





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

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Ms. Nancy Hilton FMC Corporation 1735 Market Street Philadelphia, PA 19103

MAR - 9 2010

Dear Ms. Hilton:

Subject: Amendment- addition of sod farms

Zeta- Cype 0.8EW Insecticide EPA Registration Number 279-3328

Your submissions dated June 17, 2009 and January 26, 2010

The amendment referred to above, submitted in connection with registration under the FIFRA section 3(c) (7)(a), is acceptable provided you:

- 1. Submit and/or cite all data or other material required for registration/reregistration of your product under FIFRA sec. 3(c) (5) or FIFRA section 4 when the Agency requires all registrants of similar products to submit such data.
- 2. Make the label change listed below before you release the product for shipment bearing the amended labeling:
- a. Update your label for storage and disposal in accordance with PR Notice 2007-4.
- 3. You agree that the subject registrations are conditional under the same terms and conditions for data generation as stipulated in the Agency's November 15, 1993 and November 15, 2004 letters for use of these products on cotton.
- 4. You agree that the current synthetic pyrethroid mitigation measures are interim in nature and may be reconsidered or modified after review and evaluation of the Spray drift Task Force data.
- 5. FMC understands that it is the US EPA intent to complete the reviews of all relevant data and other information that are available to the agency, and to make FIFRA 3(c)(5) or other appropriate regulatory decisions for cotton- use synthetic pyrethroids and other crops conditionally registered based on the Agency's review of such data/information and considering statutory and regulatory criteria for such decisions.

A stamped copy of the label is enclosed for your records. Please submit three (3) copies of the amended labeling bearing the above revisions before you release the product for shipment.

If you have any questions you may contact Linda A. DeLuise at 703.305.5428.

Sincerely yours,

Richard Gebken
Product Manager (13)

Luda A De Luci

Insecticide Branch

Registration Division (7505P)

Enclosure

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## RESTRICTED USE PESTICIDE

Toxic 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

# **Zeta-Cype** 0.8EW Insecticide

EPA Reg. No. 279-3328

EPA Est. 279-FL-1

**Active Ingredient:** By Wt. 

Contains 0.8 pounds active ingredient per gallon.
 Cis/trans ratio: Max. 75% (±) cis and min. 25% (±) trans
 Contains Petroleum Distillates

U.S. Patent No. Pending

### KEEP OUT OF REACH OF CHILDREN **WARNING AVISO**

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.)

#### FIRST AID

**IF SWALLOWED:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

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

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

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse

skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Note to Physician

Contains petroleum distillates — vomiting may cause aspiration pneumonia. Vomiting should be supervised by a physician or the professional staff because of the possible pulmonary damages by aspiration of the solvent.

For Emergency Assistance Call (800) 331-3148.

See other panels for additional precautionary information.

#### **HOTLINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.

**FMC** Corporation Agricultural Products Group Philadelphia PA 19103

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# PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals) Warning

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

**Personal Protective Equipment:** 

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. 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 resistance category selection chart.

Handlers who may be exposed to the dilute through application or other tasks must wear: Long-sleeved shirt and long pants, Chemical-resistant gloves, such as Nitrile, Butyl, Neoprene, and/or Barrier Laminate, and shoes plus socks.

Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear: Long-sleeved shirt and long pants, Chemical-resistant gloves, such as Nitrile, Butyl, Neoprene, and/or Barrier Laminate, shoes plus socks, and protective evewear.

eyewear.

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.

#### **User Safety Recommendations**

Users should

Wash thoroughly with soap and water after handling. 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.

#### **Environmental Hazards**

This pesticide is extremely toxic to fish, aquatic invertebrates, oysters and shrimp. Do not apply directly to water, 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 wash waters.

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 if bees are visiting the treatment area.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE RESTRICTED USE PESTICIDE

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

**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

Zeta-Cype 0.8 EW Sodfarms Amendment January 26, 2010

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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.

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, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical-resistant gloves, such as Barrier Laminate or Viton, and shoes plus socks.

#### STORAGE AND DISPOSAL

#### **Pesticide Storage**

Store in a cool, dry, well-ventilated place. Do not store below -6.6 C (20 F). If solids are observed warm to above 4.4 C (40 F) and roll or shake containers to redissolve. Do not use near heat, open flame or hot surfaces. Store in original containers only. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Keep out of reach of children and animals.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (800) 331-3148.

To confine spill: Dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

#### **Pesticide Disposal**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes connot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of 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. Do not cut or weld metal containers.

Plastic Containers: Triple rinse (or equivalent). Then 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.

Returnable/Refillable Sealed Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### **Chemigation Use Directions**

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 systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system

(including greenhouse systems) used for pesticide application to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise

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.

The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

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.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

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

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.

Zeta-Cype 0.8EW insecticide should be applied continuously for the duration of the water application. Zeta-Cype 0.8EW should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the target pest. Agitation is not required when a suitable diluent is

#### **BUFFER ZONES**

#### Vegetative Buffer Zones

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing zeta-cypermethrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf.

Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast) - Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds)

Buffer Zone for ULV Aerial Application - Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Non-ULV Aerial Application - Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds. estuaries, and commercial fish ponds).

Spray Drift Requirements
Wind Direction and Speed
Only apply this product if the wind direction favors on-target deposition.
Do not apply when the wind velocity exceeds 15 mph.

Temperature Inversion

Do not make aerial or ground applications into 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.

**Droplet Size** 

Use only Medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

**Additional Requirements for Ground Applications** 

Wind speed must be adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Additional Requirements for Aerial Applications

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor votices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

#### GENERAL INSTRUCTIONS

Use low rate under light to moderate infestation. Higher rates should be used under heavy insect pressure. The rate of application is variable according to insect pressure, timing of spray and field scouting

#### Preventive Use

For cutworm, armyworm, or stalk borer control, Zeta-Cype 0.8EW insecticide may be applied before, during, or after planting. For soilincorporated applications, use higher rates for improved control.

Rotational Crops

With the exception of the crops listed below, rotational crops should not be planted within 30 days of last application.

Zeta-Cype 0.8EW Insecticide may be applied in tank mixtures with other products approved for use on Alfalfa and Nongrass Animal Feeds; Berries; Brassica Vegetables; Bulb Vegetables; Canola (Rapeseed); Corn; Cotton; Cucurbit Vegetables; Fruiting Vegetables; Grapes; Grass Forage, Fodder and Hay and Grass Grown for Seed; Leafy Vegetables; Legume Vegetables; Peanut; Pome Fruits; Rougar Root and Tuber Vegetables; Sorghum; Soybeans; Stone Fruits; Sugar Beets; Sunflower; Tree Nuts; and Wheat. Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

Maximum Usage When Applying Both Zeta-Cypermethrin and Cypermethrin Products to the Same Crop Within the Same

Do not apply more than the maximum seasonal total for either product when used alone, and do not apply more than the combined maximum seasonal total for both products as outlined in the table below.

Crop	Maximum Seasonal Total (fbs al/acre)			Maximum Seasonal Total (Ibs ai/acre) When Applying Cypermethrin and Zeta- Cypermethrin Products to the Same Crop	Maximum Seasonal Total (Ibs ai/acre) When Applying Zeta- cypermethrin Products to the Same Crop	
	Zeta-cypermethrin *		Cypermethrin**	Zeta-	Zeta-	
	Mustang	Z-Cype	HERO		cypermethrin* plus Cypermethrin **	cypermethrin*
Cotton	0.3	0.15	0.1125	0.6	0.6	0,3
Field Corn	0,2	0.10	0.10	NA .	NA NA	0.2
Sweet Com .	0.3	0.15	0.0675	NA NA	NA.	0.3
Eggplant	0.3	0.15	0.0675	NA NA	NA NA	0.3
Pepper (Bell & Non-Bell)	0.3	0.15	0.0675	NA NA	NA NA	0,3
Tomato	0.3	0,15	0,105	NA.	NA NA	. 0.3

Head Lettuce	0,3	0.15	0.1125	0,6	0.6	0.3
Head and Stem Brassica	0.3	0.15	0.1125	0.6	0.6	0.3
Succulent Peas and Beans	0.3	0.15	0.0675	NA.	NA NA	0.3
Pecans	0.3	0.15	0.1125	0.6	0.6	0.3

recans 0.3 0.15 0.1125 0.6 0.6 0.3

\* Mustang or Fury (1.5 EW or 1.5 EC); Z-Cype (0.8 EC or 0.8 EW); HERO; or any zeta-cypermethrin product approved for crop use,

\*\* Any cypermethrin product approved for crop use including Ammo\*\*.

NA = Not Applicable.

## $\mbox{\it Maximum}$ Seasonal Usage and PHI (Pre-Harvest Interval) for Z-Cype 0.8EW Labeled Crops

Crop	Maximum So Total/Acr Z-Cype 0.	e for	PHI (days)
	Lbs Al	Floz	1
Alfalfa and Nongrass Animal Feeds (Forage, Fodder, Straw and Hay)	0.025/cutting 0.075/season	12.0	3 (cutting or grazing) 7 (harvesting seed)
Group	0.45	24.0	
Bernes	0.15	24.0	1
Brassica Vegetables	0.15	24.0	7
Bulb Vegetables Citrus	0.125 0.1	20.0 16.0	1
Corn, sweet	0.15		3
Corn, field, seed, pop	0.10	24.0 16.0	30 (grain & stover) 60 (forage)
Cotton	0.15	24.0	14
Cucurbit Vegetables	0.15	24.0	1 1
Fruiting Vegetables	0.15	24.0	1
Grapes	0.15	24.0	1
Grass Forage, Fodder, and Hay	0.025/cutting	4.0	
Group and Grass Grown for Seed	Hay 0.10/season	16.0	0 (Forage and Hay) 7 (Straw and Seed
	Forage, Straw & Seed Screenings 0.125/season	20.0	Screenings)
Leafy Vegetables	0.15	24.0	1
Legume Vegetables	0.15	24.0	(succulent shelled or edible-podded)     21 (dried shelled)
Oilseed Commodities:			
Canola (Rapeseed)	0.15	24.0	7
Safflower	0.075	12.0	14
Sunflower Peanut	0.125 0.15	20.0	7
	0.15	24.0	14
Pome Fruits			14
Rice and Wild Rice Root and Tuber Vegetables (except Sugar Beet)	0.10	24.0	1
Sod Farms	0.125/season	20.0	0
Sorghum	0.125	20.0	14 (grain & fodder (stover)) 45 (forage (silage))
Soybeans	0.15	24.0	21
Stone Fruits	0.15	24.0	14
Sugar Beets	0.075	12.0	50
Tree Nuts	0.125	20.0	7
i Wheat	0.125	20.0	14

The REI (Restricted Entry Interval) is 12 hours for all labeled crops. Refer to the crop specific use directions for detailed information on application timing and any use restrictions.

Nongrass Animal Feeds (Forage, Fodder, Straw and Hay) Group including: Alfalfa; Alfalfa grown for seed (Includes lucerne, sainfoin, holy clover, esparcet, birdsfoot trefoil and varieties and/or hybrids of these); Velvet Bean; Clover; Kudzu; Lespedeza; Lupin; Sainfoin; Trefoil; Vetch; Crown Vetch; and Milk Vetch.

Insects	Rate of	Method of
Controlled	Application	Application

Alfalfa Caterpillar Alfalfa Looper Alfalfa Weevil Cutworms	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply as insects appear in sufficient volume of water to ensure thorough coverage of foliage.
Egyptian Alfalfa Weevil (larvae & adult) Flea Beetles Green Cloverworm Hornworms Meadow Spittlebug Potato Leafhopper		Use higher recommended dosage for increased pest pressure or for increased residual pest control. Do not exceed maximum allowable rate.
Velvetbean Caterpillar Webworms Blue Alfalfa Aphid <sup>1</sup> Green Peach Aphid <sup>1</sup> Pea Aphid <sup>1</sup> Spotted Alfalfa Aphid <sup>1</sup> Threecornered Alfalfa Hopper		Apply in a minimum of 2 gallons of finished spray per acre by aerial equipment or 10 gallons per acre by ground equipment. ULV oil spray application is prohibited. Higher volumes of finished
Armyworms Grasshoppers Plant Bugs (including Lygus spp. & Stink Bugs)	2.8 to 4.0 ounces (0.0175 to 0.025 pound active) per acre	spray may improve insect control under high temperatures, when foliage is dense and/or when insect pressure is high.
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Do not make applications less than 7 days apart.

A maximum of 4 ounces of product or 0.025 pounds active ingredient/acre may be applied per cutting and a maximum of 12 ounces of product or 0.075 pounds of active ingredient per acre per season.

Applications may be made up to 3 days of cutting or grazing or up to 7 days of harvesting seed.

<sup>1</sup>Aphid control may be variable depending on species present and host-plant relationships.

Berries Crop Group (1 Day PHI) including: blackberry; loganberry, red and black raspberry; blueberry, highbush and lowbush; currant; elderberry; gooseberry; huckleberry; and cultivars and/or hybrids of these.

Insects	Rate of	Method of
Controlled	Application	Application
Leafrollers Orange Tortrix Root Weevils	4.0 ounces (0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels. Apply by ground and air equipment using sufficient water to obtain full coverage of foliage (minimum of 20 gallons by ground and 2 gallons by air).

Do not apply more than 24 ounces of product or 0.15 pounds active ingredient per acre per season.

Do not make applications less than seven days apart.

Head and Stem Brassica Vegetables (1 day phi) including: Broccoli; Chinese Broccoli (gai lon, white flowering broccoli); Brussels Sprouts; Cauliflower; Cavalo broccolo; Kohlrabi; Cabbage; Chinese Cabbage (napa); Chinese Mustard Cabbage (gai

cnoy). Leafy Brassica Greens (1 day phi) including: Broccoli Raab (rapini) ; Chinese cabbage (bok choy): Collards; Kale; Mizuna; Mustard Greens; Mustard Spinach; Rape Greens; Turnip Greens.

Insects Controlled	Rate of Application	Method of Application
Com Earworm Cucumber Beetles Cutworm Diamondback Moth <sup>1</sup> Flea Beetles Inported Cabbageworm Leafhoppers Saltmarsh Caterpillar	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment and 5 gallons per acre by air.
Southern Cabbageworm Tobacco Budworm Alfalfa Looper Armyworms Cabbage Looper Cabbage Webworm Crickets Grasshoppers Ground Beetles Leafminers (adults) Lygus Bugs Onion Thrips Stinkbugs Wireworm (adults) Aphids²	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	Lower rates of Zeta-Cype 0.8EW should be used under light to moderate insect pressure. Higher rates should be used to control heavy to extremely heavy insect populations. In areas where arid climatic conditions persist, such as California and Arizona, higher than minimum recommended rates may be required.

Do not make applications less than 7 days apart.

A maximum of 24 ounces of product or 0.15 pounds of active ingredient may be applied per acre per season.

<sup>1</sup> See resistance statement under "Directions for Use" section.

Bulb Vegetables (Allium spp.) (7 day phi) including: Garlic; Garlic; Great-Headed (elephant); Green Eschalots; Japanese Bunching Onions; Leeks; Onion, Dry Bulb and Green; Onion, Welch; Shallots, Dry Bulb and Green; Spring Onion or Scallions

Insects Controlled	Rate of Application	Method of Application
Armyworms Cutworms Leafminers (adults) Onion Maggot Adults Stink Bugs Aphids'	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply in a minimum of 20 gallons per acre with ground equipment or in a minimum of 3 gallons per acre by aircraft. Begin applications when pests
Onion Thrips	2.88 to 4.0 ounces (0.018 to 0.025 pound active) per acre	appear and repeat as necessary to maintain control.  To control Onion Thrips:
	•	Use higher rates as population increases and avoid rescue situations. Use of a crop oil concentrate at 16 fluid ounces per acre is recommended.

Do not make applications less than 7 days apart.
Do not apply more than 20 ounces of product or 0.125 pounds of active ingredient per acre per season.

Do not graze livestock in treated areas or cut treated crops for feed.

Aphid control may be variable depending on species present and host-plant

<sup>&</sup>lt;sup>2</sup>Aphid control may be variable depending on species present and host-plant relationships.

<sup>&</sup>lt;sup>3</sup> Aids in control

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Citrus Fruits Crop Group (1 Day PHI) including: Calamondin (Citrus mitis; Citrofortunella mitis); Citrus citron (Citrus medica); Citrus hybrids (Citrus spp.) (includes chironja, tangelo, tangor); Grapefruit (Citrus paradisi); Kumquat (Fortunella spp.); Lemon (Citrus jambhiri, Citrus limon); Lime (Citrus aurantiifolia); Mandarin (tangerine) (Citrus reticulata); Orange, sour (Citrus aurantium); Orange, sweet (Citrus sinensis); Pummelo (Citrus grandis, Citrus maxima); and Satsuma mandarin (Citrus unshiu).

Insects	Rate of	Method of
Controlled	Application	Application
Asian Cockroach Beet Armyworm Blue-Green Citrus Root Weevils Cutworms Diaprepes Root Weevil Fire Ants Fuller Rose Beetle Glassy-Winged Sharpshooter Grasshopper Katydid Leafhoppers Leafminers* Little Leaf Notcher Loopers Orange Tortrix Orangedog Caterpillars Plantbugs Psyllids Thrips Whiteflies	4.0 ounces ( 0.025 pound active) per acre	Apply by ground equipment using sufficient water to obtain full coverage of foliage in a minimum of 20 gallons for concentrate spray or a minimum of 100 gallons for dilute spray. Apply by air in a minimum of 10 gallons per acre.  Begin applications when pest activity is noted.

Do not apply more than 16 ounces of product or 0.10 pounds of active ingredient per acre per season.

Do not make applications less than fourteen days apart.

#### Corn, Sweet (3 day phi)

Insects Controlled	Rate of Application	Method of Application
Chinch Bug Com Rootworm (Adult) Com Silkfly Cutworms Flea Beetle Leafhoppers Japanese Beetle (Adult) Sap Beetle (adults) Tamished Plant Bug	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply with ground or air equipment using sufficient water and application methods to insure thorough coverage of foliage. Apply in water using a minimum of 20 gallons of finished spray per acre with ground equipment and a minimum of 2 gallons per acre by air.
Armyworms Corn Borers Corn Earworm Grasshoppers Aphids	2.8 to 4.0 ounces (0.0175 to 0.025 pound active) per acre	

Apply at minimum 3 to 5 day intervals or as needed for control.

A maximum of 24 ounces of product or 0.15 pounds of active ingredient per acre per season may be applied.

Do not apply within 3 days of harvest of ears or forage or livestock grazing. 

Aphid control may be variable depending on species present and host-plant relationships.

Corn (Field), Field Corn Grown for Seed, Popcorn (At Plant Use)

Insects Controlled	Rate of Application	Metho Applic	
Cutworms	0.16 fluid ounces per 1,000 linear feet of row (0.001 pound active) per 1,000 linear feet of row	Apply as an in- or T-band tree a minimum 4 table below t the Zeta-Cy needs for each	atment using band. Use o determine pe 0.8EW
Row Spacings (inches)	40	30	20
Zeta-Cype 0.8EW (pounds ai per acre)		0.018	0.024
Zeta-Cype 0.8EW (formula	ted ourices per acre)	1.92	2.88

Do not apply more than 16 ounces of product or 0.10 pounds of active ingredient per acre per season including at-plant plus foliar applications of Zeta-Cype 0.8EW.

Do not apply within 30 days of harvest for grain and stover and 60 days for forage.

#### Corn (Field), Field Corn Grown for Seed, Popcorn

Insects	Rate of	Method of
Controlled	Application	Application
Cutworms	1.28 to 2.8 ounces (0.008 to 0.0175 pound active) per acre	Make applications when insect populations reach economic thresholds. Refer to local Cooperative
Corn Earworm <sup>1</sup> Green Cloverworm Meadow Spittlebug Western Bean Cutworm1	1.76 to 4.0 ounces (0.011 to 0.025 pound active) per acre	Extension Pest Management Guidelines and/or scouting results. Apply by air or by ground
Bean Leaf Beetle Cereal Leaf Beetle Corn Borer, European Corn Borer, Southwestern Corn Rootworm Beetle Flea Beetle Grasshoppers Hop Vine Borer Hornworms Japanese Beetle (adult) Sap Beetle (adult) Southern Corn Leaf Beetle Stalk Borer Stink Bug Spp. Tobacco Budworm² Webworms Aphids³	2.72 to 4.0 ounces (0.017 to 0.025 pound active) per acre	equipment using sufficient water to obtain full coverage of foliage (minimum of 2 gallons per acre by air and 10 gallons per acre by ground). For chinch bug control, scout corn fields and make applications when bugs migrate from small grains or wild grasses to small corn. Direct spray to the base of plant. Repeat applications at 3 to 5 day intervals if needed. Zeta-Cype 0.8EW may only suppress heavy infestations and/or subsequent migrations.
Armyworms (including Fall Armyworms) Chinch Bug	3.2 to 4.0 ounces (0.02 to 0.025 pound	,
Do not apply more than 1	active) per acre	ot or 0.10 pounds of active

Do not apply more than 16 ounces of product or 0.10 pounds of active ingredient per acre per season including At-Planting plus foliar applications of Zeta-Cype 0.8EW Insecticide.

Do not apply within 30 days of harvest for grain and stover and 60 days for forage.

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

<sup>&</sup>lt;sup>2</sup> See resistance statement under "Directions for Use" section.

<sup>&</sup>lt;sup>3</sup> Control may be variable depending on species present and host-plant relationships.

#### Cotton (14 day phi)

Cutworms  1.28 to 1.92 ounces (0.08 to 0.012 pound active) per acre  Cutworms  1.28 to 1.92 ounces (0.08 to 0.012 pound active) per acre  Cutworms  1.28 to 1.92 ounces (0.08 to 0.012 pound active) per acre  Cutworms  1.28 to 1.92 ounces (0.08 to 0.012 pound active) per acre  Cutworms  Tobacco Thrips Soybean (banded) Thrips  Tobacco Thrips Soybean (banded) Thrips  Armyworm, Fall Armyworm, Fall Armyworm, Yellow Striped Boll Weevil Cotton Bollworm Cotton Bollworm Cotton Bollworm Cotton Earleahopper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tobacco Budworm¹ Armyworm, Beet² Cotton Plant Bug Other Plant Bug Other Plant Bug Cotton Aphid² Lygus Bugs Whitefiles³  Grasshoppers  3.0 to 4.0 ounces (0.0175 to 0.025 pound active) per acre  2.8 to 4.0 ounces (0.0175 to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.0175 to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.0186 pound active) per acre  Grasshoppers  3.0 to 4.0 ounces (0.0186 pound active) per acre  Cotton Plant Bug Tobacco Budworm¹ Armyworm, Beet² Cotton Aphid² Lygus Bugs Cotton Sollword Cotton Aphid² Lygus Bugs Cotton Sollword Cotton Aphid² Lygus Bugs Cotton Sollword Cotton Sollword Grasshoppers  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  Cotton Sollword Grasshoppers  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  Cotton Sollword Cotton Sollword Grasshoppers  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  Cotton Sollword Cotton Aphid² Lygus Bugs Cotton Aphid² Lyg	Cutworms  1.28 to 1.92 ounces (0.008 to 0.012 pound active) per acre  Cutworms  1.28 to 1.92 ounces of the cro Apply as a broadcast spr. by ground or air, bande (including T-band) or if furnow spray usin sufficient spray volume achieve adequa coverage. Reduce volumes of Zeta-Cype 0.8EW may be used with specialize equipment. Use the high rates of Zeta-Cype 0.8E when incorporating into the soil.  Cutworms  Tobacco Thrips Tobacco Thrips Tobacco Thrips Armyworm, Fall Armyworm, Fall Armyworm, Yellow Striped Boll Weevil Cathage Looper Corm Borer, European Cotton Bollworm Cotton Fleahopper Cotton Leaf Perforator Pink Bollworm Stink Bugs Tobacco Budworm Armyworm, Beet' Cotton Aphid' Lyus Bugs Cher Plant Bug Cher Stand Plant Bug Cher Plant	Insects	Rate of	Method of
Cutworms  Ounces (0.008 to 0.012 pound active) per acre  Armyworm, Fall Armyworm, Yellow Striped Boll Weevil Cotton Bollworm Cotton Fleahopper Cotton Leahopper Cotton Leahopper Cotton Fleahopper Cotton Leahopper Cotton Early Plant Bug Tobacco Budworm¹  Armyworm, Beer Cotton Leahopper Cotton Leahopper Grasshoppers  Grasshoppers  3.0 to 4,0 ounces (0.01875 to 0.025 pound active) per acre  4.7 by the weevil control orgashoppers, applications should be made based or careful field scouting active per acre  5. For control orgashoppers in cotton loss of cotyledon leaves in seedling cotton should be made based or careful field scouting active per acre  4. Adjust rates based on a broadcas basis since grashopper are highly mobile.  4. Adjust rates based on a populations of grasshopper are under control or under control	Cutworms  ounces (0.008 to 0.012 pound active) per acre  active) per acre  ounces (0.008 to 0.012 pound active) per acre  cutworms  Cutworms  Tobacco Thrips Soybean (banded) Thrips  Armyworm, Fall Armyworm, Yellow Striped Boll Weevil Com Borer, European Cotton Bollworm Cotton Reahoper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tamished Plant Bug Other Plant Bug Tobacco Budworm¹  Armyworm, Bell Armyworm, Bell Armyworm, Sellow Striped Boll Weevil Com Borer, European Cotton Bollworm Cotton Reahoper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tamished Plant Bug Other Plant Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plachoper Cotton Leaf Perforator Pink Bollworm Cotton Plachoper Cotton Leaf Perforator Pink Bollworm Cotton Plachoper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plach Pink Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plach Pink Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plach Pink Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plach Pink Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plach Pink Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Leaf Perforator Pink Bollworm Cotton Plach Pink Bug Tobacco Budworm¹  Armyworm, Beet² Cotton Politation To nogalion of finishe substituted for one quart water in the finished spray. Control of lepidopter acre in the finished spray. Control of lepidopter acre in the finished spray. Control of lepidopter acre in the finished spray. For control grashoppers, applications should be made based of careful field counting applications should be made based of control politations and part bett of day schedule ungrasshopper population are unde			
Tobacco Thrips Soybean (banded) Thrips  Ounces (0.008 to 0.012 pound active) per acre  Armyworm, Yellow Striped Boll Weevil Cabbage Looper Corn Borer, European Cotton Pleahopper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tamished Plant Bug Other Plant Bugs Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Whiteflies³  Grasshoppers  Grasshoppers  Grasshoppers  Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Sugs Grasshoppers  Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Grasshoppers  Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Grasshoppers  Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Grasshoppers  Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Grasshoppers  Tobacco Budworm¹  Armyworm, Beet² Control of lepidopterare eggs may be achieved with proper timing of a to 4 do ounces (0.0175 to 0.025 pound active) per acre  To boll weevil control of grasshoppers, applications.  For boll weevil control of grasshoppers, applications should be made based or careful field scouting. Treatment decisions should be made based or evidence of feeding damage and prescence of grasshoppers in cotton. Loss of cotyledon leaves in seedling cotton should be made on a broadcast basis since grasshopper are highly mobile.  Adjust rates based or populations of grasshopper populations are under control or until grasshopper populations are und	Tobacco Thrips Soybean (banded) Thrips  ounces (0.008 to 0.012 poundative) per acre  Armyworm, Fall Armyworm, Fall Cabbage Looper Corn Borer, European Cotton Bollworm Cotton Fleahopper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tamished Plant Bug Other Plant Bugs Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid² Lygus Bugs Whiteflies²  Grasshoppers  3.0 to 4.0 ounces (0.0185 to 0.025 pound active) per acre  3.0 to 0.025 pound active) per acre  Grasshoppers  7. For boll weevil contrapply Zeta-Cype 0.8EW a 3 to 4 day interval un pest numbers are reduce to acceptable levels.  For control grasshoppers, application should be made based careful field scoutin Treatment decision should be made based of evidence of feedin damage and prescence grasshoppers in cotto Loss of cotyledon leaves seedling cotton should to considered more importation and than leaf loss in old cotton. Applications should be made on a broadca basis since grasshopper found in field Applications should in made on a three to finday schedule un grasshopper population of finish sused, apply a minimul of one gallon of finishs gray with grayer per acre by air five gallons of finishs spray with grour equipment. When apply in water by air, one que of emulsified oil may to substituted for one quart pacre in the finished spray. Control of lepidopters are in the finished spray. Control	Cutworms	ounces (0.008 to 0.012 pound	sufficient spray volume to achieve adequate coverage. Reduced volumes of water may be used with specialized equipment. Use the higher rates of Zeta-Cype 0.8EW when incorporating into the soil.
Armyworm, Yellow Striped Boll Weevil Cabbage Looper Corn Borer, European Cotton Bollworm Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tobacco Budworm¹ Armyworm, Beet² Cotton Aphid³ Lygus Bugs Whiteflies⁴  Grasshoppers  3.0 to 4.0 ounces (0.0185) to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  Grasshoppers  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  To be like weil control or applications.  For boll weevil control or applications.  For boll weevil control or applications.  For control or grasshoppers are reduced to acceptable levels.  For control or grasshoppers in cotton. Loss of cotyledon leaves in seedling cotton should be made based or evidence of feeding damage and prescence or grasshoppers in cotton. Applications should be made on a broadcast basis since grasshopper are highly mobile.  Adjust rates based on populations of grasshopper found in fields Applications should be made on a three to five day schedule until grasshopper populations are under control or until grasshopper are under control or until grasshopper are under control or until grasshopper populations are under control or until grasshopper are under control or until grasshoper are under control or until grasshopper are under control or until grasshoper	Armyworm, Yellow Striped Boll Weevil Cabbage Looper Corm Borer, European Cotton Bollworm Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tamished Plant Bug Other Plant Bugs Tobacco Budworm¹  Armyworm, Beet² Cotton Aphid³ Lygus Bugs Whiteflies³  Grasshoppers  2.8 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  3.0 to 0.01875 to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  Grasshoppers  7 boll weevil control grasshoppers, application should be made based careful field scoutin Treatment decision should be made based careful field scoutin Treatment decision should be made based careful field scoutin Treatment decision should be made based of considered more importation and proper acre by air five gallons of finishes spray with grour equipment. When applying in water by air, one quart water in the finished spray. Control of lepidopters eggs may be achieved with proper timing applications.  For boll weevil control active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875) to 0.025 pound active) per acre  4.5 to 0.025 pound active) per acre  5 boll weevil control or grasshoppers, application should be made based or evidence of feedin damage and prescence grasshoppers in cotto Loss of cotyledon leaves seedling cotton should be made on a broadca basis since grasshopp are highly mobile.  Adjust rates based opopulations of grasshopp found in field Applications should be made on a three to find any schedule under control or unfoliage loss subsides.  Increase application rate to find any schedule under control or unfoliage loss subsides.  Increase application rate	Tobacco Thrips	ounces (0.008 to 0.012 pound	applied in water or refined vegetable oil. When water is used, apply a minimum
Cotton Aphid³ Lygus Bugs Whiteflies⁴  Grasshoppers  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  For control of grasshoppers, applications should be made based or careful field scouting Treatment decisions should be made based or evidence of feeding damage and prescence of grasshoppers in cotton Loss of cotyledon leaves ir seedling cotton should be considered more important than leaf loss in older cotton. Applications should be made on a broadcast basis since grasshopper are highly mobile.  Adjust rates based or populations of grasshopper found in fields Applications should be made on a three to five day schedule until grasshopper populations are under control or outside to acceptable levels.	Cotton Aphid³ Lygus Bugs Whiteflies⁴  Grasshoppers  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  3.0 to 4.0 ounces (0.01875 to 0.025 pound active) per acre  For control grasshoppers, application should be made based of careful field scoutin Treatment decision should be made based evidence of feeding damage and prescence grasshoppers in cotto Loss of cotyledon leaves seedling cotton should to considered more importation than leaf loss in old cotton. Applications should be made on a broadca basis since grasshopper found in field Applications should the made on a three to fit day schedule un grasshopper population are under control or un foliage loss subsides. Increase application rate	Armyworm, Yellow Striped Boll Weevil Cabbage Looper Corn Borer, European Cotton Bollworm Cotton Fleahopper Cotton Leaf Perforator Pink Bollworm Saltmarsh Caterpillar Stink Bugs Tarnished Plant Bug Other Plant Bugs	ounces (0.0165 to 0.0225 pound	spray per acre by air or five gallons of finished spray with ground equipment. When applying in water by air, one quart of emulsified oil may be substituted for one quart of water in the finished spray. When using oil, use a minimum of one quart per acre in the finished spray. Control of lepidopteran eggs may be achieved with proper timing of
ounces (0.01875 to 0.025 pound active) per acre  For control of grasshoppers, applications should be made based or careful field scouting Treatment decisions should be made based or evidence of feeding damage and prescence of grasshoppers in cotton. Loss of cotyledon leaves ir seedling cotton should be considered more important than leaf loss in older cotton. Applications should be made on a broadcast basis since grasshopper are highly mobile.  Adjust rates based or populations of grasshopper found in fields. Applications should be made on a three to five day schedule until grasshopper populations are under control of	ounces (0.01875 to 0.025 pound active) per acre  For control grasshoppers, application should be made based careful field scoutin Treatment decision should be made based evidence of feeding damage and prescence grasshoppers in cotto Loss of cotyledon leaves seedling cotton should the considered more importation than leaf loss in old cotton. Applications should be made on a broadca basis since grasshoppers are highly mobile.  Adjust rates based of populations of grasshopp found in field Applications should the made on a three to fit day schedule un grasshopper population are under control or un foliage loss subsides. Increase application rate	Armyworm, Beet <sup>2</sup> Cotton Aphid <sup>3</sup> Lygus Bugs Whiteflies <sup>4</sup>	ounces (0.0175 to 0.025 pound	For boll weevil control, apply Zeta-Cype 0.8EW at a 3 to 4 day interval until pest numbers are reduced
Increase application rates	as glassileppor size at	Grassnoppers	ounces (0.01875 to 0.025 pound	For control of grasshoppers, applications should be made based on careful field scouting. Treatment decisions should be made based on evidence of feeding damage and prescence of grasshoppers in cotton. Loss of cotyledon leaves in seedling cotton should be considered more important than leaf loss in older cotton. Applications should be made on a broadcast basis since grasshopper are highly mobile. Adjust rates based on populations of grasshopper found in fields. Applications should be made on a three to five day schedule until grasshopper populations are under control or until

A maximum of 24 ounces of product or 0.15 pounds of active ingredient may be applied per acre per season.

Do not graze or feed cotton for forage.

<sup>&</sup>lt;sup>1</sup> See resistance statement under "Directions for Use" section.

<sup>&</sup>lt;sup>2</sup> For control of beet armyworms only in the high plains of Texas, Arizona, and California.

 $<sup>^{\</sup>rm 3}$  Aphid control may be variable depending on species present and host-plant relationships.

<sup>&</sup>lt;sup>4</sup> Aids in control.

Canola, Crambe, Rapeseed, Borage, Cuphea, Echium, Flax, Gold of Pleasure, Hare's-Ear Mustard, Lesquerella, Lunaria, Meadowfoam, Milkweed, Mustard, Oil Radish, Poppy Seed, Sesame, and Sweet Rocket (7 Day PHI).

Insects	Rate of	Method of
Controlled	Application	Application
Aphids Cutworms Diamondback Moth Loopers Lepidopterous Larvae Flea Beetle Fleahoppers Grasshopper Plant Bug Stink Bugs Seedpod Weevil Thrips Whitefly Armyworms	4.0 ounces (0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Do not make applications less than seven days apart.

Cucurbit Vegetables Group (1 day PHI) including: Chayote (fruit); Chinese Waxgourd (Chinese Preserving Melon); Citron Melon; Cucumber; Gherkin; Gourd (edible) (including hyotan, cucuzza, hechima, Chinese orkra); Mormordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber); Muskmelon (hybrids and/or cultivars of Cucumis melo) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon); Pumpkin; Summer Squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); Winter Squash (includes butternut squash, calabaza, hubbard squash, acom squash, and spaghetti squash); Watermelon (includes hybrids and varieties)

Insects	Rate of	Method of
Controlled	Application	Application
Cutworm spp.	1.28 to 4.0 ounces (0.008 to 0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally
Cabbage Looper Cucumber Beetle (adult) Leafhopper spp. Melonworm Pickleworm Rindworm Squash Bug Squash Vine Borer	2.8 to 4.0 ounces (0.0175 to 0.025 pounds active) per acre	Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by air).
Aphid spp. 1.2 Armyworm, Beet 1.2 Corn Earworm Leafminer Plant Bug spp. Stinkbug spp.	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	Do not make applications less than 7 days apart.

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Aids in control.

<sup>&</sup>lt;sup>2</sup> See resistance statement under "Directions For Use" section.

Fruiting Vegetables (except Cucurbits) (1 day phi) including: Eggplant; groundcherry (Physalis spp.); okra; pepino (Melon pear); pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper); tomatillo; tomato.

Insects Controlled	Rate of Application	Method of Application
Armyworm, Southern Armyworm, True Armyworm, Yellow-striped Celery Leaf Tier Colorado Potato Beetle Corn Borer, European Corn Borer, Southwestern Com Earworm Cucumber Beetle Cutworm spp. Flea Beetle Garden Webworm Green Stink Bug Hornworms Leafminers (adults) Leafhopper spp. Meadow Spittlebug Pepper Maggot (adults) Pepper Weevil Plant Bug spp. Tobacco Budworm Tomato Fruitworm Tomato Fruitworm	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).
Aphid spp. <sup>2, 3</sup> Armyworm, Beet <sup>2</sup> Armyworm, Fall Cabbage Looper Grasshoppers Lygus Bugs Brown Stink Bug Tomato Psyllid Thrips spp. <sup>1, 2</sup> Whitefly spp. <sup>1, 2</sup>	3.2 to 4.0 ounces (0.020 to 0.025 pound active) per acre	

Do not make applications less than 7 days apart.

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

1 Aids in control

<sup>2</sup> See resistance statement under "Directions for Use" section.

<sup>3</sup> Aphid control may be variable depending on species present and host-plant relationships.

#### Grape (1 Day PHI).

Insects Controlled	Rate of Application	Method of Application
Asian Lady Bird Beetle Lady Bird Beetle Cutworm species	2.0 to 4.0 ounces (0.0125 to 0.025 pound active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels.
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper Grape Berry Moth Japanese Beetle (adult)	4.0 ounces (0.025 pounds active) per acre	Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Do not make applications less than seven days apart.

Grass Forage, Fodder, and Hay Group and Grass Grown for Seed and Pasture and Rangeland (0 day PHI for forge and hay; 7 day PHI for straw and seed screenings) including: bahiagrass, barnyardgrass, bentgrass, Bermudagrass, Kentucky bluegrass, big bluestem, smooth bromegrass, buffalograss, reed canarygrass, centipedegrass, crabgrass, cupgrass, dallisgrass, sand dropseed, Kentucky fescue, meadow foxtail, eastern gramagrass, side-oats grama, guinea grass, Indian grass, Johnsongrass, lovegrass, napiergrass, oatgrass, orchardgrass, pangolagrass, paspalum, redtop, Italian ryegrass, St. Augustine grass, sprangletop, squirreltailgrass, stargrass, switchgrass, timothy, crested wheatgrass, wildrye grass and zoysia grass. Also included are sudangrass and sorghum forages and their hybrids.

Insects Controlled	Rate of Application	Method of Application
Alfalfa Caterpillar Alfalfa Looper Alfalfa Weevil Cutworms Egyptian Alfalfa Weevil (larvae & adult) Flea Beetles Green Cloverworm Hornworms Meadow Spittlebug Potato Leafhopper Velvetbean Caterpillar Webworms Blue Alfalfa Aphid¹ Green Peach Aphid¹ Spotted Alfalfa Aphid¹ Threeconnered Alfalfa Hopper	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply as insects appear in sufficient volume of water to ensure thorough coverage of foliage. Use higher recommended dosage for increased pest pressure or for increased residual pest control. Do not exceed maximum allowable rate.  Apply in a minimum of 2 gallons of finished spray per acre by aerial equipment or 10 gallons per acre by ground equipment.
Armyworms Cereal Leaf Beetle Chinch Bug Grass Mealybug Grasshoppers Plant Bugs (including Lygus spp. & Stink Bugs)	2.8 to 4.0 ounces (0.0175 to 0.025 pound active) per acre	ULV oil spray application is prohibited. Higher volumes of finished spray may improve insect control under high temperatures, when foliage is dense and/or when insect pressure is high.

Do not make applications less than 7 days apart for forage and hay; not less than 17 days for straw and seed screenings.

Do not spray livestock. Allow application to dry before letting livestock graze

A maximum of 4 ounces of product or 0.025 pounds of active ingredient per acre may be applied per cutting. For hay, a maximum of 16 ounces of product or 0.10 pounds of active ingredient per acre per season may be applied.

For forage, straw, and seed screenings, a maximum of 20 ounces 0.125 pounds active ingredient per acre per season may be applied.

Applications may be made up to 0 days for forage and hay; 7 days for straw and seed screenings.

<sup>1</sup> Aphid control may be variable depending on species present and host-plant

Zeta-Cype 0.8 EW Sodfarms Amendment January 26, 2010

Leafy Vegetables (except Brassica) (1 day PHI): Amaranth (leafy amaranth, Chinese spinach, tampala); Arugula (Roquette); Cardoon; Celery; Celery, Chinese; Celtuce; Chervii; Chrysanthemum, edible-leaved and garland; Cilantro (not for use on cilantro grown for seed or coriander); Corn salad; Cress, garden; Cress, upland (yellow rocket, winter cress); Dandelion; Dock (sorrel); Endive (escarole); Fennel, Florence (finochio); Lettuce, head and leaf; Orach; Parsley; Purslane, garden; Purslane, winter; Radicchio (red chicory); Rhubarb; Spinach (including New Zealand and vine, Malabar spinach, Indian spinach); Swiss chard.

Insects Controlled	Rate of Application	Method of Application
Com Earworm Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Imported Cabbageworm Leaftoppers Saltmarsh Caterpillar Tobacco Budworm <sup>2</sup> Aphid spp. <sup>23</sup> Whitefly spp. <sup>1,2</sup>	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply in water as necessar for insect control using minimum of 10 gallons of finished spray per acre wit ground equipment and gallons per acre by air. Lower rates of Zeta-Cyp should be used under light to moderate insect pressure Higher rates should be use to control heavy
Armyworms Ground Beetles Crickets Loopers Lygus Bugs Onion Thrips Stink Bugs Wireworm (adults)	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	to control heavy to extremely heavy insect populations.  In areas where arid climatic conditions persist, such as California and Arizona, higher than minimum recommended rates may be required.

Do not make applications less than 7 days apart.

A maximum of 24 ounces of product or 0.15 pounds of active ingredient may be applied per acre per season.

Aids in control

See resistance statement under "Directions For Use" section

Aphid control may be variable depending on species present and host-plant relationships

180828

Legume Vegetables - Succulent and Dried (except Soybeans)

1 day phi for succulent shelled or edible-podded peas or beans
21 day phi for dried shelled peas or beans

Succulent Edible-Podded Peas, Succulent Shelled Peas and Dried Shelled Peas (Pisum spp.) including:

Dwarf Pea; Edible-pod Pea; Snow Pea; Sugar Snap Pea; Pigeon pea; English Pea; Garden Pea; Green Pea; Lentil.

Succulent Edible-Podded Beans, Succulent Shelled Beans, and Dried Shelled Beans including:

Runner Bean; Snap Bean; Wax Bean; Asparagus Bean; Chinese Longbean; Moth Bean; Yardlong Bean; Jackbean; Soybean (immature seed); Swordbean; Lima Bean; Broad Bean (Fava Bean); Blackeyed Pea; Southern Pea; Grain Lupin; Sweet Lupin; White Lupin; White Sweet Lupin; Field Bean; Kidney Bean; Navy Bean; Pinto Bean; Tepary Bean; Adzuki Bean; Catjang; Cowpea; Crowder Pea; Moth Bean; Mung Bean; Rice Bean; Urd Bean; Chickpea (Garbanzo Bean); Guar; Lablab bean.

Insects Controlled	Rate of Application	Method of Application
Cutworm spp. Thistle Caterpillar (Painted Lady) Saltmarsh Caterpillar Silverspotted Skipper	1.28 to 4.0 ounces (0.008 to 0.025 pound active) per acre	Apply as required by scouting, usually at intervals of 5 or more days. Do not exceed maximum allowable rate. Timing and
Alfalfa Caterpillar Armyworm, Southem Armyworm, True Armyworm, True Armyworm, Yellow-Striped Bean Leaf Beetle Blister Beetle spp. Colorado Potato Beetle Corn Borer, European Corn Borer, Southwestern Corn Earworm Com Earworm Com Rootworm Beetle (adult) Cowpea Curculio Cucumber Beetle Flea Beetle Green Cloverworm Ground Beetles Imported Cabbageworm Japanese Beetle Leaf Skeletonizer spp. Leafminers (adults) Mexican Bean Beetle Pea Weevil Plant Bug spp. Potato Leafhopper Seedcom Maggot (adult) Spittlebug Three-Cornered Hopper Tobacco Budworm Velvetbean Caterpillar Webworm spp. Woolly Bear Caterpillar Aphid spp. 23	2.72 to 4.0 ounces (0.017 to 0.025 pound active) per acre	frequency of applications should be based upon insect populations reaching locally determined economic thresholds.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).
Armyworm, Beet <sup>2</sup> Armyworm, Fall Grasshoppers Lesser Cornstalk Borer <sup>1</sup> Looper spp. Stink Bug spp. Thrips spp. <sup>12</sup>	ounces (0.020 to 0.025 pound active) per acre	
Whitefly spp. 1,2	L	L

Do not make applications less than 5 days apart.

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Aids in control

<sup>2</sup> See resistance statement under "Directions For Use" section

<sup>3</sup> Aphid control may be variable depending on species present and host-plant relationships.

### Peanut (7 day PHI)

Insects Controlled	Rate of	Method of
	Application	Application
Cutworm spp. Green Cloverworm Velvetbean Caterpillar Red-necked Peanut Worm	1.28 to 4.0 ounces (0.008 to 0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect
Bean Leaf Beetle Leafhopper spp. Southern Com Rootworm (adult)	1.76 to 4.0 ounces (0.011 to 0.025	populations reaching locally determined economic threshold levels.
Vegetable Weevil Whitefringed Beetle (adult)	pounds active) per acre	Apply by ground or air equipment using sufficient water to obtain full coverage
Aphid spp. 1,2 Armyworm, Beet 1,2 Armyworm, Fall 1,2 Com Earworm Grasshopper spp.	3.2 to 4.0 ounces (0.02 to 0.025 pound active)	of foliage (minimum of 10 gallons by ground and 2 gallons by air).
Lesser Cornstalk Borer <sup>1, 2</sup> Soybean Looper <sup>1, 2</sup> Stink Bug spp. <sup>1, 2</sup> Tobacco Thrips <sup>2</sup>	per acre	Do not make applications less than 14 days apart.

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Do not graze livestock in treated areas. Do not use treated vines or hay for animal feed.

Aids in control.

See resistance statement under "Directions For Use" section.

## Pome Fruit Group (14 day PHI) including: Apple; Crabapple; Loquat; Mayhaw; Pear; Oriental Pear; and Quince.

Insects	Rate of	Method of	
Controlled	Application	Application	
Apple Maggot Codling Moth European Apple Sawfly Green Fruitworm Japanese Beetle Lesser Appleworm Oblique Banded Leafroller	1.28 to 4.0 ounces (0.008-0.025 pounds active) per acre	Begin applications at delayed dormant through first cover as common to the production areas and the target pest species. Apply in a full season spray program.	
Oriental Fruit Moth Pandemis Leafroller Pear Psylla Plum Curculio Potato Leafhopper Redbanded Leafroller Rosy Apple Aphid Spotted Tentiform		Apply as required by scouting Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels.	
Leafminer Stink Bugs Tamished Plant Bug Tuffed Apple Bud Moth Variegated Leafroller White Apple Leafhopper		Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (for ground application use a minimum of 20 gallons for concentrate spray or a minimum of 100 gallons for dilute spray; for air application use a minimum of 10 gallons).	
		Do not make applications less than 7 days apart.	
		Avoid applications when honey bees are actively foraging by applying during the early morning or evening hours.	
Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.			

Do not apply as a ULV spray.

Do not feed or allow livestock to graze on cover crops from treated orchards.

#### Rice and Wild Rice (14 day phi)

Insects	Rate of	Method of
Controlled	Application	Application .
Armyworm, Fall	3.2 to 4.0	Apply as needed based on
Armyworm, True Armyworm, Yellow Striped	ounces (0.020 to 0.025 pound	pest thresholds determined by scouting practices. Refer
Grasshoppers	active) per	to Extension Scouting
Green Bug	acre	guidelines for scouting
Leafhopper Spp. Rice Water Weevil (adult)		techniques, pest thresholds
Oat Birdcherry Aphid <sup>1</sup>		and treatment timing and treatment intervals.
Wild Rice Worm		Determine the need for
Chinch Bug	2.64 to 4.0	repeat applications, usually
Rice Stink Bug	ounces	at intervals of 7 days, by scouting.
	(0.0165 to 0.025 pound	Zeta-Cype 0.8EW can be
	active) per	safely applied in conjunction
	acre	with approved rice
		herbicides.
		Apply by air or ground equipment using sufficient
		water to obtain full coverage
		of foliage. When applying by
		air, apply in a minimum of 5
	1	gallons of water per acre. For increased control, crop
		oil concentrate at 16 fluid
		ounces per acre may be used.
		For control of rice water
	]	weevil in dry seeded rice,
		make a foliar application as
		indicated by scouting for the presence of adults and/or
		feeding scars, 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 unless scouting indicates
		adult weevils are not
		present. Adults may also be
		treated at later stages of rice development to reduce
		overwintering populations.
		For control of rice water
		weevil in water seeded
		rice, make the first application after flooding
		when scouting indicates the
		presence of adults and/or
		feeding scars. Application should usually begin when
		rice has emerged 0.5 inch
		above the waterline. Under
		conditions of prolonged migration into the field, start
		field scouting for rice water
	1	weevil adults and/or feeding
	1	scars 3-5 days after the initial treatment and, if
	]	needed, apply a second
	[	application within 7-10 days
		of the first application. Adults may also be treated
		at later stages of rice
	1	development to reduce
	1	Overwintering populations.
	1	Green bug is known to have many biotypes. Zeta-Cype
1		0.8EW may only provide
	1	0.8EW may only provide suppression. If satisfactory
		control is not achieved with the first application of Zeta-
		Cype 0.8EW , a resistant
	1	biotype may be present.
	!	Use alternate chemistry for control.
	1	Control.
<u> </u>	1	1

Do not make applications less than 7 days apart.

Do not release floodwater within 7 days of an application.

A maximum of 12 ounces of product or 0.10 pound of active ingredient (1.0 pints) may be applied per acre per season.

Do not use treated rice field for the aquaculture of edible fish and crustacea.

Do not apply as an ultra-low volume (ULV) spray.

<sup>1</sup> Aphid control may be variable depending on species present and host-plant relationships.

210228

Root and Tuber Vegetables Group 1 (except Sugar Beet) (1 day PHI) including: Arracacha; Arrowroot; Artichoke (Chinese and Jerusalem); Garden Beet; Edible Burdock; Edible Canna; Carrot; Cassava (Bitter and Sweet); Celeriac (Celery Root); Chayote (Root); Turnip-Rooted Chervil; Chicory; Chufa; Dasheen (Taro); Ginger; Ginseng; Horseradish; Leren; Turnip-Rooted Parsley; Parsnip; Potato; Oriental Radish (Daikon); Radish; Rutabaga; Salsify (Oyster Plant); Black Salsify; Spanish Salsify; Skirret; Sweet Potato; Tanier (Cocoyam); Turmeric; Turnip; Yam Bean; and Yam (True).

Insects Controlled	Rate of Application	Method of Application
Cutworm spp.	1.28 to 4.0 ounces (0.008 to 0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic
Cabbage Looper Cucumber Beetle European Com Borer Fleabeetle spp. Leafhopper spp. Southern Corn Rootworm (adult) Vegetable Weevil Whitefringed Beetle (adult)	1.76 to 4.0 ounces (0.011 to 0.025 pounds active) per acre	Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).
Aphid spp. 1.2 Armyworm, Beet 1.2 Armyworm, Yellowstriped Cabbage Maggot Colorado Potato Beetle 2 Grasshopper spp. Imported Cabbageworm Potato Leafhopper Tamished Plant Bug	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	Do not make applications less than 4 days apart.

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Leaves of Root and Tuber Vegetables (except Sugar Beet tops) cannot be used for food or feed.

1 Aids in control

<sup>2</sup> See resistance statement under "Directions For Use" section.

#### Safflower (14 day phi)

Insects Controlled	Rate of Application	Method of Application
Cutworms	4.0 ounces (0.025 pound active) per acre	Apply as needed based on pest thresholds determined by scouting practices. Refer to Extension Scouting guidelines for scouting techniques, pest thresholds and treatment timing and treatment intervals. Determine the need for repeat applications, at a minimum of 14 day intervals, by scouting.  Apply with ground or air equipment using sufficient water and application methods to insure thorough coverage of foliage. Apply in water using a minimum of 15 gallons of finished spray
A	<del></del>	per acre.

A maximum of 12 ounces of product or 0.075 pounds of active ingredient per acre per season may be applied.

22028

Sod Farms (0 day PHI) including: bahiagrass, barnyardgrass, bentgrass, Bermudagrass, Kentucky bluegrass, big bluestem, smooth bromegrass, buffalograss, reed canarygrass, centipedegrass, crabgrass, cupgrass, dallisgrass, sand dropseed, Kentucky fescue, meadow foxtail, eastern gramagrass, side-oats grama, guinea grass, Indian grass, Johnsongrass, lovegrass, napiergrass, oatgrass, orchardgrass, pangolagrass, paspalum, redtop, Italian ryegrass, St. Augustine grass, sprangletop, squirreltailgrass, stargrass, switchgrass, timothy, crested wheatgrass, wildrye grass and zoysia grass. Also included are sudangrass and sorghum forages and their hybrids.

Insects	Rate of	Method of
Controlled	Application	Application
		/ Application
Alfalfa caterpillar Alfalfa looper Alfalfa looper Alfalfa weevil Ant spp. Blue alfalfa aphid <sup>2</sup> Cutworm spp. Egyptian alfalfa weevil Flea beetle spp. Green cloverworm Green peach aphid <sup>2</sup> Hornworm spp. Meadow spittlebug Pea aphid <sup>2</sup> Potato leafhopper Spotted alfalfa aphid <sup>3</sup> Threecomered alfalfa hopper Velvetbean caterpillar	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Apply as insects appear in sufficient volume of water to ensure thorough coverage of foliage.  Use higher recommended dosage for increased pest pressure or for increased residual pest control. Do not exceed maximum allowable rate.  Apply in a minimum of 2 gallons of finished spray per acre by aerial equipment or 10 gallons per acre by ground equipment.  ULV oil spray application is
Webworm spp		prohibited. Higher volumes
Armyworm, southern Armyworm, true Armyworm, yellowstriped Cereal leaf beetle Chinch bug Grass mealybug Grasshopper spp. Plant bug spp. Stinkbug spp.	2.8 to 4.0 ounces (0.0175 to 0.025 pound active) per acre	of finished spray may improve insect control under high temperatures, when foliage is dense and/or when insect pressure is high:
Armyworm, fall	3.2 – 4.0	
}	ounces	
	(0.02 to 0.025	Į.
	pound active)	ĺ
A maximum of 4 ounces of	per acre	acupds of potitio ingradiant per

A maximum of 4 ounces of product or 0.025 pounds of active ingredient per acre may be applied per application. A maximum of 20 ounces of product or 0.125 pounds active ingredient per acre per season may be applied.

 $<sup>^{\</sup>rm 1}$  Aphid control may be variable depending on species present and host-plant relationships.



# Sorghum (Grain) and Millet (14 day phi for grain and stover; 45 day phi for forage):

r	Dete of	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
insects Controlled	Rate of Application	Method of Application
Cutworm spp. Sorghum Midge	1.28 to 4.0 ounces (0.008 to 0.025 pound active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be
Armyworm, Fall Armyworm, Southern Armyworm, Southern Armyworm, Yellow-Striped Corn Borer, European¹ Corn Borer, Southwestern¹ Corn Earworm Flea Beetle spp. Hornworms Stink Bug spp. Webworm spp.	1.76 to 4.0 ounces (0.011 to 0.025 pound active) per acre	based upon insect populations reaching locally determined economic thresholds.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air). The addition of one to two quarts of emulsified oil per acre to the spray
Aphid spp. <sup>2,3</sup> Armyworm, Beet <sup>3</sup> Chinch Bug False Chinch Bug Grasshopper spp. Lesser Cornstalk Borer <sup>1</sup> Thrips spp. <sup>3,4</sup> Whitefly spp. <sup>3,4</sup>	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	solution may improve spray deposition and insect control.  For sorghum midge control, begin applications when 25% of the sorghum heads have emerged and are in tip bloom. Repeat applications at 10-day intervals if needed.
		For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of plants with sufficient spray volume to penetrate the soil/stern interface, leaf collars, and sheaths.

Do not make applications less than 10 days apart.

Do not apply more than 20 ounces of product or 0.125 pound of active ingredient per acre per season.

For control before the larva bores into the plant stalk.

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Por control before the larva poles into the plant statis.

Aphild control may be variable depending on species present and host-plant relationships.

See resistance statement under "Directions For Use" section

<sup>&</sup>lt;sup>4</sup> Aids in Control

#### Soybeans (21 day phi):

Insects Controlled Cutworm spp. Painted Lady (Thistle) Caterpillar Saltmarsh Caterpillar Silverspotted Skipper  Alfalfa Caterpillar Armyworm, Southern Armyworm, True Armyworm, Yellowstriped Bean Leaf Beetle Blister Beetle spp. Colorado Potato Beetle Corn Borer, European Com Earworm Com Rootworm Beetle (adult) Cowpea Curculio Cucumber Beetle European Com Borer Flea Beetle Green Cloverworm Hornworms Imported Cabbageworm Japanese Beetle Leaf Skeletonizer spp. Leafminers (adults) Mexican Bean Beetle Pea Leaf Weevil Plant Bug spp. Potato Leafhopper Seedcorn Maggot (adult) Soybean Aphid Spittlebug Three-Cornered Alfalfa Hopper Tobacco Budworm <sup>2</sup> Velvetbean Caterpillar	Rate of Application  1.28 to 4.0 ounces (0.008 to 0.025 pound active) per acre  2.8 to 4.0 ounces (0.0175 to 0.025 pound active) per acre	Method of Application  Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.  Apply with either aerial or ground equipment using sufficient spray volume to obtain full coverage of the plant and foliage. Use a minimum of 2 gallons of finished spray per acre by air or 10 gallons of finished spray per acre by ground. The addition of one to two quarts of emulsified oil per acre to the spray solution may improve spray deposition and insect control.
Three-Cornered Alfalfa Hopper		
Armyworm, Beet Armyworm, Fall Grasshopper spp. Lesser Cornstalk Borer <sup>3</sup> Looper spp. <sup>2</sup> Stink Bug spp. Thrips spp. <sup>2,3</sup> Whitefly spp. <sup>2,3</sup>	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	

Do not make applications less than 7 days apart.

Do not graze or harvest treated soybean forage, straw, or hay for livestock feed.

Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

1 Use higher recommended dosage for increased pest pressure, increased residual pest control, or later-season applications. Do not exceed maximum allowable rate.

2 See resistance statement under "Directions For Use" section

<sup>3</sup> Aids in control



Stone Fruit Group (14 day PHI) including: Apricot; Cherry (Sweet and Tart); Nectarine; Peach; Plum (including Chickasaw Plum, Damson Plum, and Japanese Plum); Plumcot; and Prune (fresh).

Insects Controlled	Rate of Application	Method of Application
American Plum Borer Black Cherry Aphid Cherry Fruit Fly Green Fruitworm Leafrollers Leafhoppers Lesser Peach Tree Borer Peach Twee Borer Peach Twig Borer Plum Curculio Oriental Fruit Moth Rose Chafer Stink Bugs Tamished Plant Bug Tufted Apple Budmoth Western Cherry Fruit Fly	Application  1.28-4.0 ounces (0.008-0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (for ground application use a minimum of 20 gallons for concentrate spray or a minimum of 100 gallons for dilute spray; for air application use a minimum of 10 gallons).  Do not make applications less than 7 days apart.
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Do not apply more than 24 ounces of product or 0.15 pounds of active ingredient per acre per season.

Do not apply as a ULV spray.

Do not feed or allow livestock to graze on cover crops from treated orchards.

#### Sugar Beet (50 day PHI for tops or roots)

Insects	Rate of	Method of
Controlled	Application	Application
Foliar Application:  Armyworms Blister Beetles Click Beetles Click Beetles Cutworms Flea Beetles Grasshoppers Heliothis spp. Leafminer (adults) Loopers Lygus Bugs Sugar Beet Root Maggot (adult) Sugar Beet Crown Borer Thistle Caterpillar Webworms Zebra Caterpillar Aphids'	2.24 to 4.0 ounces (0.014 to 0.025 pound active) per acre	Make applications when insect populations reach economic threshold levels. Refer to local Cooperative Extension Pest Management Guidelines and/or scouting results.  Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage (minimum of 2 gallons per acre by ground).
At Plant Application: Sugar Beet Root Maggot (larvae) <sup>2</sup>	4.0 ounces (0.025 pound active) per acre	For light to moderate infestations only. Make a 3-4 inch T-Band (band over the open furrow) at planting in a minimum of 3-5 gallons per acre.
White Grub Wireworm		Apply in-furrow or in a 3 - 4 inch T-Band (band over the open furrow) at planting in a minimum of 3-5 gallons per acre.
Cutworm species		Apply at planting on the soil surface in a 5-7inch band or broadcast in a minimum of 3-5 gallons per acre.
Do not apply more than 12 ounces of product or 0.075 pounds of active ingredient per acre per season including at plant plus foliar applications of Zeta-Cype 0.8 EW.  Aphid control may be variable depending on species present and host-plant relationships. Suppression only.		

<sup>2</sup> Suppression only.

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# Sunflower, Castor Oil Plant, Chinese Tallowtree, Euphorbia, Evening Primrose, Jojoba, Niger Seed, Rose Hip, Stokes Aster, Tallowwood, Tea Oil Plant, and Vernonia (30 day PHI)

Insects Controlled	Rate of Application	Method of Application
Thistle Caterpillar (Painted Lady) Cutworm species	1.28 to 4.0 ounces (0.008 to 0.025 pound active) per acre	Apply with ground or air equipment using sufficient water and application methods to insure thorough coverage of foliage. Apply in a minimum of 2 gallons of finished coverage core by
Sunflower Beetle Sunflower Moth Sunflower Moth Sunflower Maggot Stem Weevil (adult) Grasshopper species Leafhopper species Leafhopper Seevil (adult) Red Sunflower Seed Weevil (adult) Grey Sunflower Seed Weevil (adult) Saltmarsh Caterpillar Banded Sunflower Moth Armyworm Sunflower Butterfly Wooly Bear Caterpillar Japanese Beetle Webworm species	2.6 to 4.0 ounces (0.016 to 0.025 pound active) per acre	finished spray per acre by aerial equipment or 10 gallons per acre by ground equipment. Begin applications when pest appears and repeat as necessary to maintain control. Do not make applications less than 7 days apart.  Use higher recommended dosage for increased residual pest control. Do not exceed maximum allowable rate.
Long-Horned Beetle (Dectes Stem Borer adult) Beet Armyworm Fall Armyworm Stink Bug Species Pale striped Flea Beetle	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	

Do not apply more than 20 ounces of product or 0.125 pounds of active ingredient per acre per season. Do not make more than five applications at the maximum application rate per season.

Do not graze livestock in treated areas or cut treated crops for feed

Avoid applications when honey bees are actively foraging by applying during the early morning or evening hours.

Tree Nuts Group (7 Day PHI) including: almond; beech nut; Brazil nut; butternut; cashew; chestnut; chinquapin; filbert (hazelnut); hickory nut; macadamia nut; pecan; and walnut (black and English).

Insects	Rate of	Method of
Controlled	Application	Application
Black Pecan Aphid Codling Moth Filbert Worm Hickory Shuckworm Leaffcoted Bugs Navel Orangeworm Oblique-banded Leafroller Peach Twig Borer Pecan Leaf Casebearer Pecan Nut Casebearer Pecan Phylloxera Pecan Phylloxera Pecan Weevil Plant Bugs Stink Bugs Walnut Aphid Walnut Husk Fly Yellow Pecan Aphid	3.2 to 4.0 ounces (0.02 to 0.025 pounds active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency, of applications should be based upon insect populations reaching locally determined economic threshold levels.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).

Do not apply more than 20 ounces of product or 0.125 pounds of active ingredient per acre per season.

Do not make applications less than seven days apart.

Wheat and Triticale (14 day phi for grain, forage, and hay):

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Insects Controlled	Rate of Application	Method of Application
Cutworm spp., including Army Cutworm Painted Lady (Thistle) Caterpillar	1.28 to 4.0 ounces (0.008 to 0.025 pound active) per acre	Apply as required by scouting. Do not exceed maximum allowable rate. Timing and frequency of applications should be
Armyworm, Southern Armyworm, True Armyworm, Yellowstriped Cereal Leaf Beetle Flea Beetle spp. Pale Wastern Cutworm Plant Bug spp. Spittlebug Webworm spp.	1.76 to 4.0 ounces (0.011 to 0.025 pound active) per acre	based upon insect populations reaching locally determined economic thresholds.  Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by
Aphid spp. 1.2 Armyworm, Beet <sup>2</sup> Armyworm, Fall Chinch Bug Grass Sawfly Grasshopper spp. Greenbug <sup>2,3</sup> Stink Bug spp. Thrips spp. <sup>2,3</sup> Wheat Stem Sawfly (adult) <sup>3</sup> Whitefly spp. <sup>2,3</sup>	3.2 to 4.0 ounces (0.02 to 0.025 pound active) per acre	air). For chinch bug control, begin applications when bugs migrate from small grains or grass weeds. Apply sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths.

Do not make applications less than 14 days apart.

Do not make applications less than 14 days apair.

Do not apply more than 20 ounces of product or 0.125 pounds of active ingredient per acre per season.

Aphid control may be variable depending on species present and host-plant relationships.

See resistance statement under "Directions For Use" section

Aids in Control



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