

Mr. James M. Wagner  
Regulatory Manager  
**ZENECA AG PRODUCT**  
1800 Concord Pike  
P.O. Box 15458  
Wilmington, DE 19850-5458

JUN 26 1997

Dear Mr. Wagner:

Subject: Amended Registration To Add Use On Rice (Supplemental Label)  
**KARATE Insecticide**  
EPA Registration Number 10182-96  
Amended Application Dated July 25, 1996, and  
Letters Dated May 13, 1997, June 10 and 26, 1997

The Agency accepts your application for amended registration to add rice to the subject product label, since you have agreed in your letter dated June 10, 1997 to the following terms for conditional registration in accordance with FIFRA Section 3(c)(7)(B)(C). The subject amendment is issued for a period not to exceed November 15, 1997 to be consistent with the terms and conditions on cotton and other crops (see letters dated March 22, 1995, June 6, 1995 and June 30, 1995):

1. You understand that this registration will expire on November 15, 1997. You understand also that it is EPA's intent to, by November 15, 1997 or sooner, complete its review of all relevant data and other information, and to make FIFRA 3(c)(5) or other appropriate regulatory decisions for cotton and other crop use of synthetic pyrethroids based on EPA's review of such data/information and the statutory and regulatory criteria for such decision.

2. To support the use of lambda-cyhalothrin on rice Zeneca Ag Products will submit the following environmental fate data by **August 31, 1997**:

- a. Aerobic aquatic metabolism study (GRN 162-3);
- b. Anaerobic aquatic metabolism study (GRN 162-4), and
- c. Aquatic field dissipation (162-2).

|         |  |  |  |  |  |  |  |  |
|---------|--|--|--|--|--|--|--|--|
| SYMBOL  |  |  |  |  |  |  |  |  |
| SURNAME |  |  |  |  |  |  |  |  |
| DATE    |  |  |  |  |  |  |  |  |

3. Zeneca Ag Products will submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on rice is conditionally registered in accordance with FIFRA Section 29. The fiscal year begins October 1, and ends September 30. The information is to be submitted to:

Registration Support Branch  
Registration Division (7505W)  
Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

3. You agree to the terms and conditions for data generation as stipulated in the Agency's November 1993 letter regarding use of Karate Insecticide on cotton.

4. You agree that the current synthetic pyrethroid mitigation measures are interim in nature and may be reconsidered and/or modified after review and evaluation of the Spray Drift Task Force data.

5. Tolerances for residues of lambda-cyhalothrin on rice will expire November 15, 1997, coinciding with tolerances established for all synthetic pyrethroids on cotton.

6. Except as modified above all other terms and conditions for the existing registration for this product remain in effect.

7. With respect to the labeling we have the following comments. The label use directions for rice is acceptable provided that you add the following spray precaution statement in the remarks section: **"Do not apply as an ultra-low volume (ULV) sprays."**

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the supplemental labeling is enclosed for your records. Submit three copies of the **complete** labeling for our records.

Sincerely,

George T. LaRocca  
Product Manager (13)  
Insecticide-Rodenticide Branch  
Registration Division (7505C)

Enclosure:

**REVISED USE DIRECTIONS FOR KARATE 1E INSECTICIDE ON RICE**  
**EPA REG. NO. 10182-96**

| Target Pest  | Rate<br>lb ai/acre | Remarks  |
|--|--------------------|--|
| True Armyworm<br>Fall Armyworm<br>Yellow-striped<br>Armyworm<br>Rice Water Weevil<br>(adult)<br>Rice Stink Bug<br>Grasshopper Spp.<br>Leafhopper Spp.<br>Oat Birdcherry Aphid<br>Green Bug | 0.025 -<br>0.04    | <p>Apply as required by scouting. Timing and frequency of application should be based upon local economic thresholds. Determine the need for repeat applications, usually at intervals of 5-7 days, by scouting.</p> <p>Karate can be safely used when propanil products are being used for weed control.</p> <p>Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 5 gallons of water per acre.</p> <p>For control of rice water weevil in dry seeded rice, make a foliar application as indicated by scouting for the presence of adults <u>and/or feeding scars</u>, usually within a time-frame of 0-5 days after permanent flood establishment. Do not exceed 10 days from starting permanent flood until insecticide application <u>unless scouting indicates weevils have not been previously present. Adults may also be treated at later stages of rice development to reduce overwintering populations.</u></p> <p>For control of rice water weevil in water seeded rice, make the first foliar application after pinpoint flood <u>as indicated by scouting for the presence of adults and or feeding scars</u> usually when rice has emerged 0.5 inch above the waterline. Under conditions of prolonged migration into the field, <u>start field scouting</u> for rice water weevil adults <u>and or feeding scars</u> 3-5 days after the initial treatment and, if needed, apply a second application within 7-10 days of the first application. <u>Adults may also be treated at later stages of rice development to reduce overwintering populations.</u></p> <p>Green bug is known to have many biotypes. Karate may only provide suppression. If satisfactory control is not achieved with the first application of Karate, a resistant biotype may be present. Use alternate chemistry for control.</p> <p><u>Do not release flood water within 7 days of an application.</u></p> <p>Do not apply more than 0.12 lb ai per acre per season. Do not apply more than 0.08 lb ai per acre within 28 days of harvest or more than 0.04 lb ai per acre within 21 days of harvest.</p> <p>Do not apply within 21 days of harvest.</p> <p>Do not use treated rice fields for the aquaculture of edible fish and crustacea.</p> |

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

JUN 26 1997

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

10182-96

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**RESTRICTED USE PESTICIDE**  
**Due to Toxicity to Fish and Aquatic Organisms**

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

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**KARATE® Insecticide**

**COMPLETE DIRECTIONS FOR USE**

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

JUN 26 1997

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

10182-96

EPA Reg. No. 10182-96  
EPA Est. No. 10182-AR-1

Made in U.S.A.  
ZENECA Ag Products  
ZENECA Inc.  
Wilmington, DE 19850-5458

36 JUL 31 11:59

REC'D EPA/OPP/DPD1

**CONDITIONS OF SALE  
AND LIMITATION OF WARRANTY AND LIABILITY**

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

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The Directions for Use of this product should 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 such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ZENECA or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ZENECA and Seller harmless for any claims relating to such factors.

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

In no event shall ZENECA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ZENECA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ZENECA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

ZENECA and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ZENECA.

KEEP OUT OF REACH OF CHILDREN

DANGER  
PELIGRO

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.)

**ACTIVE INGREDIENT:**

Lambda-cyhalothrin

[1 $\alpha$ (S\*),3 $\alpha$ (Z)]-( $\pm$ )-cyano-(3-phenoxyphenyl)methyl-  
3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-

dimethylcyclopropanecarboxylate ..... 13.1%

**INERT INGREDIENTS:** ..... 86.9%

**Total** ..... 100.0%

KARATE contains 1 pound of active ingredient per gallon and is an emulsifiable concentrate.

**STATEMENT OF PRACTICAL TREATMENT**

**IF ON SKIN:** Wash with plenty of soap and water. Get medical attention if irritation persists.

**IF SWALLOWED:** Do not induce vomiting. Call a physician immediately.

**IF INHALED:** Remove victim to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**IF IN EYES:** Hold eyelids open and flush with steady, gentle stream of water. Remove any contact lenses and repeat flushing procedure for several minutes. Get medical attention if irritation persists.

**NOTE TO PHYSICIAN:** Induced vomiting as first aid for this substance may result in increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent. Vomiting should be induced only under professional supervision.

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**FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL 1-800-F-A-S-T-M-E-D  
(327-8633).**

**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC  
1-800-424-9300.**

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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### DANGER

CORROSIVE. CAUSES SKIN DAMAGE. MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES EYE INJURY. HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTIONS. **DO NOT** get on skin, in eyes, or on clothing. **DO NOT** breathe spray mist.

Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2 to 30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

#### Personal Protective Equipment

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

Applicators and other handlers must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or viton  $\geq 14$  mils
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading
- For exposures in enclosed areas, a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G)
- For exposures outdoors, dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C)

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

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**User Safety Recommendations**

Users should:

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

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**ENVIRONMENTAL HAZARDS**

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife. 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 neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

**PHYSICAL AND CHEMICAL HAZARDS**

Combustible liquid. Do not use or store near heat or open flame.



## 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 agency responsible for pesticide regulation.

This labeling must be in the possession of the user at the time of application.

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## AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 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 over long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or viton  $\geq 14$  mils
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

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## STORAGE AND DISPOSAL

**PROHIBITIONS:** Do not contaminate water, food, or feed by storage and disposal.

**STORAGE:** Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or

Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

#### **CONTAINER DISPOSAL**

**Metal Containers:** Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities.

**Plastic Containers:** Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### **FOR BOOMERANG CONTAINERS**

**CONTAINER DISPOSAL:** Return container to ZENECA Inc. for reuse with seal intact and in salable condition.

#### **FOR BULK/MINI-BULK AND E-Z HANDLER® CONTAINERS**

#### **CONTAINER DISPOSAL**

**Plastic Containers:** Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.

#### **CONTAINER PRECAUTIONS**

Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

**REFILL ONLY WITH KARATE® INSECTICIDE.** The contents of this container cannot be completely removed by cleaning. Refilling with materials other than KARATE insecticide will result in contamination and may weaken container.

After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

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

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**Resistance:** Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

## SPRAY DRIFT PRECAUTIONS

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS, MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

- Do not apply by ground within 25 feet, or by air within 150 feet of lakes; reservoirs; rivers; permanent streams, marshes, pot holes, or natural ponds; estuaries and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultralow volume (ULV) application is made.
- All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.
- For aerial applications, the spray boom should be mounted on the aircraft so as 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.
- Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.
- Make aerial or ground applications when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.
- Risk of exposure to aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.
- Do not cultivate within 10 feet of the aquatic area so as to allow growth of a vegetative filter strip.
- Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.
- Do not make aerial or ground applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with 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.

## CHEMIGATION

**SPRINKLER IRRIGATION APPLICATION:** Apply KARATE insecticide at rates and timing described elsewhere in this label. Apply with center pivot or continuous-move equipment distributing 1/2 acre-inch or less during treatment. In general, use the least amount of water required for proper distribution and coverage. If stationary systems (solid sets, handlines or wheel lines other than continuous-move) are used, KARATE insecticide should be injected into no more than the last 20-30 minutes of the set. Do not apply when winds are greater than 10-15 mph to avoid drift or wind skips. Thorough coverage of foliage is required for good control. Good agitation should be maintained during the entire application period.

## USE PRECAUTIONS - SPRINKLER IRRIGATION APPLICATION

- A. Apply this product only through (sprinkler including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system.
- B. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- C. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- D. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- E. 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.
- F. 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.
- G. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- H. 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.
- I. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- J. 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.
- K. 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.
- L. Do not apply when wind speed favors drift beyond the area intended for treatment
- M. Do not apply through chemigation systems connected to public water systems.

Apply KARATE insecticide as shown in the following charts:

# SPRAY RECOMMENDATIONS

| Crop     | Target Pests   | Rate        |           | Remarks  |
|----------|--|-------------|-----------|--|
|          |  | lb ai/A     | fl oz/A   |  |
| Broccoli | Alfalfa Looper<br>Cabbage Looper<br>Imported Cabbageworm<br>Southern Cabbageworm<br>Cutworms<br>Cabbage Webworm  | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> </ul> |
|          | Diamondback Moth <sup>3</sup><br>Armyworm<br>Beet Armyworm <sup>1</sup><br>Fall Armyworm <sup>1</sup><br>Yellowstriped Armyworms<br>Corn Earworm<br>Flea Beetle<br>Japanese Beetle (Adult)<br>Vegetable Weevil (Adult)<br>Grasshoppers<br>Leafhoppers<br>Stink Bugs<br>Plant Bugs<br>Meadow Spittlebug<br>Aphids <sup>2</sup><br>Whiteflies <sup>2</sup><br>Thrips <sup>2</sup><br>Spider Mites <sup>2</sup> | 0.020-0.030 | 2.56-3.84 |  |

<sup>1</sup>For control of first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See resistance statement under Directions for Use.

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# SPRAY RECOMMENDATIONS

| Crop    | Target Pests   | Rate        |           | Remarks  |
|---------|--|-------------|-----------|--|
|         |  | lb ai/A     | fl oz/A   |  |
| Cabbage | Alfalfa Looper<br>Cabbage Looper<br>Imported Cabbageworm<br>Southern Cabbageworm<br>Cutworms<br>Cabbage Webworm  | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> </ul> |
|         | Diamondback Moth <sup>3</sup><br>Armyworm<br>Beet Armyworm <sup>1</sup><br>Fall Armyworm <sup>1</sup><br>Yellowstriped Armyworms<br>Corn Earworm<br>Flea Beetle<br>Japanese Beetle (Adult)<br>Vegetable Weevil (Adult)<br>Grasshoppers<br>Leafhoppers<br>Stink Bugs<br>Plant Bugs<br>Meadow Spittlebug<br>Aphids <sup>2</sup><br>Whiteflies <sup>2</sup><br>Thrips <sup>2</sup><br>Spider Mites <sup>2</sup> | 0.020-0.030 | 2.56-3.84 |  |

<sup>1</sup>For control of first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See resistance statement under Directions for Use.

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# SPRAY RECOMMENDATIONS

| Crop                                       | Target Pests   | Rate        |           | Remarks  |
|--|--|-------------|-----------|--|
|  |  | lb ai/A     | fl oz/A   |  |
| Corn<br>Field Corn<br>Popcorn<br>Seed Corn | Cutworms<br>Western Bean Cutworm <sup>1</sup><br>Corn Earworm <sup>1</sup><br>Green Cloverworm<br>Meadow Spittlebug  | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods.</li> <li>• Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• For cutworm control, KARATE may be applied before, during, or after planting.</li> <li>• For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small corn. Direct spray to the base of corn plants. Repeat applications at 3- to 5-day intervals if needed. KARATE may only suppress heavy infestations and/or subsequent migrations.</li> <li>• Do not apply within 21 days of harvest. Do not apply more than 0.12 lb ai (0.96 pints) per acre per season. Do not apply more than 0.06 lb ai (0.48 pints) after silk initiation. Do not apply more than 0.03 lb ai (0.24 pints) after corn has reached the milk stage (yellow kernels with milky fluid).</li> </ul> |
|  | Tobacco Budworm <sup>1</sup><br>European Corn Borer <sup>1</sup><br>Southwestern Corn Borer <sup>1</sup><br>Stalk Borer <sup>1</sup><br>Armyworms <sup>2</sup><br>Webworms<br>Flea Beetles<br>Corn Rootworm Beetle (Adults)<br>Bean Leaf Beetle<br>Cereal Leaf Beetle<br>Japanese Beetle (Adult)<br>Grasshoppers<br>Corn Leaf Aphid <sup>3</sup><br>Bird Cherry-Oat Aphid <sup>3</sup><br>English Grain Aphid <sup>3</sup> | 0.020-0.030 | 2.56-3.84 |  |
|  | Beet Armyworm <sup>2</sup><br>Chinch Bug<br>Green Bug <sup>3</sup>   | 0.030       | 3.84      |  |

<sup>1</sup>For control before the larva bores into the plant stalk or ear.

<sup>2</sup>For control of the first and second instar only.

<sup>3</sup>Suppression only.

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# SPRAY RECOMMENDATIONS

| Crop   | Target Pests  | Rate       |           | Remarks   |
|--------|---|------------|-----------|---|
|        |   | lb ai/A    | fl oz/A   |   |
| Cotton | Thrips Spp.<br>Tobacco Thrips<br>Soybean Thrips   | 0.01-0.02  | 1.28-2.56 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 to 7 days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage.</li> <li>• Applications may also be made with equipment adapted and calibrated for ULV sprays. KARATE may be mixed with once-refined vegetable oil and applied in a minimum of at least one quart of finished spray per acre.</li> <li>• Under light bollworm/budworm infestation levels, 0.02 lb ai/A may be applied in conjunction with intense field monitoring.</li> <li>• For boll weevil control spray on a 3 to 5 day schedule.</li> <li>• When applied according to label directions for control of cotton bollworm and tobacco budworm, KARATE insecticide also provides ovicidal control of unhatched <i>Heliothis</i> spp. eggs.</li> <li>• Do not apply within 21 days of harvest.</li> <li>• Do not graze livestock in treated areas.</li> <li>• Do not apply more than 1.6 pints (0.2 lb ai) per acre per season.</li> <li>• Do not make more than a total of 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include AMBUSH® insecticide, Ammo® insecticide, Asana® XL insecticide, Baythroid® emulsifiable pyrethroid insecticide, Capture® insecticide/miticide, Danitol® 2.4 EC Spray insecticide/miticide, Fury™ insecticide, KARATE® insecticide, Mustang® insecticide, Pounce® insecticide and Scout X-TRA™ insecticide.</li> </ul> |
|        | Lygus Bugs<br>Pink Bollworm<br>Cabbage Looper<br>Cotton Leafperforator<br>Cutworm Spp.<br>Saltmarsh Caterpillar<br>Cotton Leafworm<br>Cotton Fleahopper   | 0.02-0.030 | 2.56-3.84 |   |
|        | Cotton Bollworm<br>Tobacco Budworm <sup>3</sup><br>Boll Weevil<br>Fall Armyworm<br>Beet Armyworm <sup>1</sup><br>European Corn Borer<br>Brown Stink Bug<br>Green Stink Bug<br>Southern Green Stink Bug<br>Twospotted Spider Mite <sup>2</sup><br>Cotton Aphid <sup>2</sup><br>Bandedwing Whitefly <sup>2</sup><br>Sweetpotato Whitefly <sup>2</sup> | 0.025-0.04 | 3.20-5.12 |   |

<sup>1</sup>For control of the first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See resistance statement under Directions for Use.

16 7 27



| SPRAY RECOMMENDATIONS |  |             |           |  |
|-----------------------|--|-------------|-----------|--|
| Crop                  | Target Pests   | Rate        |           | Remarks  |
|                       |  | lb ai/A     | fl oz/A   |  |
| Lettuce<br>(Head)     | Alfalfa Looper<br>Cabbage Looper<br>Imported Cabbageworm<br>Cutworms<br>Saltmarsh Caterpillar<br>Green Cloverworm  | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> </ul> |
|                       | Diamondback Moth <sup>3</sup><br>Armyworm<br>Beet Armyworm <sup>1</sup><br>Fall Armyworm <sup>1</sup><br>Southern Armyworm<br>Corn Earworm<br>Tobacco Budworm <sup>3</sup><br>European Corn Borer<br>Flea Beetle<br>Japanese Beetle (Adult)<br>Vegetable Weevil (Adult)<br>Grasshoppers<br>Leafhoppers<br>Stink Bugs<br>Plant Bugs<br>Meadow Spittlebug<br>Aphids <sup>2</sup><br>Whiteflies <sup>2</sup><br>Spider Mites <sup>2</sup> | 0.020-0.030 | 2.56-3.84 |  |

<sup>1</sup>For control of first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See resistance statement under Directions for Use.

17 9 27

| SPRAY RECOMMENDATIONS          |   |             |           |  |
|--------------------------------|---|-------------|-----------|--|
| Crop                           | Target Pests  | Rate        |           | Remarks  |
|                                |   | lb ai/A     | fl oz/A   |  |
| Onions<br>(Bulb) and<br>Garlic | Cutworms<br>Seedcorn Maggot Adults<br>Onion Maggot Adults<br>Leafminer Adults   | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Use the higher label rates as thrips population increases and avoid rescue situations.</li> <li>• Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• Do not apply within 14 days of harvest. Do not apply more than 0.24 lb ai (1.92 pints) per acre per season.</li> </ul> <p><sup>1</sup>For control of the first and second instar only.<br/> <sup>2</sup>Suppression only.</p> |
|                                | Armyworms <sup>1</sup><br>Onion Thrips<br>Tobacco Thrips<br>Western Flower Thrips <sup>2</sup><br>Flower Thrips <sup>2</sup><br>Aphids <sup>2</sup><br>Plant Bugs<br>Stink Bugs | 0.02-0.03   | 2.56-3.84 |  |

18  
927

SPRAY RECOMMENDATIONS

| Crop    | Target Pests   | Rate        |           | Remarks  |
|---------|--|-------------|-----------|--|
|         |  | lb ai/A     | fl oz/A   |  |
| Peanuts | Cutworms<br>Green Cloverworm<br>Velvetbean Caterpillar<br>Red-necked Peanut<br>Worm<br>Potato Leafhopper   | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> </ul> |
|         | Corn Earworm<br>Fall Armyworm <sup>1</sup><br>Bean Leaf Beetle<br>Southern Corn Rootworm<br>Adult<br>Vegetable Weevil<br>Whitefringed Beetle Adult<br>Stink Bugs<br>Tobacco Thrips<br>Grasshoppers | 0.020-0.030 | 2.56-3.84 |  |
|         | Beet Armyworm <sup>1</sup><br>Soybean Looper <sup>2,3</sup><br>Lesser Cornstalk Borer <sup>2</sup><br>Spider Mites <sup>2</sup><br>Aphids <sup>2</sup>   | 0.030       | 3.84      |  |

<sup>1</sup>For control of the first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See resistance statement under Directions for Use.

**REVISED USE DIRECTIONS FOR KARATE 1E INSECTICIDE ON RICE**  
**EPA REG. NO. 10182-96**

| Target Pest  | Rate<br>lb ai/acre | Remarks  |
|--|--------------------|--|
| True Armyworm<br>Fall Armyworm<br>Yellow-striped<br>Armyworm<br>Rice Water Weevil<br>(adult)<br>Rice Stink Bug<br>Grasshopper Spp.<br>Leafhopper Spp.<br>Oat Birdcherry Aphid<br>Green Bug | 0.025 -<br>0.04    | <p>Apply as required by scouting. Timing and frequency of application should be based upon local economic thresholds. Determine the need for repeat applications, usually at intervals of 5-7 days, by scouting.</p> <p>Karate can be safely used when propanil products are being used for weed control.</p> <p>Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 5 gallons of water per acre.</p> <p>For control of rice water weevil in dry seeded rice, make a foliar application as indicated by scouting for the presence of adults <u>and/or feeding scars</u>, usually within a time-frame of 0-5 days after permanent flood establishment. Do not exceed 10 days from starting permanent flood until insecticide application <u>unless scouting indicates weevils have not been previously present. Adults may also be treated at later stages of rice development to reduce overwintering populations.</u></p> <p>For control of rice water weevil in water seeded rice, make the first foliar application after pinpoint flood <u>as indicated by scouting for the presence of adults and or feeding scars</u> usually when rice has emerged 0.5 inch above the waterline. Under conditions of prolonged migration into the field, <u>start field scouting</u> for rice water weevil adults <u>and or feeding scars</u> 3-5 days after the initial treatment and, if needed, apply a second application within 7-10 days of the first application. <u>Adults may also be treated at later stages of rice development to reduce overwintering populations.</u></p> <p>Green bug is known to have many biotypes. Karate may only provide suppression. If satisfactory control is not achieved with the first application of Karate, a resistant biotype may be present. Use alternate chemistry for control.</p> <p><u>Do not release flood water within 7 days of an application.</u></p> <p>Do not apply more than 0.12 lb ai per acre per season. Do not apply more than 0.08 lb ai per acre within 28 days of harvest or more than 0.04 lb ai per acre within 21 days of harvest.</p> <p>Do not apply within 21 days of harvest.</p> <p>Do not use treated rice fields for the aquaculture of edible fish and crustacea.</p> |

SPRAY RECOMMENDATIONS

| Crop               | Target Pests   | Rate        |           | Remarks   |
|--------------------|--|-------------|-----------|---|
|                    |  | lb ai/A     | fl oz/A   |   |
| Sorghum<br>(Grain) | Cutworms<br>Sorghum Midge  | 0.015-0.020 | 1.92-2.56 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> </ul>  |
|                    | Armyworm<br>Beet Armyworm <sup>1</sup><br>Fall Armyworm <sup>1</sup><br>Corn Earworm<br>Webworms<br>European Corn Borer <sup>2</sup><br>Southwestern Corn Borer <sup>2</sup><br>Lesser Cornstalk Borer <sup>2</sup><br>Flea Beetle<br>Stink Bugs<br>Grasshoppers | 0.020-0.030 | 2.56-3.84 |   |
|                    | Chinch Bug   | 0.030       | 3.84      | <ul style="list-style-type: none"> <li>• Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• For sorghum midge control, begin applications when 25% of the sorghum heads have emerged and are in tip bloom. Repeat applications at 5-day intervals if needed.</li> <li>• For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of sorghum plants. Repeat applications at 3- to 5-day intervals if needed. KARATE may only suppress heavy infestations and/or subsequent migrations.</li> <li>• Do not apply within 30 days of harvest. Do not apply more than 0.08 lb ai (0.64 pints) per acre per season. Do not apply more than 0.06 lb ai (0.48 pints) per acre per season after crop emergence. Do not apply more than 0.02 lb ai (0.16 pints) per acre per season once crop is in soft dough stage.</li> <li>• Do not graze livestock in treated areas or harvest for fodder, silage or hay.</li> </ul> |

<sup>1</sup>For control of the first and second instars only.

<sup>2</sup>For control before the larva bores into the plant stalk.

SPRAY RECOMMENDATIONS

| Crop     | Target Pests   | Rate        |           | Remarks  |
|----------|--|-------------|-----------|--|
|          |  | lb ai/A     | fl oz/A   |  |
| Soybeans | Corn Earworm<br>Velvetbean Caterpillar<br>Green Cloverworm<br>Cabbage Looper<br>Saltmarsh Caterpillar<br>Woollybear Caterpillar<br>Cutworms<br>Bean Leaf Beetle<br>Mexican Bean Beetle<br>Cucumber Beetles<br>Three-Cornered Alfalfa Hopper<br>Potato Leafhopper<br>Thrips | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Do not graze or harvest treated soybean forage, straw or hay for livestock feed.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• Do not apply within 45 days of harvest. Do not apply more than 0.06 lb ai (0.48 pints) per acre per season.</li> </ul> <p><sup>1</sup>For control of the first and second instar only.<br/> <sup>2</sup>Suppression only.<br/> <sup>3</sup>See resistance statement under Directions for Use.</p> |
|          | Fall Armyworm <sup>1</sup><br>Yellowstriped Armyworm <sup>1</sup><br>Tobacco Budworm <sup>3</sup><br>Webworms<br>European Corn Borer<br>Silverspotted Skipper<br>Japanese Beetle (Adult)<br>Blister Beetles<br>Stink Bugs<br>Plant Bugs<br>Grasshoppers                    | 0.025-0.030 | 3.20-3.84 |  |
|          | Beet Armyworm <sup>1</sup><br>Soybean Looper <sup>2,3</sup><br>Lesser Cornstalk Borer <sup>2</sup><br>Spider Mites <sup>2</sup>  | 0.030       | 3.84      |  |

SPRAY RECOMMENDATIONS

| Crop      | Target Pests   | Rate      |           | Remarks  |
|-----------|--|-----------|-----------|--|
|           |  | lb ai/A   | fl oz/A   |  |
| Sunflower | Sunflower Beetle<br>Cutworms   | 0.01-0.02 | 1.28-2.56 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of sunflower heads and/or foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• Do not apply within 45 days of harvest. Do not apply more than 0.12 lb ai (0.96 pints) per acre per season. Do not apply more than 0.09 lb ai (0.72 pints) per acre per season after bloom initiation. Do not apply as an ultra low volume (ULV) spray.</li> </ul> |
|           | Headworms<br>Sunflower Moth<br>Banded Sunflower Moth<br>Fall Armyworm <sup>1</sup><br>Woolly Bear Caterpillar<br>Spotted Cabbage Looper<br>Painted Lady Caterpillar<br>Thistle Caterpillar<br>Seed Weevil Adults<br>Stem Weevil Adults<br>Head-Clipper Weevil Adults<br>Japanese Beetle Adults<br>Sunflower Maggot Adults<br>Leafhoppers<br>Meadow Spittlebug<br>Stinkbugs<br>Grasshoppers | 0.02-0.03 | 2.56-3.84 |  |
|           | Beet Armyworm <sup>1</sup><br>Spider Mites <sup>2</sup>  | 0.03      | 3.84      | <sup>1</sup> For control of first and second instar only.<br><sup>2</sup> Suppression only.  |

SPRAY RECOMMENDATIONS

| Crop       | Target Pests   | Rate        |           | Remarks   |
|------------|--|-------------|-----------|---|
|            |  | lb ai/A     | fl oz/A   |   |
| Sweet Corn | Corn Earworm<br>Fall Armyworm <sup>1</sup><br>Southern Armyworm <sup>1</sup><br>Beet Armyworm <sup>1</sup><br>Yellow-Striped Armyworm <sup>1</sup><br>Cutworms<br>Western Bean Cutworm<br>Webworms<br>European Corn Borer<br>Southwestern Corn Borer<br>Common Cornstalk Borer<br>Corn Rootworm Adults<br>Cucumber Beetle Adults<br>Japanese Beetle Adults<br>Sap Beetle Adults<br>Flea Beetle<br>Tarnished Plant Bug<br>Chinch Bugs<br>Aster Leafhopper<br>Grasshoppers<br>Aphids <sup>2</sup><br>Spider Mites <sup>2</sup> | 0.020-0.030 | 2.56-3.84 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 4 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods and should be targeted for control before insects enter the stalk or ear.</li> <li>• Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage and ears (if present). When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• Do not apply within 1 day of harvest.</li> <li>• Do not apply more than 0.48 lb ai (3.84 pints) per acre per season.</li> </ul> <p><sup>1</sup>For control of first and second instar only.<br/> <sup>2</sup>Suppression only.</p> |



SPRAY RECOMMENDATIONS

| Crop                    | Target Pests  | Rate        |           | Remarks   |
|-------------------------|---|-------------|-----------|---|
|                         |   | lb ai/A     | fl oz/A   |   |
| Tomatoes and Tomatillos | Cabbage Looper<br>Cutworms<br>Hornworms   | 0.015-0.025 | 1.92-3.20 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> </ul>  |
|                         | Tomato Fruitworm<br>Tobacco Budworm <sup>3</sup><br>Tomato Pinworm<br>Beet Armyworm <sup>1</sup><br>Southern Armyworm <sup>1</sup><br>Yellowstriped Armyworm <sup>1</sup><br>Fall Armyworm <sup>1</sup><br>European Corn Borer<br>Leafminers <sup>2</sup><br>Colorado Potato Beetle <sup>3</sup><br>Flea Beetle<br>Grasshoppers<br>Leafhoppers<br>Aphids <sup>2</sup><br>Whiteflies <sup>2</sup><br>Meadow Spittlebug<br>Stink Bugs<br>Plant Bugs | 0.020-0.030 | 2.56-3.84 | <ul style="list-style-type: none"> <li>• Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• Do not apply within 5 days of harvest. Do not apply more than 0.36 lb ai (2.88 pints) per acre per season.</li> <li>• Do not use on varieties in which the mature tomatoes will be less than one inch in diameter (such as cherry tomatoes).</li> </ul> <p><sup>1</sup>For control of first and second instar only.<br/> <sup>2</sup>Suppression only.<br/> <sup>3</sup>See resistance statement under Directions for Use.</p> |

# SPRAY RECOMMENDATIONS

| Crop                                     | Target Pests   | Rate        |           | Remarks  |
|--|--|-------------|-----------|--|
|  |  | lb ai/A     | fl oz/A   |  |
| Wheat,<br>Wheat Hay,<br>and<br>Triticale | Cutworms<br>Army Cutworm   | 0.015-0.020 | 1.92-2.56 | <ul style="list-style-type: none"> <li>• Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.</li> </ul>   |
|  | Armyworm<br>Fall Armyworm<br>Yellowstriped Armyworm<br>Flea Beetle<br>Cereal Leaf Beetle<br>Stink Bugs<br>English Grain Aphid <sup>1</sup><br>Russian Wheat Aphid <sup>1</sup><br>Bird Cherry-Oat Aphid <sup>1</sup><br>Grasshoppers | 0.020-0.030 | 2.56-3.84 |  |
|  | Chinch Bug<br>Greenbug <sup>1</sup>  | 0.030       | 3.84      | <ul style="list-style-type: none"> <li>• Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.</li> <li>• For chinch bug control, repeat applications at 3- to 5-day intervals if needed. KARATE may only suppress heavy infestations and/or migrations.</li> <li>• Greenbug is known to have many biotypes. KARATE may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.</li> <li>• Do not apply within 30 days of harvest.</li> <li>• Do not apply more than 0.06 lb ai (0.48 pints) per acre per season.</li> </ul> <p><sup>1</sup>Best control is obtained before insects begin to roll leaves. Once wheat has started to boot, KARATE may provide suppression only. Higher rates and increased coverage will be necessary.</p> |

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27 7 27

## RATE CONVERSION CHART

| LB AI<br>PER ACRE | FL OZ<br>PER ACRE | PINTS<br>PER ACRE | TREATED ACRES<br>PER GALLON |
|-------------------|-------------------|-------------------|-----------------------------|
| 0.01              | 1.28              | 0.08              | 100                         |
| 0.015             | 1.92              | 0.12              | 66                          |
| 0.02              | 2.56              | 0.16              | 50                          |
| 0.025             | 3.20              | 0.20              | 40                          |
| 0.03              | 3.84              | 0.24              | 33                          |
| 0.04              | 5.12              | 0.32              | 25                          |