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



OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

DEC 23 2009

Mr. Ronald Landis, Ph.D.  
Landis International  
P.O. Box 5126  
Valdosta, GA 31603-5126

Authorized agent for Mitsui Chemicals

Dear Mr. Landis:

Subject: Label amendment; add new uses (crop subgroup 5B and Turnip Greens)  
Starkle 70SG  
EPA File Symbol 33657-38  
IR-4 submission dated September 17, 2008  
Your label submission dated 12/14/2009

The amendment referred to above is acceptable in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 3(c)(7), subject to the comments listed below:


1. Registration does not eliminate the need for continual reassessment of pesticides. If the Agency determines that, at any time, additional data are required to maintain in effect an existing registration, the Agency will require submission of such data.
2. Make the following label changes:
  - a. On page 7, change the heading "GENERAL INFORMATION" to "APPLICATION INFORMATION".
  - b. On page 16, delete "Leafy Brassica Greens such as" from list of crops in column 1. Only specific crops can be listed here.
  - c. On page 19, for turf grass, provide the application rate in pounds of active ingredient (a.i.) per acre in addition to product rate in column 3.

- d. On page 19, change the maximum rate from 0.52 lb a.i. to 0.56 lb a.i. per acre per year in the last bullet.
- e. Add "listed" to "sucking and chewing insects" where applicable, on pages 1 and elsewhere on the label.
- f. Under Special Instructions for all crops, a subheading of Restriction must be added before the statement "Do not apply to vegetables grown for seed".
- g. Under Special Instructions for all crops, the word "recommended" must be changed to "specified" in the statement about higher rates.

3. This amendment is subject to the time frames for submission of generic data for the active ingredient, as indicated in the Notice of Registration for Dinotefuran Technical, EPA Registration Number 33657-10, issued on September 17, 2004.

Submit two (2) copies of your final printed labeling before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(a).

A stamped copy of the label is enclosed for your records. If you have any questions, please do not hesitate to write or call me at (703) 308-8291.

Sincerely,  
  
 Rita Kumar  
 Senior Regulatory Specialist  
 Insecticide Rodenticide Branch  
 Registration Division (7505C)  
 e-mail: kumar.rita@epa.gov

Enclosure

3/23

GROUP	4A	INSECTICIDE
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# STARKLE 70SG

FOR CONTROL OF SUCKING AND CHEWING INSECTS INFESTING COTTON, CUCURBITS, FRUITING VEGETABLES, GRAPE, HEAD & STEM BRASSICA, LEAFY BRASSICA GREENS, LEAFY VEGETABLES, ORNAMENTAL PLANTS, POTATO AND TURFGRASS.

Active Ingredient:	By Wt.
Dinotefuran - N-methyl-N'-nitro-N"-[(tetrahydro-3-furanyl)methyl]guanidine.....	70.0%
Other Ingredients.....	30.0%
Total.....	100.0%

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

*SEE NEXT PAGE FOR ADDITIONAL PRECAUTIONARY STATEMENTS.*

EPA Reg. No. 33657 - 38  
EPA Est. No. 67545-AZ-01

**NET CONTENTS -**

**ACCEPTED  
With COMMENTS  
In EPA Letter Dated:  
DEC 23 2009**

**Under the Federal Insecticide, Fungicide  
and Rodenticide Act, As amended, for the  
pesticide Registered under EPA Reg. No:**

33657-38

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS & DOMESTIC ANIMALS**

**CAUTION**

**FIRST AID**

**If on skin or clothing:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for further treatment advice.

**If swallowed:**

- Call poison control center or doctor immediately for treatment advice.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Have person sip a glass of water if able to swallow.
- Do not give anything by mouth to an unconscious person.

**If in eyes:**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for further treatment advice.

**If inhaled:**

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call poison control center or doctor for further treatment advice.

**HOT LINE NUMBER - CHEMTREC (800) 424-9300  
(24 hours)**

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride and shoes plus socks.

**USER SAFETY REQUIREMENTS**

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

**USER SAFETY RECOMMENDATIONS**

**Users should:**

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

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to shrimp. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not dispose of equipment washwaters or rinsate into a natural drain or water body. Do not contaminate water when disposing of equipment washwaters or rinsate.

This compound is toxic to honey bees. The persistence of residues and potential residual toxicity of Dinotefuran in nectar and pollen suggest the possibility of chronic risk to honey bee larvae and the eventual instability of the hive.

This product is toxic to bees exposed to treatment for more than 38 hours following treatment. Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state and federal authorities.

Dinotefuran and its degradate, MNG, have the properties and characteristics associated with chemicals detected in ground water. The high water solubility of dinotefuran and its degradate, MNG, coupled with its very high mobility, and resistance to biodegradation indicates that this compound has a strong potential to leach to the subsurface under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination. Periodic monitoring of shallow groundwater in the use area is recommended.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use, pour, spill or store near heat or open flame.

**SPRAY DRIFT ADVISORY**

Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crop thereof rendered for sale, use or consumption.

**DIRECTIONS FOR USE**

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

**READ ENTIRE LABEL, USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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

**AGRICULTURAL USE REQUIREMENTS**

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is: coveralls, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride and shoes plus socks

**NON-AGRICULTURAL USE REQUIREMENTS**

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

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.  
Do not enter treated areas without protective clothing until sprays have dried.

**DISCLAIMER, RISKS OF USING THIS PRODUCT,  
LIMITED WARRANTY  
AND LIMITATION OF LIABILITY**

**IMPORTANT:** Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

**RISKS OF USING THIS PRODUCT**

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of MITSUI CHEMICALS. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

MITSUI CHEMICALS shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

**LIMITED WARRANTY**

MITSUI CHEMICALS warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, MITSUI CHEMICALS MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of MITSUI CHEMICALS or Seller is authorized to make or create any other express or implied warranty.

**LIMITATION OF LIABILITY**

To the fullest extent allowed by law, MITSUI CHEMICALS or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF MITSUI CHEMICALS OR 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 MITSUI CHEMICALS OR SELLER, THE REPLACEMENT OF THE PRODUCT.

**PROMPT NOTICE OF CLAIM**

MITSUI CHEMICALS must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is later, so that an immediate inspection of the affected property and growing crops can be made.

If Buyer does not notify MITSUI CHEMICALS of any claims in such period, it shall be barred from obtaining any remedy.

**NO AMENDMENTS**

MITSUI CHEMICALS and Seller offer this product, and Buyer accepts it, subject to the foregoing Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability, which may not be modified by any oral or written agreement.

**TANK MIXES**

**NOTICE:** Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.

Read and follow the entire label of each product to be used in the tank mix with this product.

## RESISTANCE MANAGEMENT

STARKLE 70SG contains a Group 4A insecticide. Insect biotypes with acquired resistance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by STARKLE 70SG or other Group 4A insecticides.

To delay insecticide resistance consider:

- NOT using a foliar application of STARKLE 70SG or any insecticide in the neonicotinoid class following an in-furrow or soil application of STARKLE 70SG.
- To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.
- Avoiding the consecutive use of STARKLE 70SG or other Group 4A insecticides that have a similar target site of action, on the same insect species.
- Using tank mixtures or premixes with insecticides from a different target site of action Group as long as the involved products are all registered for the same use and have different sites of action.
- Basing insecticide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated insect populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors and/or manufacturers for resistance management program and/or IPM recommendations for the specific site and resistant pest problems.
- Using another registered pesticide that is not in the neonicotinoid class or nitroguanidine subclass of chemistry, if the maximum season limit of STARKLE 70SG has been applied and pest populations require additional treatments.



## GENERAL INFORMATION

**Failure to follow directions and precautions on this label may result in crop injury, poor insect control and/or illegal residues.**

For best performance, always follow these directions:

- STARKLE 70SG should be applied when insect pest populations begin to build, but before populations reach economically damaging levels. Economic thresholds for pests controlled by STARKLE 70SG may be available from your State and County Extension Service.
- STARKLE 70SG is a selective insecticide which should have minimal impact on beneficial arthropods and its use is compatible with Integrated Pest Management (IPM) programs. However, STARKLE 70SG is toxic to bees exposed to direct treatment or to residue on blooming crops and weeds. Do not apply STARKLE 70SG or allow it to drift onto blooming plants if bees are actively foraging in the treated area.
- STARKLE 70SG is taken up into foliage after application. However, thorough spray coverage is essential for optimal performance. Apply STARKLE 70SG in sufficient water to ensure good coverage.
- STARKLE 70SG may aid in the suppression of some pests. Suppression can mean either inconsistent control (good to poor), or consistent control at a level below that generally considered acceptable for commercial control.

### Rotational Crops

For all crops other than cotton, cucurbits, fruiting vegetables, grapes, head & stem brassica, leafy brassica greens, leafy vegetables, and potato, a 120-day plant back interval should be observed.

### MIXING INSTRUCTIONS

Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the desired amount of STARKLE 70SG to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after STARKLE 70SG has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

### STARKLE 70SG plus Tank Mixtures

Add 1/2 of the required amount of water to the mix tank. Start the agitator before adding any tank mix partners. In general, tank mix partners should be added in this order: products packaged in water soluble packaging, wettable powders, wettable granules (dry flowables), liquid flowables, liquids, emulsifiable concentrates, surfactants and adjuvants. Always allow each tank mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all the mixture has been applied.

When using STARKLE 70SG in tank mixtures, all products in water soluble packaging should be added to the tank before any other tank mix partner, including STARKLE 70SG. Allow the water soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using STARKLE 70SG in a tank mixture, observe all directions for use, crops/sites, use rates, dilution ratios, precautions and limitations which appear on the tank mix product label. No label dosage rate should be exceeded, and the most restrictive label precautions and limitations should be followed. This product should not be mixed with any product which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

**COMPATIBILITY**

**IMPORTANT: The crop safety of all potential tank mixes on all crops has not been tested. Before applying any tank mixture not specifically recommended on this label, the safety to the target crop should be confirmed.**

STARKLE 70SG is compatible with most commonly used pesticides. However, since it is not possible to test all possible mixtures, the user should pretest to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with STARKLE 70SG. To determine the physical compatibility of STARKLE 70SG with other products, use a jar test, as described below:

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

**APPLICATION PROCEDURES**

**Ground Application**

Spray nozzles should be selected which will provide accurate and uniform spray deposition. Use spray nozzles which provide medium sized droplets and reduce drift. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult nozzle manufacturers and/or State and County Extension Service.

Apply STARKLE 70SG using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage. Avoid making applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

**Aerial Application**

Apply STARKLE 70SG in water, using the minimum spray volume indicated in the Special Instructions of each crop, but not less than 3 gals./A. Increase spray volume where practical to improve coverage. Avoid making application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

**Application Through Irrigation Systems (Chemigation)**

STARKLE 70SG alone or in combination with other products which are registered for application through sprinkler irrigation may be applied through irrigation systems. Apply this product only through micro-irrigation (individual spaghetti tube), drip irrigation, overhead irrigation or motorized calibrated irrigation equipment. Do not apply through any other type of irrigation system. Lack of effectiveness can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact your State Extension Service specialist, equipment manufacturer or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**Using Water from Public Water Systems**

- X Do not apply STARKLE 70SG through any irrigation system physically connected to a public water system.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year. STARKLE 70SG may be applied through irrigation systems which may be supplied by a public water system only if the water from the public water system

is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

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

**Operating Instructions for All Recommended Types of Irrigation Systems**

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact your State Extension Service specialist, equipment manufacturer or other experts.
2. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Do not apply when wind speed favors drift beyond the area intended.

**Calibration and Application Instructions**

STARKLE 70SG should be applied under the schedule specified in the specific crop use recommendations, not according to the irrigation schedule, unless the events coincide. In general, set the equipment to apply the minimum amount of water per acre. Run the system at 86 to 90% of the manufacturer's maximum rated travel speed.

The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Users should check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

**Center Pivot Irrigation Equipment**

1. Use only drive systems that provide uniform water distribution.
2. Do not use end guns when chemigating STARKLE 70SG through center pivot systems because of non-uniform application.
3. Plug the first nozzle closest to the well head to protect the water source.
4. Determine the size of the area to be treated.
5. Determine the time required to apply 0.1 to 0.25 inches of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. Run the system at 80 to 95% of the manufacturer's rated maximum travel speed.
6. Using water, determine the injection pump output when operated at normal line pressure.
7. Determine the amount of STARKLE 70SG, and any tank mix partners, required to treat the area covered by the irrigation system.

8. Add the required amount of STARKLE 70SG, and any tank mix partners, and sufficient water to meet the injection time requirements to the solution tanks. (See "Mixing Instructions" section of this label.)
9. Make sure the system is fully charged with water before starting injection of the STARKLE 70SG solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
10. Maintain constant agitation in the solution tank during the injection period.
11. Inject the specified amount of STARKLE 70SG per acre continuously for one complete revolution of the system.
12. Stop the injection equipment after treatment is complete. Continue to operate the system until the STARKLE 70SG solution has cleared all of the sprinkler heads.
13. Allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water.

**Solid Set, Hand Move and Moving Wheel Irrigation Equipment**

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20 to 40 minute time interval.
3. Determine the amount of STARKLE 70SG required to treat the area covered by the irrigation system.
4. Add the required amount of STARKLE 70SG, and any other tank mix partners, into the same quantity of water used to calibrate the injection period. (See "Mixing Instructions" section of this label.)
5. Operate the system at the same pressure and time interval established during the calibration.
6. Inject specified amount of STARKLE 70SG per acre for either a 20 to 40 minute period at the end of a regular irrigation set, or as a 20 to 40 minute injection as a separate application not associated with a regular irrigation to maximize retention of the insecticide by the foliage.
7. Stop injection equipment after treatment is completed. Continue to operate the system until the STARKLE 70SG solution has cleared the last sprinkler head. To ensure lines are flushed and free from remaining pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

**SPRAY DRIFT RECOMMENDATIONS**

- **Avoiding spray drift at the application site is the responsibility of the applicator.**

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they should be observed. Follow these recommendations to avoid spray drift:

1. Make applications when wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 10 mph. Avoid applications when wind gusts approach 10 mph.
2. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.
3. Do not cultivate or plant crops within 25 ft. of the aquatic area to allow growth of a vegetative filter strip.
4. Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
5. Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
6. Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage. Applications more than 10 ft. above the crop canopy should be avoided.
7. For aerial applications, the spray boom should be mounted on the aircraft so to minimize drift caused by wing tip vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

**Air Assisted (Air Blast) Tree and Vine Sprayers (Grapes and Potato Only)**

Air assisted tree and vine sprayers carry droplets in the canopy of trees and vines via a radially or laterally directed air stream.

In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift.

1. Adjust deflectors and aiming devices so that spray is only directed into the canopy.
2. Block off upward pointed nozzles when there is no overhanging canopy.
3. Use only enough air volume to penetrate the canopy and provide good coverage. Use 50 – 300 gals. of finished spray per acre.
4. Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.

**COTTON**

CROP	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Cotton	Banded Wing Whitefly Cotton Aphid Leafhopper Plant Bug Silverleaf Whitefly Sweetpotato Whitefly Thrips	1 to 3 oz/A (0.045 to 0.134 lb ai/A)	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin application when pest activity is first noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>
<p><b>Foliar Application</b></p> <ul style="list-style-type: none"> <li>• Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 10 to 50 gals/A by ground).</li> <li>• Do not apply STARKLE 70SG within fourteen (14) days of harvest.</li> <li>• Do not apply more than a total of 6 oz of STARKLE 70SG (0.268 lb ai) per acre per season.</li> </ul>			

### CUCURBITS

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Acorn Squash Balsam Apple Balsam Pear Bitter Melon Butternut Squash Calabaza Cantaloupe Casaba Chayote Chinese Cucumber Chinese Waxgourd (Chinese Preserving Melon) Citron Melon Crenshaw Melon Crookneck Squash Cucumber Edible Gourd Gherkin Golden Pershaw Melon Honey Balls Honeydew Melon Hubbard Squash Mango Melon <i>Momordica</i> spp. Muskmelon Persian Melon Pineapple Melon Pumpkin Santa Claus Melon Scallop Squash Snake Melon Spaghetti Squash Straightneck Squash Summer Squash True Cantaloupe Vegetable Marrow Watermelon Winter Squash Zucchini	Brown Stink Bug Cucumber Beetle Grasshopper Green Peach Aphid Green Stink Bug Harlequin Bug Melon Aphid Leafhopper Leafminer Southern Green Stink Bug Squash Bug Thrips Whiteflies	<b>FOLIAR:</b> 1 to 4 oz/A (0.045 to 0.179 lb ai/A)  <b>OR</b>  <b>SOIL:</b> 5 to 7.5 oz/A (0.226 to 0.33 lb ai/A)	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>
<p><b>Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.</b></p> <p><b>Foliar application</b></p> <ul style="list-style-type: none"> <li>• Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 20 to 40 gals/A by ground).</li> <li>• Do not apply STARKLE 70SG within one (1) day of harvest.</li> <li>• Do not apply more than a total of 6 oz. of STARKLE 70SG (0.268 lb ai) per acre per season.</li> </ul> <p><b>Soil Application</b></p> <ul style="list-style-type: none"> <li>• See conversion chart on this label for linear application rates.</li> <li>• Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).</li> <li>• Do not apply STARKLE 70SG within twenty-one (21) days of harvest.</li> <li>• Do not apply more than a total of 12 oz of STARKLE 70SG (0.536 lb ai) per acre per season.</li> </ul> <p>Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.</li> <li>2. In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.</li> <li>3. As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.</li> <li>4. As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.</li> <li>5. In drip or trickle irrigation water.</li> </ol>			

### FRUITING VEGETABLES

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Bell Pepper Chili Pepper Cooking Pepper Eggplant Ground Cherry Pepino Pimento Sweet Pepper Tomatillo Tomato (Do not apply to varieties of tomato which are less than 2 inches in size, such as cherry or grape tomatoes.)	Brown Stink Bug Colorado Potato Beetle Cucumber Beetle Flea Beetle Grasshopper Green Peach Aphid Green Stink Bug Harlequin Bug Leafhopper Leafminer Potato Aphid Southern Green Stink Bug Squash Bug Thrips Whiteflies	<b>FOLIAR:</b> 1 to 4 oz/A (0.045 to 0.179 lb ai/A)  <b>OR</b>  <b>SOIL:</b> 5 to 7.5 oz/A (0.226 to 0.33 lb ai/A)	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p> <p>Do not apply to varieties of tomato which are less than 2 inches in size, such as cherry or grape tomatoes.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local Integrated Pest Management (IPM) and Resistance Management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>
<p><b>Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.</b></p> <p><b>Foliar Application</b></p> <ul style="list-style-type: none"> <li>• Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 20 to 40 gals/A by ground).</li> <li>• Do not apply STARKLE 70SG within one (1) day of harvest.</li> <li>• Do not apply more than a total of 6 oz of STARKLE 70SG (0.268 lb ai) per acre per season.</li> </ul> <p><b>Soil Application</b></p> <ul style="list-style-type: none"> <li>• See conversion chart for linear application plant application rates.</li> <li>• Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).</li> <li>• Do not apply STARKLE 70SG within twenty-one (21) days of harvest.</li> <li>• Do not apply more than a total of 12 oz of STARKLE 70SG (0.536 lb ai) per acre per season.</li> </ul> <p>Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.</li> <li>2. In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface-banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.</li> <li>3. As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.</li> <li>4. As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.</li> <li>5. In drip or trickle irrigation water.</li> </ol>			

## GRAPE

CROP	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Grape	Glassy-Winged Sharpshooter Leafhopper Thrips	<b>FOLIAR:</b> 1 to 3 oz/A (0.045 to 0.132 lb ai/A)	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 14 days. For best results, time application before a damaging population becomes established.</p>
	Glassy-Winged Sharpshooter Grape Mealybug Leafhopper Thrips Vine Mealybug	<b>SOIL:</b> 5 to 7.5 oz/A (0.226 to 0.33 lb ai/A)	<p>Under severe pest pressure, use the higher recommended rates.</p> <p>For Mealybug control, apply between budbreak and pea-berry size.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>
<p><b>NOTE:</b> Regardless of application method do not apply more than a total of 12 oz of STARKLE 70SG (0.528 lb. ai) per acre per season.</p> <p><b>Foliar Application</b></p> <ul style="list-style-type: none"> <li>• Apply with air or ground equipment in adequate water for uniform coverage (5 to 10 gals/A by air or 50 to 300 gals/A by ground).</li> <li>• Do not apply STARKLE 70SG within one (1) day of harvest.</li> <li>• Do not apply more than a total of 6 oz of STARKLE 70SG (0.264 lb ai) per acre per season.</li> </ul> <p><b>Soil Application</b></p> <ul style="list-style-type: none"> <li>• Make only one (1) soil application per season.</li> <li>• Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).</li> <li>• Do not apply STARKLE 70SG within twenty-eight (28) days of harvest.</li> <li>• Do not apply more than a total of 7.5 oz of STARKLE 70SG (0.33 lb ai) per acre per season.</li> <li>• For drip application, prior to injection, mix specified dosage in sufficient carrier volume (minimum of 2 gals of water per 1 lb of product) to ensure uniform application and incorporation into the soil using drip or trickle irrigation water. Apply towards the end of the irrigation run to ensure the product does not leach past the root zone.</li> </ul>			



### HEAD AND STEM BRASSICA

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Broccoli Brussels Sprouts Cabbage Cauliflower Cavalo Broccolo Chinese Broccoli Chinese Cabbage Chinese Mustard Cabbage Kohlrabi	Brown Stink Bug Cabbage Aphid Cucumber Beetle Grasshopper Green Peach Aphid Green Stink Bug Harlequin Bug Leafminer Southern Green Stink Bug Squash Bug Whiteflies	<b>FOLIAR:</b> 1 to 4 oz/A (0.045 to 0.179 lb ai/A)  <b>OR</b>  <b>SOIL:</b> 5 to 7.5 oz/A (0.226 to 0.33 lb ai/A)	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>

**Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.**

**Foliar Application**

- Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 20 to 40 gals/A by ground).
- Do not apply STARKLE 70SG within one (1) day of harvest.
- Do not apply more than a total of 6 oz of STARKLE 70SG (0.268 lb ai) per acre per season.

**Soil Application**

- See conversion chart for linear application plant application rates.
- Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).
- Do not apply STARKLE 70SG within twenty-one (21) days of harvest.
- Do not apply more than a total of 12 oz of STARKLE 70SG (0.536 lb ai) per acre per season.

Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:

1. In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.
2. In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.
3. As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.
4. As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.
5. In drip or trickle irrigation water.

### LEAFY BRASSICA GREENS

CROPS	PESTS	PRODUCT RATES Oz. Product/A	SPECIAL INSTRUCTIONS
<p>Leafy Brassica Greens</p> <p>Such as Broccoli Raab Chinese Cabbage (Bok Choy) Collards Kale Mizuna Mustard Greens Mustard Spinach Rape Greens Turnip Greens</p>	<p>Aphids Flea Beetles Whitefly</p>	<p>2.0 to 3.0 (0.088 – 0.131 lbs. ai/a)</p>	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70 SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p>
<p><b>Foliar Application</b></p> <ul style="list-style-type: none"> <li>• Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./A by air or 20 to 40 gals./A by ground).</li> <li>• Do not apply STARKLE 70 SG within one (1) days of harvest.</li> <li>• Do not apply more than a total of 6 oz. of STARKLE 70 SG (0.262 lb. ai) per acre per season.</li> </ul> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70 SG per growing season are allowed.</p>			

**LEAFY VEGETABLES  
(Except Brassica Vegetables)**

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Amaranth (Chinese Spinach) Arugula (Roquette) Cardoon Celery Celtuce Chervil Chinese Celery Chrysanthemum Edible-leaved Garland Corn Salad Cress Garden Upland Dandelion Dock (Sorrel) Endive (Escarole) Florence Fennel Lettuce Head Leaf Orach Parsley Purslane Garden Winter Radicchio (Red Chicory) Rhubarb Spinach Spinach, New Zealand Spinach, Vine Swiss Chard	Banded Wing Whitefly Brown Stink Bug Cucumber Beetle Grasshopper Green Peach Aphid Green Stink Bug Harlequin Bug Leafhopper Leafminer Potato Aphid Silverleaf Whitefly Southern Green Stink Bug Squash Bug Sweetpotato Whitefly	<p align="center"><b>FOLIAR:</b> 1 to 3 oz/A (0.045 to 0.134 lb ai/A)</p> <p align="center"><b>OR</b></p> <p align="center"><b>SOIL:</b> 5 to 7.5 oz/A (0.226 to 0.33 lb ai/A)</p>	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>
<p><b>Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.</b></p>			
<p><b>Foliar Application</b></p> <ul style="list-style-type: none"> <li>• Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 20 to 40 gals/A by ground).</li> <li>• Do not apply STARKLE 70SG within seven (7) days of harvest.</li> <li>• Do not apply more than a total of 6 oz of STARKLE 70SG (0.268 lb ai) per acre per season.</li> </ul> <p><b>Soil Application</b></p> <ul style="list-style-type: none"> <li>• See conversion chart for linear application rates.</li> <li>• Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).</li> <li>• Do not apply STARKLE 70SG within twenty-one (21) days of harvest.</li> <li>• Do not apply more than a total of 12 oz of STARKLE 70SG (0.536 lb ai) per acre per season.</li> </ul> <p>Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.</li> <li>2. In-furrow spray at or below seed level or a narrow surface band above the seed line during planting. For surface banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.</li> <li>3. As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.</li> <li>4. As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.</li> <li>5. In drip or trickle irrigation water.</li> </ol>			

**POTATO**

CROP	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Potato	Colorado Potato Beetle Flea Beetle Green Peach Aphid Potato Aphid Potato Leafhopper Psyllid	<b>FOLIAR:</b> 1 to 1.5 oz/A (0.050 to 0.066 lb ai/A)  <b>OR</b>  <b>SOIL:</b> 6.5 to 7.5 oz/A (0.28 to 0.33 lb ai/A)	<p><b>Higher water volumes provide improved insect control.</b></p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations Repeat as needed to maintain control, but not more often than every 14 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>STARKLE 70SG may be mixed and/or alternated with commonly used insecticides to comply with local IPM and resistance management programs.</p> <p>To optimize resistance management practices, no more than three (3) applications of STARKLE 70SG per growing season are allowed.</p>

**Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.**

**Foliar Application**

- Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 10 to 50 gals/A by ground).
- Do not apply STARKLE 70SG within seven (7) days of harvest.
- Do not apply more than a total of 4.5 oz of STARKLE 70SG (0.198 lb ai) per acre per season.

**Soil Application**

- See conversion chart for linear application plant application rates.
- Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).
- Apply once at preplant, preemergence or at ground crack as directed below.
- Do not apply more than a total of 7.5 oz of STARKLE 70SG (0.33 lb ai) per acre per season.

Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:

1. In a narrow band centered on the plant row in the bedding operation just prior to planting.
2. In-furrow spray at planting. Direct spray in the furrow on the seed pieces or potatoes.
3. As a sidedress to both sides of the row or as a spray at ground crack directly over the row during hilling. Cover immediately with soil.

## TURFGRASS

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Commercial Recreational Residential	Southern Mole Cricket Tawny Mole Cricket	3/4 lb/A (0.28 oz. per 1000 sq. ft.)	Make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, application should be accompanied by a curative insecticide such as ORTHENE® Turf, Tree & Ornamental Spray.
	<b>White grub larvae such as:</b> Annual Bluegrass Weevil Asiatic Garden Beetle Billbug Black Turfgrass Ataenius European Chafer Green June Beetle Japanese Beetle May/June Beetle Northern Masked Chafer Oriental Beetle Southern Masked Chafer	3/4 lb/A (0.28 oz. per 1000 sq. ft.)	For optimum control of grubs, billbugs, and annual bluegrass weevil, make application prior to or during egg hatch of the target pest.
	<b>Suppression of:</b> Chinchbug Cutworms Sod Webworm	3/4 lb/A (0.28 oz. per 1000 sq. ft.)	For suppression of chinchbugs, make application prior to hatching of the first instar nymphs.
<ul style="list-style-type: none"> <li>• Apply in sufficient water to ensure thorough coverage of target area. Use a minimum of 50 gals. finished spray per acre.</li> <li>• Consult your local State and County Extension Service or State Extension Turfgrass Specialists for more specific information on timing of insecticide applications.</li> <li>• For optimal control, irrigation or rainfall should occur within 24 hours after application to ensure movement of the active ingredient through the thatch.</li> <li>• Avoid mowing turf or lawn grass until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.</li> <li>• Do not apply more than a total of 3/4 lb of STARKLE 70SG (0.52 lb ai) per acre per year.</li> </ul>			

## ORNAMENTAL PLANTS (FOLIAR APPLICATION)

For insect control in ornamental plants grown in commercial, industrial, and residential areas and outdoor nursery and greenhouse ornamental production.

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Evergreens Flowering Plants Foliage Plants Ground Covers Ornamental Plants Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Shrubs	Adelgid Aphid Asian Cycad Scale Florida Wax Scale Japanese Beetle (adult) Lacebug Leaf Beetle Leafhopper (suppression) Leafminer Mealybug Sawfly Larvae Scale (Armored and Soft) Tea Scale Thrips (suppression) Whiteflies Giant Greenhouse Silverleaf	1.14 to 2.2 oz/100 gals (0.05 to 0.1 lbs ai per 100 gals)	For insect control on ornamental plants. Start treatment prior to buildup of high pest populations. Reapply on a 14-21 day interval as necessary.  100 gals of spray mix will treat 20,000 sq ft of area.
• Do not apply more than a total of 3/4 lb of STARKLE 70SG (0.52 lb ai) per acre per season.			

## ORNAMENTAL PLANTS (DRENCH APPLICATION)

For insect control in ornamental plants grown in commercial, industrial, and residential areas, indoor and outdoor nursery and greenhouse ornamental production.

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Evergreens Flowering Plants Foliage Plants Ground Covers Ornamentals Plants Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Shrubs	Aphids Asian Cycad Scale Florida Wax Scale Fungus Gnat Leafminer Mealybug Scale (Armored and Soft) Tea Scale Thrips Whiteflies Giant Greenhouse Silverleaf	3.4 to 6.9 oz/100 gals (0.15 to 0.3 lbs ai per 100 gals)	Apply 4 fl. oz. of finished solution per 6" pot. Adjust amount of drench solution for smaller or larger pot size.

CONVERSION CHART FOR LINEAR APPLICATION								
Rate/A of Product (OZ.)	Row Width/Inches							
	20	24	28	30	32	34	36	40
Ounces Product/1000 Row Ft.								
5	0.19	0.23	0.27	0.29	0.31	0.33	0.34	0.38
5.25	0.20	0.24	0.28	0.30	0.32	0.34	0.36	0.40
5.5	0.21	0.25	0.29	0.32	0.34	0.36	0.38	0.42
5.75	0.22	0.26	0.31	0.33	0.35	0.37	0.40	0.44
6	0.23	0.28	0.32	0.34	0.37	0.39	0.41	0.46
6.25	0.24	0.29	0.33	0.36	0.38	0.41	0.43	0.48
6.5	0.25	0.30	0.35	0.37	0.40	0.42	0.45	0.50
6.75	0.26	0.31	0.36	0.39	0.41	0.44	0.46	0.52
7	0.27	0.32	0.37	0.40	0.43	0.46	0.48	0.54
7.25	0.28	0.33	0.39	0.42	0.44	0.47	0.50	0.55
7.5	0.29	0.34	0.40	0.43	0.46	0.49	0.52	0.57

## STORAGE AND DISPOSAL

### PROHIBITIONS

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

### PESTICIDE STORAGE

Keep pesticide in original container.

Do not put concentrate or dilute into food or drink containers.

Store in a cool, dry place.

Do not store diluted spray.

For help with any spill, leak, fire or exposure involving this material, call day or night 1-800-892-0099.

### PESTICIDE DISPOSAL

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

### CONTAINER DISPOSAL

Triple rinse (or equivalent). Do not reuse container. Offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Manufactured by:  
**mitsui chemicals, inc.**  
 Shiodome City Center, 1-5-2 Higashi-Shimbashi,  
 Minato-ku, Tokyo 105-7117, JAPAN

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