the spring, and on young orchard crops, including citrus, that are not yet bearing.
- Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- Do not use on crops grown to harvest in greenhouses unless specified in the crop section of this label.
- Do not apply KRADAN to the soil or through drip irrigation systems.
- May be used on crops on this label grown for seed production.
- Do not use in residential areas.
- Do not apply KRADAN through any irrigation system unless specified in the crop section of this label.
- Unless otherwise stated for a specific crop, do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. This is the total from all application methods (eg. seed, soil, foliar).

## **AGRICULTURAL USE REQUIREMENTS**

KRADAN must be used 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 the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

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

For early entry into 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, wear:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils

KRADAN must be used in accordance with the directions for use on this label, or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

KRADAN is a suspoemulsion (oil in water emulsion) that can be applied as a foliar spray on labeled crops or by overhead chemigation in cranberries, potatoes and bulb vegetables to control listed insects. KRADAN is specially formulated for maximum performance by foliar applications in brassica, bulb, cucurbit, fruiting, leafy, legume, root and tuberous and corm vegetables; commercially grown greenhouse cucumber, eggplant, pepper and tomato; cotton, oil seed crops; strawberries; bushberries; caneberries; coffee; low growing berries; peanuts; soybeans; citrus, pome, and stone fruits; tree nuts; and tobacco. Do not apply directly to the soil or through drip irrigation as doing so may damage the plant root system. KRADAN is mixed with water for application.

KRADAN is a member of the anthranilic diamide class of insecticides with a novel mode of action acting on insect ryanodine receptors. Although KRADAN has contact activity, it is most effective through ingestion of treated plant material. After exposure to KRADAN, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days, reducing both direct damage and the transmission of some insect transmitted diseases. Early season applications of KRADAN improve crop establishment and growth vigor by controlling a range of pests that attack seedlings. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae or nymphs, before populations reach damaging levels. When pest populations are high, use the highest listed application rate for that pest. For best results when targeting control of sucking pests, begin applications when insect populations first appear. KRADAN has preventative activity but low curative activity for sucking pests.

## **INTEGRATED PEST MANAGEMENT**

Altamont supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds. For best results on sucking pests, begin applications when populations first appear. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

## **SCOUTING**

Monitor insect populations to determine if there is a need for application of KRADAN based on label recommendations and locally determined pest management guidelines. More than one treatment of KRADAN may be required to control a pest population.

## **INSECT RESISTANCE MANAGEMENT**

KRADAN contains the active ingredient cyantraniliprole and is a Group 28 insecticide based on the mode of action classification system of the International Insecticide Resistance Action Committee (IRAC). Insecticides with the same Group Number affect the same biological site of action on the target pest and when used repeatedly in the same treatment area, naturally-occurring resistant individuals may survive correctly applied insecticide treatments, reproduce, and become dominant.

To avoid or delay the development of insecticide resistance, a resistance management strategy should be established for the use area. This strategy may include incorporation of cultural and biological control practices, alternation to different mode of action insecticides on succeeding generations, and targeting the most susceptible life stage. Consult your local or state agricultural authorities and product manufacturer for more information about developing a resistance management strategy.

Unless directed otherwise in the specific crop/pest sections of this label, the best practices are to follow these guidelines to delay the development of insecticide resistance:

- Apply KRADAN and other Group 28 insecticides within a single “treatment window” to minimize exposing multiple successive generations of a pest species to the same mode of action insecticides.
- A “treatment window” is defined as the period of insecticidal activity provided by one or more applications of products with the same mode of action.
- A “treatment window”, including residual control, should not exceed 30 days (the length of a typical pest generation).
- Within the Group 28 “treatment window”, make no more than 2 applications of KRADAN or other Group 28 insecticides.
- Following a Group 28 “treatment window”, rotate to a “treatment window” of effective insecticides with a different mode of action (Group Number).
- The period between Group 28 “treatment windows” should be at least 30 days.
- The total exposure of all Group 28 products applied throughout the crop cycle (from seedling to harvest) should not exceed approximately 50% of the crop cycle or 50% of the total number of insecticide applications targeted at the same pest species.
- For short cycle crops (< 50 days), the duration of the crop cycle may be considered as the Group 28 “treatment window” as long as no Group 28 insecticides are used during the next crop cycle at the same farm location.
- Avoid using less than labeled rates of KRADAN when applied alone or in tank mixtures.
- Target the most susceptible insect life stages whenever possible.
- Monitor insect populations for product effectiveness. If poor performance occurs and it cannot be attributed to improper application or extreme weather conditions, a resistant pest population may be present.

If resistance to KRADAN develops in your area, KRADAN or other products with a similar mode of action (Group 28) may not provide adequate control. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area.

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org>.

## APPLICATION

Apply at the specified rates when insect populations reach locally determined action thresholds. For best results on sucking pests, begin applications when pests first appear. Consult the cooperative extension service, professional consultants or other qualified authorities for local pest management guidelines in your area.

Apply follow-up treatments of KRADAN, as specified, to keep pest populations under threshold limits. Refer to the Resistance Management section of this label for further guidance on follow-up treatments. See individual crop sections of this label for specific minimum spray intervals.

Use sufficient water to obtain thorough, uniform coverage.

KRADAN may be applied by foliar ground or aerial application equipment. Not all application methods are allowed on all crops; see specific crop sections of this label or other supplemental labeling for application methods which may be used. For aerial application use the following directions unless otherwise specified in specific crop/pest sections of this label or other supplemental labeling: use a minimum of 5 gallons per acre (gpa) of water for vegetable crops and 10 gallons per acre (gpa) for all fruit and nut crops. The highest labeled rate for a specified pest may be necessary when aerial applications are made. For ground foliar applications use the following directions, unless otherwise specified in specific crop/pest sections of this label or other supplemental labeling: use a minimum of 10 gal per acre (gpa) of water for all vegetable crops and 30 gallons per acre (gpa) for all fruit and nut crops.

**Use of Adjuvants:** In some situations where coverage is difficult to achieve such as closed canopy, dense foliage, plants with waxy leaf surfaces, or less than optimum application equipment, an adjuvant may improve performance. Use a proven and recommended adjuvant that does not affect foliage and/or fruit finish. Tank mixes of KRADAN with spreading and penetrating adjuvants can result in adverse crop response. See specific crop instructions in the following crop tables.

**Spray Preparation:** Spray equipment must be clean and free of previous pesticide deposits before applying KRADAN. Fill spray tank 1/4 to 1/2 full of water. Add KRADAN directly to spray tank. Mix thoroughly to fully disperse the insecticide, once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

**Acidification of Spray Tank:** If the pH of the spray tank after all products have been added and mixed is above pH 8, adjust to pH 8 or less using a registered acidifying agent. If the spray tank pH is 8 or less no adjustment of the spray tank pH is necessary. Spray tanks of pH 8 or less can be held for up to 8 hours before spraying. Do not store the spray mixture overnight in the spray tank.

**Compatibility:** Since formulations may be changed and new ones introduced, premix a small quantity of a desired tank mix and observe for physical incompatibility (settling out, flocculation, etc.). Spray volumes of less than 3 gallons of water and tank mixtures of more than two products can increase the chances of incompatible spray mixtures. A jar test (as described below) should be conducted when label guidance is not given or prior experience with a specific tank mixture is unknown. The jar test should follow the proper sequence of addition at the spray water volume planned to assure that the tank mix is compatible. Constant agitation may be needed during mixing and spraying of mixtures.

This product can be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. 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.

Steps to conduct a jar test to determine physical tank mix compatibility of KRADAN with other products:

- Add clean water to jar proportional to the planned water volume that will be used in the spray tank (a jar size of 16 oz is acceptable).
- Using the most restrictive PPE of the products to be tested, mix proper proportions of KRADAN and desired tank mix partner(s) as will be present in the spray tank, add one product at a time following the sequence of addition according to formulation type provided in this label.
- Seal and shake mixture after each product is added.
- Allow to stand for 1 hour.
- View jar to determine if settling, flocculation, crystallization or any other undesirable changes have happened.
- If none of the above is observed or the solution can be easily remixed after shaking, the mixture is compatible with KRADAN.

If the tank mix is not compatible, a higher water volume, reduced rate of the tank mix partner(s), reduced number of tank mix partners or a compatibility agent may be needed.

**Tank Mixtures and Crop Safety:** KRADAN is an oil in water emulsion. The crop safety of KRADAN alone or in tank mix with many common insecticides, fungicides, nutritionals and adjuvants has been found to be acceptable. See crop tables in this label for specific information on when using KRADAN in tank mixes on those crops. Some materials including oils, surfactants, adjuvants, nutritionals and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury.

Applying KRADAN with any product that produces adverse crop response in a tank mixture, specifically including, but not limited to, those listed in the individual crop tables, may also cause adverse crop response when applied in a short time sequence (i.e., seven days apart or less between applications) before or after KRADAN. Such uses should be tested as described below before broad application is made.

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 KRADAN alone or with all possible tank mix combinations and sequences on all crops and 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 KRADAN product labeling or in other Altamont product use instruction, or when applying any product known to have caused adverse crop response when used in tank mix with KRADAN in close sequence with KRADAN, it is important to check crop safety first. To test for crop safety, prepare a small volume of the intended tank mixture or sequence, 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 KRADAN in any tank mixture or sequence of applications that is not specifically described on KRADAN product labeling or in other Altamont 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 or in sequential applications before making such applications to your crops. Follow the most restrictive label. Altamont will not be responsible for any crop injury arising from the use of a tank mixture or sequence of applications that is not specifically described on KRADAN product labeling or in other Altamont product use instruction.

**Tank Mixing Sequence:** Add different formulation types in the sequence indicated below\*. Allow time for complete mixing and dispersion after addition of each product.

1. Water soluble bag (WSB)
2. Water soluble granules (SG)
3. Water dispersible granules (WG, XP, DF)
4. Wettable powders (WP)
5. Water based suspension concentrates (SC)
6. Water soluble concentrates (SL)
7. KRADAN and other suspoemulsions (SE)
8. Oil based suspension concentrates (OD)
9. Emulsifiable concentrates (EC)
10. Surfactants, oils adjuvants
11. Soluble fertilizers
12. Drift retardants

\* Unless otherwise specified by manufacturer directions for use or by local experience.

### **CHEMIGATION - Overhead Sprinkler – Cranberries, Potatoes and Bulb Vegetables**

The following types of irrigation equipment may be used for chemigation applications to cranberries, potatoes and bulb vegetables: overhead sprinkler irrigation systems.

Apply KRADAN in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area. Inject KRADAN downstream from any water filtration system.

Do not connect any irrigation system used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices are in place. 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 at least 60 days out of the year.

See "Required System Safety Devices For All Chemigation Systems" at the end of the Chemigation section.

### **APPLICATION INSTRUCTIONS FOR CHEMIGATION USING OVERHEAD SPRINKLER SYSTEMS – CRANBERRIES, POTATOES AND BULB VEGETABLES**

Types of Chemigation Systems: KRADAN may be applied to cranberries, potatoes and bulb vegetables through overhead sprinkler irrigation systems, including the following; center pivot, end tow, hand move, lateral move, side roll, solid set and wheel line. The irrigation system used must provide uniform water distribution.

#### **Directions for Chemigation:**

##### **Preparation**

A pesticide tank is recommended for the application of KRADAN in chemigation systems.

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. With the mix tank 1/4 to 1/2 full with water and the agitator running, measure the required amount of KRADAN and add it to the tank. The highest labeled rate for the specified pest may be necessary when making overhead chemigation applications. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. Note: Always add KRADAN to water, never put KRADAN into a dry tank or other mixing equipment without first adding water. See "Tank Mixing Sequence" section for tank mixing sequence. Continue to agitate the mixture throughout the application process. Use mechanical or hydraulic agitation, do not use air agitation.

##### **Injection Into Chemigation Systems**

Inject the proper amount of KRADAN into the irrigation water flow using a positive displacement injection pump or a Venturi injector. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water. For continuously moving systems, inject the solution containing KRADAN into the irrigation water line continually and uniformly throughout the irrigation cycle. The recommended maximum water volume for the overhead chemigation application is 0.2 acre inches of water. For overhead sprinkler systems that are stationary, add the solution containing KRADAN to the irrigation water line and apply in a maximum water volume of 0.25 acre inches of water.

##### **Uniform Water Distribution**

The irrigation system used for application of KRADAN must provide for uniform distribution of KRADAN treated water. Non-uniform distribution can result in crop injury, lack of effectiveness or illegal pesticide residues in or on the crop being treated. Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent or other experts if you have questions about achieving uniform distribution of the application.



### **Equipment Calibration**

Calibrate the irrigation system and injector before applying KRADAN. Calibrate the injection pump while the system is running using the expected irrigation rate. If you have questions about calibration, you should contact your state extension service specialists, equipment manufacturer or other experts.

### **Monitoring of Chemigation Applications**

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when KRADAN is in the irrigation water.

### **Operation**

Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injection system according to the directions above. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

- End guns must be turned off during the application, if they irrigate nontarget areas or if they do not provide uniform application and coverage.
- The nozzles in the immediate area of wells, control panels, chemical supply tanks and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.
- Do not allow irrigation water to collect or run-off during chemigation.

### **Cleaning the System**

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

### **Required System Safety Devices For All Chemigation Systems**

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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.
6. Systems must use a metering device, such as a positive displacement pump or a Venturi injector, that provides uniform injection of the product, is effectively designed and constructed of materials compatible with the product, and is capable of being fitted with a system interlock.
7. 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 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.

### **SPRAY TANK CLEANOUT**

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water.

Clean all other associated equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation.

Dispose of waste rinse water in accordance with local regulations.



## SPRAY DRIFT MANAGEMENT

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

### IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

### CONTROLLING DROPLET SIZE - GROUND APPLICATION

- For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Pressure - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

### CONTROLLING DROPLET SIZE - AIRCRAFT

- For fixed wing and helicopter aerial applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other fixed wing and helicopter aerial applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Nozzle Type - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- Number of Nozzles - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- Nozzle Orientation - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Pressure - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

### BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT

- Boom Length (aircraft) - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift. Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

### WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

For aerial application, if the windspeed is 10 miles per hour or less, applicators must use  $\frac{3}{4}$  swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full swath displacement upwind at the downwind edge of the field.

For aerial application, do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.

#### **TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

#### **SURFACE TEMPERATURE INVERSIONS**

For aerial application, do not apply during temperature inversions.

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

#### **AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions for additional information.

#### **SENSITIVE AREAS**

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

#### **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.

Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology.

### **CROP ROTATION**

Crops on this label and the following crops or crop groups may be planted immediately following the last application of KRADAN: Brassica Leafy Greens (Crop Subgroup 4-16B) and Brassica Head and Stem Vegetables (Crop Group 5-16); Bulb Vegetables (Crop Group 3-07); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Greens (Crop Subgroup 4-16A) and Leaf Petiole Vegetables (Crop Subgroup 22B); Celtsuce; Florence Fennel; Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Berry and Fruit Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Soybeans; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.

The following crops or crop groups may be planted 30 days following the last application of KRADAN: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.

There is no plant back restriction for conversion of a treated field to, or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Caneberry Subgroup (Crop Subgroup 13-07A); Coffee; Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).

All other crops cannot be planted until 12 months after the last application of KRADAN.

**BRASSICA LEAFY GREENS** (Crop Subgroup 4-16B) and **BRASSICA HEAD AND STEM VEGETABLES** (Crop Group 5-16) Including Arugula; Broccoli, Chinese; Broccoli raab; Cabbage, abyssinian; Cabbage, Chinese, Bok choy; Cabbage, seakale; Collards; Cress, garden; Cress, upland; Hanover salad; Kale; Maca, leaves; Mizuna; Mustard greens; Radish, leaves; Rape greens; Rocket, wild; Shepherd's purse; Turnip greens; Watercress; Broccoli (*Brassica oleracea* L. var. *italica* Plenck); Brussels sprouts (*Brassica oleracea* L. var. *gemmifera* (DC.) Zenker); Cabbage (*Brassica oleracea* L. var. *capitata* L.); Cabbage, Chinese, napa (*Brassica rapa* L. subsp. *pekinensis* (Lour.) Hanelt); Cauliflower (*Brassica oleracea* L. var. *capitata* L.); and cultivars, varieties, and hybrids of these commodities. Kohlrabi

**PHI** (pre-harvest interval) (days): 1

**REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar*	Beet armyworm Corn earworm Diamondback moth† Fall armyworm Imported cabbageworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5
	Cabbage looper	0.065 - 0.11	10 - 17
	Cabbage aphid Cabbage seedpod weevil False cabbage aphid Flea beetle Grasshoppers Green peach aphid Leafminer ( <i>Liriomyza</i> spp.) Swede midge Thrips (foliage feeding only)§ Turnip aphids Whitefly	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 5 days.

Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.

\* - For best performance use an effective adjuvant. See "Use of Adjuvants" section.

§ - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN.

† - Diamondback moth resistance management: Do not apply KRADAN (or other Group 28 insecticides) more than twice within any 30 day "treatment window". Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (different IRAC Group Number) for at least a 30 day "treatment window" before making any additional applications of KRADAN (or other Group 28 insecticides). Do not apply less than 7 fl oz of KRADAN per application per acre for diamondback moth control. Do not make more than 6 total applications of KRADAN or any Group 28 insecticides per calendar year for control of diamondback moth at the same farm location.

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

**BULB VEGETABLES** (Crop Group 3-07)

Chive, fresh leaves; Chive, Chinese, fresh leaves; Daylilly, bulb (edible); Elegans hosta (edible); Fritillaria, leaves (edible); Garlic, bulb; Garlic, great headed, bulb; Garlic, serpent, bulb; Kurrat; Lady's leek; Leek; Leek, wild; Lily, bulb; Onion, Beltsville bunching; Onion, bulb; Onion, Chinese, bulb; Onion, fresh; Onion, green; Onion, macrostem; Onion, pearl; Onion, potato, bulb; Onion, tree, tops; Onion, Welsh, tops; Shallot, bulb; Shallot, fresh leaves

**PHI** (pre-harvest interval) (days): 1

**REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Leafminer ( <i>Liriomyza</i> spp.)* Thrips (foliage feeding only)* §	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 5 days.

Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.

§ - Suppression only. For best results, use the highest rate listed. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low (1-3 thrips per plant). If populations are higher, use an effective thrips knockdown product before applying KRADAN.

\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. KRADAN may be applied by overhead chemigation to bulb vegetables.

**BUSHBERRIES** (Crop Subgroup 13-07B)  
 Aronia berry; Blueberry, highbush; Blueberry, lowbush; Buffalo currant; Chilean guava; Cranberry, highbush; Currant, black; Currant, red; Elderberry; European barberry; Gooseberry; Honeysuckle, edible; Huckleberry; Jostaberry; Juneberry (Saskatoonberry); Lingonberry; Native currant; Salal; Sea buckthorn

**PHI** (pre-harvest interval) (days): 3 **REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Cherry fruitworm Cranberry fruitworm	0.065 - 0.088	10 - 13.5
	Blueberry aphid Blueberry gall midge§ Blueberry maggot Plum curculio* Citrus thrips* Spotted wing drosophila*	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 5 days.  
 Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year.  
 Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  
 Do not apply less than 30 gallons of water per acre. For best results apply 100-150 gallons of water per acre.  
 § - Suppression only. Use as part of an effective blueberry maggot control program. Rotate with products with different modes of action. Begin making blueberry gall midge applications when populations are low.  
 \* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section and other instructions in this crop table.  
 Precautions when using KRADAN in tank mixes in blueberries: tank mixes of KRADAN with Induce® adjuvant may cause an adverse crop response or increase the potential for other products used in tank mix with KRADAN to cause an adverse crop response. Tank mixes of KRADAN with other non-ionic and oil based adjuvants tested have not caused an adverse crop response on fruit or leaves.  
 DO NOT tank mix KRADAN with any type of adjuvants on this crop group unless crop safety has been tested.  
 The crop safety of KRADAN in tank mixture has not been evaluated on all other crops in this crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.  
 See "Tank Mixtures and Crop Safety" section for more information.

(Crop Group 13-07H\*)  
 Specifically Bearberry; Bilberry; Cloudberry; Cranberry; Muntries; Partridge-Berry; cultivars, varieties, and/or cultivars of these. (\*Excluding strawberry, lowbush blueberry, and lignonberry)

**PHI** (pre-harvest interval) (days): 14 **REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Black headed fireworm Cherry fruitworm Cranberry fruitworm Sparganothis fruitworm	0.065 - 0.133	10 - 20.5

Minimum application interval between treatments is 7 days.  
 Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year.  
 KRADAN may be applied by overhead chemigation to cranberry.  
 For applications made to cranberries, production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the application.  
 The crop safety of KRADAN in tank mixture has not been evaluated on this crop or crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.  
 See "Tank Mixtures and Crop Safety" section for more information.

<b>CANEBERRY</b> (Crop Subgroup 13-07A) Blackberry; Loganberry; Red and Black Raspberry; Wild raspberry; cultivars and/or hybrids of these			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Adult root weevils Spotted wing drosophila	0.088 - 0.133	13.5 - 20.5
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of plants and density of fruit and foliage. The crop safety of KRADAN in tank mixture has not been evaluated on this crop or crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>			

<b>CITRUS FRUIT</b> (Crop Group 10-10) Australian desert lime; Australia finger-lime; Australia round lime; Brown River finger lime; Calamondin; Citron; Citrus hybrids; Grapefruit; Japanese summer grapefruit; Kumquat; Lemon; Lime; Mediterranean mandarin; Mount white lime; New Guinea wild lime; Orange, sour; Orange, sweet; Pummelo; Russel River lime; Satsuma mandarin; Sweet lime; Tachibana orange; Tahiti lime; Tangelo; Tangerine (mandarin); Tangor; Trifoliolate orange; Uniq fruit			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar*	Asian citrus psyllid Citrus cutworm Citrus leafminer Citrus thrips** Cotton aphid Diaprepes root weevil adults Orange dog caterpillar	0.088 - 0.133	13.5 - 20.5
	Forktailed bush katydid nymph	0.104 - 0.133	16.0 - 20.5
<p>Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Where higher spray volumes are used, apply a higher KRADAN rate in the specified rate range. For best results, apply 100-150 gallons of water per acre when using commercial airblast equipment. Do not apply less than 30 gallons of water per acre when using commercial airblast equipment. Requirements for Low volume ground applications for Asian citrus psyllid control: Do not apply less than 2 gallons of finished spray solution per acre, use equipment that generates a particle size greater than 90 microns, apply when wind is less than 10 miles per hour. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. ** - For fruit protection, apply KRADAN at petal fall, best results are obtained with 20.5 oz/A. Initial application should be made at petal fall when insect populations first appear. Under moderate to high pest pressure, an additional application of KRADAN or another effective thrips insecticide may be needed to maintain thrips populations below action threshold levels. Monitor or scout treated fields 5-7 days after application for thrips feeding on fruit or an increase in thrips population. If early signs of feeding (such as silvering) are observed on fruit, make another application. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae, before populations reach damaging levels. Applications outside the described window may not achieve the desired result of protecting fruit from thrips damage.</p>			

<b>COFFEE</b>			
<b>PHI</b> (pre-harvest interval) (days): 5		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Coffee berry borer	0.133	20.5
<p>Minimum application interval between treatments is 14 days.            Do not apply a total of more than 0.27 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year.            Time applications early in the pest infestation when no more than 2% of the coffee berries are infested with coffee berry borer in position A or B (prior to borer reaching the endosperm/seed).            Calibrate equipment to achieve thorough spray coverage of the berry without runoff.            The crop safety of KRADAN in tank mixture has not been evaluated on this crop or crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.            See "Tank Mixtures and Crop Safety" section for more information.</p>			

<b>COMMERCIAL GREENHOUSE GROWN CROPS</b> (Crops Grown to Harvest in Greenhouses)			
Eggplant, Pepper (including bell and non-bell pepper), Tomato			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Thrips (foliage feeding only)§ Whitefly*	0.088 - 0.133	13.5 - 20.5
<p>Minimum application interval between treatments is 7 days.            Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.            For use only on eggplant, pepper and tomato plants being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.            * - For best performance, use an effective adjuvant. See "Use of Adjuvants" section.            § - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. For thrips, begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN.            Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of plants and density of foliage. Use the higher rate on large plants or dense foliage.            Precautions when using KRADAN in tank mixes in peppers: applications of KRADAN in tank mix with adjuvants can cause leaf spotting or increase the potential for other products used in tank mix with KRADAN to cause an adverse crop response. Tank mixes of KRADAN with strobilurin fungicides (for example Cabrio® fungicide and Quadris® fungicide), chlorothalonil based fungicide formulations (for example, Bravo Weather Stik® fungicide), and DuPont™ Tanos® fungicide (cymoxanil + famoxadone) may also result in an adverse crop response.            Precautions when using KRADAN in tank mixes in tomatoes: tank mixes of KRADAN with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) may result in adverse crop response.            The crop safety of KRADAN in tank mixture has not been evaluated on eggplant. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.            See "Tank Mixtures and Crop Safety" section for more information.</p>			

<b>COMMERCIAL GREENHOUSE GROWN CUCUMBERS</b>			
<b>PHI</b> (pre-harvest interval) (days): 0		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Armyworms Cabbage looper	0.065 - 0.133	10.0- 20.5
	Cotton aphid* Green peach aphid* Thrips (foliage feeding only)§* Whiteflies*	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 5 days.  
Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.  
For use only on cucumber plants being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.  
\* - For best performance, use an effective adjuvant. See "Use of Adjuvants" section.  
§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. For thrips, begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN. Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of plants and density of foliage. Use the higher rate on large plants or dense foliage.  
Precautions when using KRADAN in tank mixes in cucumbers: tank mixes of KRADAN with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), copper based fungicides, Luna® Sensation fungicide (trifloxystrobin + fluopyram) and Venom® insecticide (dinotefuran) may result in adverse crop response.  
See "Tank Mixtures and Crop Safety" section for more information.

<b>COTTON</b>			
<b>PHI</b> (pre-harvest interval) (days): 7		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Beet armyworm Cotton bollworm† Fall armyworm Saltmarsh caterpillar Southern armyworm Tobacco budworm† Western yellowstriped armyworm	0.045 - 0.11	7 - 17
	Cabbage looper Soybean looper	0.065 - 0.11	10 - 17
	Thrips (foliage feeding only)§ Whitefly*	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 7 days.  
Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.  
\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. For high populations of whiteflies, use the highest listed rate.  
§ - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN.  
† - For Heliothine control (cotton bollworm and/or cotton budworm) make the first application at rates of 0.065 - 0.11 lb ai per acre (10-17 fl oz product/A). Subsequent applications can be at rates of 0.045 - 0.088 lb ai per acre (7 -13.5 fl oz product/A) depending on pressure.  
Applications of KRADAN to seedling cotton may result in crop response. Affected plants outgrow the effects in most cases. If the risk of crop response to KRADAN cannot be accepted, do not apply it to seedling cotton.  
The crop safety of KRADAN in tank mixture has not been evaluated on this crop. When using KRADAN in tank mixtures in cotton, it is recommended that a small area be tested to demonstrate safety before using in large areas.  
See "Tank Mixtures and Crop Safety" section for more information.



**CUCURBIT VEGETABLES** (Crop Group 9)

Including Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), *Morodica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (Includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon and snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon

**PHI** (pre-harvest interval) (days): 1

**REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Beet armyworm Melonworm Pickleworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5
	Cabbage looper	0.065 - 0.11	10 - 17
	Cotton/melon aphid* Flea beetle§ Green peach aphid* Leafminer ( <i>Liriomyza</i> spp.)* Thrips (foliage feeding only)§ Whitefly*	0.088 - 0.133	13.5 - 20.5
	Striped cucumber beetle	0.133	20.5

Minimum application interval between treatments is 5 days.

Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.

\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.

§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. Begin making applications when populations are low. For thrips, if populations are above threshold, use an effective thrips knockdown product before applying KRADAN.

Cucurbit Yellow Stunting Disorder Virus Suppression: Use of KRADAN to control whiteflies which may vector the cucurbit yellow stunting disorder virus at a rate of 13.5 - 20.5 fl oz/A applied foliarly soon after emergence or transplanting will help suppress and slow the expression of cucurbit yellow stunting disorder virus in cucurbits.

Precautions when using KRADAN in tank mixes in cucurbit vegetables: tank mixes of KRADAN with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), copper based fungicides, Luna Sensation fungicide (trifloxystrobin + fluopyram) and Venom insecticide (dinotefuran) may result in adverse crop response.

See "Tank Mixtures and Crop Safety" section for more information.

<b>FRUITING VEGETABLE</b> (Crop Group 8-10) African eggplant; Bush tomato; Bell pepper; Cocona; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Groundcherry; Martynia; Naranjilla; Okra; Pea eggplant; Pepino; Pepper, bell; Pepper, nonbell; Roselle; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Tree tomato			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Beet armyworm Colorado potato beetle European corn borer Fall armyworm Southern armyworm Tomato fruitworm Tomato pinworm Tomato hornworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5
	Loopers	0.065 - 0.11	10 - 17
	Green peach aphid* Leafminer ( <i>Liriomyza</i> spp.)* Pepper weevil§ Potato aphid* Thrips (foliage feeding only)§ Tomato psyllid Whitefly*	0.088 - 0.133	13.5 - 20.5
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. For thrips, begin making applications when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN. Tomato Spotted Wilt Virus and Tomato Yellow Leaf Curl Virus Suppression: Use of KRADAN to manage thrips which may vector the tomato spotted wilt virus and whiteflies which may vector the tomato yellow leaf curl virus at a rate of 13.5 to 20.5 fl oz/A applied foliarly soon after emergence or transplanting will help suppress and slow the expression of tomato spotted wilt virus and tomato yellow leaf curl virus in fruiting vegetables. Precautions when using KRADAN in tank mixes in peppers: applications of KRADAN in tank mix with adjuvants can cause leaf spotting or increase the potential for other products used in tank mix with KRADAN to cause an adverse crop response. Tank mixes of KRADAN with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), chlorothalonil based fungicide formulations (for example, Bravo Weather Stik fungicide), and DuPont Tanos fungicide (cymoxanil + famoxadone) may also result in an adverse crop response. Precautions when using KRADAN in tank mixes in tomatoes: tank mixes of KRADAN with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) may result in adverse crop response. The crop safety of KRADAN in tank mixture has not been evaluated on all other crops in this crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>			

**LEAFY GREENS** (Crop Subgroup 4-16A) and **LEAF PETIOLE VEGETABLES** (Crop Subgroup 22B)  
 Including Amaranth, Chinese; Amaranth, leafy; Aster, Indian; Blackjack; Cat's whiskers; Cham-chwi; Cham-na-mul; Chervil, fresh leaves; Chipilin; Chrysanthemum, garland; Cilantro, fresh leaves; Corn salad; Cosmos; Dandelion, leaves; Dang-gwi, leaves; Dillweed; Dock; Dol-nam-mul; Ebolo; Endive; Escarole; Fameflower; Feather cockscomb; Good King Henry; Huauzontle; Jute, leaves; Lettuce, bitter; Lettuce, head; Lettuce, leaf; Orach; Parsley, fresh leaves; Plantain, buckhorn; Primrose, English; Purslane, garden; Purslane, winter; Radicchio; Spinach; Spinach, Malabar; Spinach, New Zealand; Spinach, tanier; Swiss chard; Violet, Chinese, leaves; Cardoon; celery; Celery, Chinese; Fuki; Rhubarb; Udo; Zuiki; cultivars, varieties, and hybrids of these commodities. Celtuce; and Florence Fennel

**PHI** (pre-harvest interval) (days): 1 **REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar*	Beet armyworm Corn earworm Diamondback moth† Fall armyworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5
	Cabbage looper	0.065 - 0.11	10 - 17
	Cabbage aphid False cabbage aphid Flea beetle Grasshoppers Green peach aphid Leafminer ( <i>Liriomyza</i> spp.) Thrips (foliage feeding only)§ Turnip aphids Whitefly	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 5 days.  
 Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.

† - Diamondback moth resistance management: Do not apply KRADAN (or other Group 28 insecticides) more than twice within any 30 day "treatment window". Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (different IRAC Group Number) for at least a 30 day "treatment window" before making any additional applications of KRADAN (or other Group 28 insecticides). Do not apply less than 7 fl oz of KRADAN per application per acre for diamondback moth control. Do not make more than 6 total applications of EXIRE insect control or any Group 28 insecticides per calendar year for control of diamondback moth at the same farm location.

\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.

§ - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN.

Precautions when using KRADAN in tank mixes in spinach: Do not use adjuvants in tank mix with KRADAN in spinach. Tank mixes of KRADAN with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) or chlorothalonil based fungicide formulations (for example, Bravo Weather Stik fungicide) may result in adverse crop response. Precautions when using KRADAN in tank mixes in lettuce: Tank mixes of KRADAN with Aliette® fungicide (fosetyl-al) + oil adjuvant may result in adverse crop response.

The crop safety of KRADAN in tank mixture has not been evaluated on all other crops in this crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.

See "Tank Mixtures and Crop Safety" section for more information.

**LEGUME VEGETABLES, SUCCULENT OR DRIED** (Crop Subgroups 6A, 6B, 6C)  
 Bean (*Lupinus*) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); Bean (*Phaseolus*) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); Bean (*Vigna*) (includes adzuki bean, asparagus bean blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); Broad bean (fava); Chickpea (garbanzo); Guar; Jackbean; Lablab bean; Lentil; Pea (*Pisum*) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); Pigeon pea; Sword bean

**PHI** (pre-harvest interval) (days): 1 (succulent) 7 (dried) **REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Corn earworm European corn borer Leafminers	0.065 - 0.133	10 - 20.5
	Potato leafhopper§* Thrips (foliage feeding only)§* Whiteflies*	0.088 - 0.133	13.5 - 20.5

§ - Suppression only.

\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days.

Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.

Applications of KRADAN to certain species of legume vegetables in this crop group may result in adverse crop response. Affected plants outgrow the effects in most cases. If the risk of adverse crop response to KRADAN cannot be accepted, do not apply it to legume vegetables.

The crop safety of KRADAN in tank mixture has not been evaluated on this crop group. When using KRADAN alone or in tank mixtures in legume vegetables, it is recommended that a small area be tested to demonstrate safety before using in large areas.

See "Tank Mixtures and Crop Safety" section for more information.

**OIL SEED CROPS** (Crop Group 20)

Including Borage; Calendula; Castor oil; Chinese tallowtree; Crambe; Cuphea; Echium; Euphorbia; Evening primrose; Flax seed; Gold of pleasure; Hare's ear mustard; Jojoba; Lesquerella; Lunaria; Meadowfoam; Milkweed; Mustard seed; Niger seed; Oil radish; Poppy seed; Rapeseed (including canola varieties); Rose hip; Safflower; Sesame; Stokes aster; Sunflower; Sweet rocket; Tallowwood; Tea oil plant; Vernonia

**PHI** (pre-harvest interval) (days): 7 **REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar*	Bertha armyworm Diamondback moth Sunflower head moth	0.045 - 0.088	7 - 13.5
	Crucifer flea beetle	0.045 - 0.11	7 - 17
	Cabbage looper Sunflower seed weevil§	0.065 - 0.133	10 - 20.5

Minimum application interval between treatments is 7 days.

Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. This is the total from all application methods (seed treatment and foliar application).

\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.

§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action.

The crop safety of KRADAN in tank mixture has not been evaluated on this crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.

See "Tank Mixtures and Crop Safety" section for more information.

<b>PEANUTS</b>			
<b>PHI</b> (pre-harvest interval) (days): 14		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Corn earworm Fall armyworm Tobacco budworm	0.065 - 0.133	10 - 20.5
	Cutworms Lesser cornstalk borer Soybean looper Thrips (foliage feeding only)§**	0.088 - 0.133	13.5 - 20.5
<p>§ - Suppression only.  ** - Use in conjunction with an effective thrips and tomato spotted wilt virus management program. Minimum application interval between treatments is 7 days.  Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.  Tomato Spotted Wilt Virus Suppression: Use of KRADAN to manage thrips which may vector the tomato spotted wilt virus at a rate of 13.5-20.5 fl oz/A applied early season (at ground cracking) will help suppress and slow the expression of tomato spotted wilt virus in peanuts when used as part of a TSWV management program.  The crop safety of KRADAN in tank mixture has not been evaluated on peanuts. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.  See "Tank Mixtures and Crop Safety" section for more information.</p>			

SPECIMEN

<b>POME FRUIT</b> (Crop Group 11-10) Apple; Azarole; Crabapple; Loquat; Mayhaw; Medlar; Pear; Pear, Asian; Quince; Quince, Chinese; Quince, Japanese; Tejocote			
<b>PHI</b> (pre-harvest interval) (days): 3		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Codling moth† European apple sawfly Green fruitworm Obliquebanded leafroller†† Redbanded leafroller Spotted tentiform leafminer Tufted apple budmoth Variegated leafroller Western tentiform leafminer White apple leafhopper	East of the Rockies: 0.055 - 0.11	East of the Rockies: 8.5 - 17
	Oriental fruit moth	West of the Rockies: 0.065 - 0.11	West of the Rockies: 10 - 17
	Apple maggot* § Pear psylla* § Plum curculio* Rosy apple aphid*††† Thrips* §	0.065 - 0.11 0.088 - 0.133	10 - 17 13.5 - 20.5
<p>Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Make no more than 3 applications of KRADAN or other Group 28 insecticides within a single generation of the target pest on a crop. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Do not apply less than 30 gallons of water per acre. For best results apply 100-150 gallons of water per acre. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. For best results, use the highest rate listed. Use as part of an effective control program. Rotate with products with a different mode of action. Begin applications when pest populations are at or below threshold. If populations are above threshold, use an effective knockdown product before applying KRADAN. † - Codling moth larvae Application timing: For each generation, make the first application prior to egg hatch. Each application provides 10-14 days of protection depending on intensity of codling moth pressure and rate of fruit growth. Use pheromone trap catches and local degree day based spray timing advisories to determine the development of each generation. Use the 8.5-10 fluid ounce rate for low pressure infestations and make repeat applications on a 14 day schedule. For high pressure orchards, use a comprehensive management program involving ovicide treatments followed by properly timed larvacide applications at high labeled rates and shortened retreatment intervals. When using KRADAN in an integrated program with other codling moth insecticides, make sure the retreatment schedule is consistent with the period of effectiveness for each product used. Codling Moth Resistance Management: Do not apply KRADAN (or other Group 28 insecticides) more than three times to a generation of codling moth (codling moth typically has a single generation "treatment window" of 30 to 45 days). Application(s) to the next generation of codling moth must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 - 45 day "treatment window" before making any additional applications of KRADAN (or other Group 28 insecticides). †† - Obliquebanded leafroller: For overwintering larvae, apply in the spring (pink to petal fall stage) at the first sign of active feeding. For summer generation, apply just prior to or at the beginning of egg hatch. Leafroller feeding stops after ingestion of treated foliage, however, during periods of cold weather when leafrollers are inactive, it may take several days to achieve complete control. Obliquebanded Leafroller Resistance Management: Only apply KRADAN (or other Group 28 insecticides) to one generation of obliquebanded leafroller per year. Application(s) to other generations of obliquebanded leafroller must be with an effective product with a different mode of action (i.e. a product with a different IRAC group number). ††† - Rosy apple aphid: For best results start applications at green tip to early pink timing. Precautions when using KRADAN in tank mixes in pome fruit: tank mixes of KRADAN with adjuvants commonly recommended and known not to cause an adverse crop response in pome fruits, such as horticultural oils, have been found to be acceptable. DO NOT tank mix KRADAN with any other type of adjuvant unless crop safety has been demonstrated. See "Tank Mixtures and Crop Safety" section for more information.</p>			

Carrot, Radish; <b>ROOT AND TUBER VEGETABLES</b> except Sugar Beet (Crop Group 1B) Beet, garden; Burdock, edible; Carrot; Celeriac; Chervil, turnip-rooted; Chicory; Ginseng; Horseradish; Parsley, turnip-rooted; Parsnip radish; Radish, oriental; Rutabaga; Salsify; Salsify, black; Salsify, Spanish; Skirret; Turnip			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Armyworms Cutworms Loopers	0.065 - 0.133	10 - 20.5
	Beet armyworms Cabbage seedpod weevil Carrot weevil Cotton aphid* Flea beetle Green peach aphid* Thrips (foliage feeding only)§* Whiteflies	0.088 - 0.133	13.5 - 20.5
<p>Minimum application interval between treatments is 5 days.</p> <p>* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>§ - Suppression only. For best results, use the highest rate listed. Use as part of an effective thrips control program. Rotate with products with different modes of action.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>The crop safety of KRADAN in tank mixture has not been evaluated on this crop or crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.</p> <p>See "Tank Mixtures and Crop Safety" section for more information.</p>			

<b>LEAVES OF ROOT AND TUBER VEGETABLES</b> (Crop Group 2) Beet, garden; Beet, sugar; Burdock, edible; Carrot; Cassava, bitter and sweet; Celeriac; Chervil, turnip-rooted; Chicory; Dasheen (taro); Parsnip; Radish; Radish, oriental (daikon); Rutabaga; Salsify, black; Sweet potato; Tanier; Turnip; Yam, true			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar	Beet armyworm Cabbage seedpod weevil Carrot weevil Cotton aphid* Flea beetles Green peach aphid* Thrips (foliage feeding only)§* Whiteflies	0.088 - 0.133	13.5 - 20.5
	Armyworms Cutworms Loopers	0.065 - 0.133	10 - 20.5
<p>* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>§ - Suppression only. For thrips, begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying KRADAN. Thorough coverage is essential to achieve best results.</p> <p>The crop safety of KRADAN in tank mixture has not been evaluated on this crop or crop group.</p> <p>When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.</p> <p>See "Tank Mixtures and Crop Safety" section for more information.</p>			



<b>STONE FRUIT</b> (Crop Group 12) Including, Apricot; Cherry, sweet; Cherry, sour; Nectarine; Peach; Plum; Plum, Chickasaw; Plum, Damson; Plum, Japanese; Plumcot; Prune (fresh)			
<b>PHI</b> (pre-harvest interval) (days): 3		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Cherry fruit fly* Codling moth Omnivorous leafroller Tufted apple budmoth	0.065 - 0.11	10 - 17
	Obliquebanded leafroller Oriental fruit moth Peach twig borer†	0.065 - 0.133	10 - 20.5
	Black cherry aphid Japanese beetle Plum curculio Spotted wing drosophila* Thrips§	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 7 days.  
Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Make no more than 3 applications of KRADAN or other Group 28 insecticides within a single generation of the target pest on a crop.  
\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section and other instructions on this table for more information.  
Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  
Do not apply less than 30 gallons of water per acre by ground. For best results apply 100-150 gallons of water per acre.  
§ - Suppression only. For best results, use the highest rate listed. Use as part of an effective control program. Rotate with products with a different mode of action. Begin applications when pest populations are at or below threshold. If populations are above threshold, use an effective knockdown product before applying KRADAN.  
† - Peach Twig Borer: For early dormant through mid-dormant applications, use higher rates of KRADAN; for late dormant applications, use lower rates. Applications may be made with an EPA registered dormant oil; for specific recommendations on use of oil, consult manufacturers specific oil labels for precautions and restrictions regarding the use of oils. For best performance, apply using ground equipment to achieve thorough uniform coverage of all scaffolds and limbs. For "April - May spray" applications to the summer generation, make applications at peak moth flight (timed at or before peak egg lay). Higher rates in the labeled rate range may be needed for high infestations levels and/or large, dense foliage trees.  
Precautions when using KRADAN in tank mixes in stone fruit: tank mixes of KRADAN with some non-ionic or oil based adjuvants may cause adverse crop response. Tank mixes of KRADAN with organosilicone adjuvants at rates of 0.03 % v/v or lower do not result in crop response on cherry leaves or fruit. DO NOT tank mix KRADAN with any other type of adjuvant unless crop safety has been tested.  
See "Tank Mixtures and Crop Safety" section for more information.

<b>SOYBEAN</b>			
<b>PHI</b> (pre-harvest interval) (days): 7		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar*	Green cloverworm Soybean looper Velvetbean caterpillar	0.065 - 0.133	10 - 20.5
	Bean leaf beetle§ Japanese beetle Lesser cornstalk borer Stink bug species§ Soybean aphid* Thrips (foliage feeding only) §*	0.088 - 0.133	13.5 - 20.5

§ - Suppression only.  
\* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days.  
Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made as a seed treatment, to the soil or foliarly.  
The crop safety of KRADAN in tank mixture has not been evaluated on this crop or crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.  
See "Tank Mixtures and Crop Safety" section for more information.

<b>STRAWBERRY</b>			
<b>PHI</b> (pre-harvest interval) (days): 1		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Beet armyworm Corn earworm Soybean looper Spotted wing drosophila Thrips (foliage feeding only)§ * ** Whiteflies	0.088 - 0.133	13.5 - 20.5
<p>Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. § - Suppression only. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. ** - Use in conjunction with an effective thrips management program. Not all varieties of strawberries have been tested for crop safety with KRADAN alone or in tank mixture, see "Tank Mixtures and Crop Safety" section for more information.</p>			

<b>TOBACCO</b>			
<b>PHI</b> (pre-harvest interval) (days): 7		<b>REI</b> (re-entry interval) (hours): 12	
<b>Application Method</b>	<b>Target Pest</b>	<b>KRADAN RATE</b>	
		<b>Lb. ai per acre</b>	<b>Fl oz product per acre</b>
Foliar	Tobacco budworm	0.065 - 0.133	10 - 20.5
	Flea beetle	0.088 - 0.133	13.5 - 20.5
	Tobacco hornworm Tomato hornworm		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. The crop safety of KRADAN in tank mixture has not been evaluated on tobacco. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>			

**TREE NUTS** (Crop Group 14-12)

Including African nut-tree; Almond; Beechnut; Brazil nut; Brazilian pine; Bunya; Bur oak; Butternut; Cajou nut; Candlenut; Cashew; Chestnut; Chinquapin; Coconut; Coquito nut; Dika nut; Ginkgo; Guiana chestnut; Hazelnut (filbert); Heartnut; Hickory nut; Japanese horse-chestnut; Macadamia nut; Mongongo nut; Monkey-pot; Monkey puzzle nut; Okari nut; Pachira nut; Peach palm nut; Pecan; Pequi; Pili nut; Pine nut; Pistachio; Sapucaia nut; Tropical almond; Walnut, black; Walnut, English; Yellowhorn; cultivars, varieties, and/or hybrids of these

**PHI** (pre-harvest interval) (days): 5**REI** (re-entry interval) (hours): 12

Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar*	Hickory shuckworm Pecan nut casebearer	0.055 - 0.11	8.5 - 17
	Codling moth† Obliquebanded leafroller Oriental fruit moth Peach twig borer††	0.065 - 0.133	10 - 20.5
	Navel orangeworm††† Walnut aphid	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 7 days.

Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Make no more than 3 applications of KRADAN or other Group 28 insecticides within a single generation of the target pest on a crop. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.

Where higher spray volumes are used, apply a higher rate in the specified rate range. Do not apply less than 30 gallons of water per acre by ground. For best results apply 100-150 gallons of water per acre.

\* - For best performance use with an effective adjuvant. See "Use of Adjuvants" section.

† - Codling moth (Walnut): Make initial application at or before peak egg lay for targeted generation. Depending on level of infestation reapply 14 days later as needed. Use higher rates and ground application equipment to achieve thorough coverage.

†† - Peach Twig Borer: KRADAN may be used throughout the growing season.

For dormant applications, an EPA registered dormant oil may be added to the spray tank.

For specific directions on use of oil, consult manufacturer's specific oil labels for precautions and restrictions regarding the use of oils in tree nut crops. For best performance, apply using ground equipment to achieve thorough uniform coverage of all scaffolds and limbs. For spring application to overwintering generation: Make applications at late dormant (just prior to bud break) to early bloom. For "April - May" applications to the summer generation: Make applications at peak moth flight (timed at or before peak egg lay). Higher rates in the labeled rate range may be needed for higher infestation levels and large, dense foliage trees.

††† - Navel orangeworm: Applications can be made during the "May spray" or "Hull split" application timing. For applications made at "Hull split" timing - Make an application at 1- 2% hull-split timing; make a second application approximately 10-14 days later. Depending on level of pest infestation, use of higher rates in the labeled rate range and multiple applications may be needed.

Precautions when using KRADAN in tank mixes in tree nuts: tank mixes of KRADAN with oil adjuvants may cause an adverse crop response or increase the potential for other products used in tank mix with KRADAN to cause an adverse crop response. Tank mixes of KRADAN with non-ionic adjuvants have not been observed to cause an adverse crop response. DO NOT tank mix KRADAN with any other type of adjuvant unless crop safety has been tested.

See "Tank Mixtures and Crop Safety" section for more information.

<b>TUBEROUS AND CORM VEGETABLES</b> (Crop Subgroup 1C) Including Arracacha; Arrowroot; Artichoke, Chinese; Artichoke, Jerusalem; Canna, edible; Cassava, bitter and sweet; Chayote (root); Chufa; Dasheen (taro); Ginger; Leren; Potato; Sweet potato; Tanier; Turmeric; Yam bean; Yam, true			
PHI (pre-harvest interval) (days): 7		REI (re-entry interval) (hours): 12	
Application Method	Target Pest	KRADAN RATE	
		Lb. ai per acre	Fl oz product per acre
Foliar*	Colorado potato beetle†	0.033 - 0.088	5 - 13.5
	Beet armyworm European corn borer Potato tuberworm*†† Yellowstriped armyworm	0.045 - 0.088	7 - 13.5
	Cabbage looper	0.065 - 0.11	10 - 17
	Green peach aphid* Potato aphid* § Potato flea beetle* § Potato psyllid	0.088 - 0.133	13.5 - 20.5

Minimum application interval between treatments is 5 days.  
Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year; this is the total of seed piece treatment (potato), soil treatment, and foliar treatment.  
\* - For best performance use with an effective adjuvant. See "Use of Adjuvants" section.  
§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action.  
† - Colorado potato beetle resistance management - Do not apply KRADAN (or other Group 28 insecticides) more than twice to a generation of Colorado potato beetle or within any 30 day "treatment window". Application(s) to the next generation of Colorado potato beetle must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 day "treatment window" before making any additional applications of KRADAN (or other Group 28 insecticides). If a Group 28 insecticide was used at-plant either as a soil or seed piece application, do not apply KRADAN (or other Group 28 insecticides) for Colorado potato beetle control for at least 60 days after emergence. Application(s) for Colorado potato beetle control during the first 30-60 days must be with an effective product with a different mode of action (i.e. a product with a different IRAC Group Number) for at least a 30 day "treatment window" before making any applications of KRADAN (or other Group 28 insecticides).  
†† - Potato Tuberworm: KRADAN may be applied at rates of 7 to 13.5 fl oz/A to control potato tuberworm. Begin application when field scouting indicates the presence of tuberworm adults and/or larvae. Potato tuberworm often have overlapping generations so repeat applications of KRADAN may be needed based on scouting. Avoid treating successive generations with the same mode of action. It is important to protect the crop just prior to harvest when foliage starts to senesce. Use the higher rate of KRADAN when tuberworm pressure is high. Failure to adequately control potato tuberworm larvae prior to crop senescence or vine kill increases the risk of tuber damage. Foliar sprays alone, by air or ground, may not provide adequate control of larvae in the mid to lower crop canopy. For best results, apply via overhead chemigation or integrate chemigation applications into the foliar spray program. For best results with foliar sprays, add Methylated seed oil (MSO) adjuvant at 1 gallon per 100 gallons of spray volume (1% v/v). For chemigation applications, apply in 0.1 to 0.2 acre inches of water and add MSO at 12 to 16 fl oz/acre. See "Chemigation - Overhead Sprinkler – Cranberries, Potatoes and Bulb Vegetables" section for instructions on overhead sprinkler chemigation.  
Suppression of Zebra Chip Disease: Use of KRADAN to control potato psyllid which may vector zebra chip disease at a rate of 13.5 to 20.5 fl. oz./A applied starting when psyllid populations are low will help suppress the expression of the zebra chip disease.  
Precautions when using KRADAN in tank mixes in potatoes: tank mixes of KRADAN with strobilurin fungicides (for example Quadris fungicide and Cabrio Plus fungicide) may result in adverse crop response. The crop safety of KRADAN in tank mixture has not been evaluated on all other crops in this crop group. When using KRADAN in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.  
See "Tank Mixtures and Crop Safety" section for more information.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

**PESTICIDE DISPOSAL:** Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** 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, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact CHEMTREC (Transportation and Spills) at 1-800-424-9300, day or night.

**NOTICE TO BUYER:** Purchase of this material does not confer any rights under patents of countries outside of the United States.

### 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 the product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

### ALL STATEMENTS MADE HEREIN ARE SUBJECT TO APPLICABLE LAW, AND TO THE EXTENT THERE IS ANY INCONSISTENCY OR CONTENTION, APPLICABLE LAW SHALL GOVERN.

The Directions for Use of the product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of many different factors including, without limitation, manner of use or application, weather, combination with other products, or crop conditions. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Manufacturer and Seller harmless from any claims relating to such factors.

**Seller warrants that this product conforms to the chemical description on the label. EXCEPT FOR THIS WARRANTY, THE PRODUCT IS FURNISHED "AS-IS", AND NEITHER SELLER NOR MANUFACTURER MAKES ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SELECTION, PURCHASE OR USE OF THIS PRODUCT; SELLER AND MANUFACTURER SPECIFICALLY DISCLAIM ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE BEYOND WHAT IS STATED ON THE LABEL. Buyer and User accept all risks arising from any use of this product, including without limitation, uses contrary to label instructions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or Manufacturer.**

Neither Manufacturer nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE BUYER OR USER, AND THE EXCLUSIVE LIABILITY OF MANUFACTURER 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 THIS PRODUCT, OR, AT THE ELECTION OF MANUFACTURER OR SELLER, THE REPLACEMENT OF THE PRODUCT.

These Conditions of Sale and Limitation of Warranty and Liability shall be interpreted, unless otherwise required by the law of the state of purchase, in accordance with the laws of the State of California, excluding its conflicts of laws rules, and may not be amended by any oral or written agreement.

All trademarks, service marks, trade names, trade dress, product names and logos appearing on this label are the property of their respective owners. Cyazypyr is a registered trademark of FMC Corporation and/or an affiliate and used under license by Altamont.

### NONREFILLABLE CONTAINER

**NET CONTENTS:** 1 gallon

BATCH CODE: \_\_\_\_\_

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2024-0627

Manufactured for:

