

279-3315

03/10/2009

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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 10 2009

Dear Ms. Hilton:

Subject: Amendment- update spray drift language for pyrethroid agricultural use products
Hero Insecticide
EPA Registration Number 279-3315
Your submissions dated March 8, 2009

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. On page 3 directly under the heading Directions for Use, add RESTRICTED USE PESTICIDE in bold type.
b. On page 5 under Chemigation delete the precaution, "Do not apply when wind speed favors drift beyond the area intended for treatment.". The appropriate spray drift precautions are now listed on page 4.
c. For each crop grouping where applicable you may delete "Follow appropriate spray drift precautions listed on the label." The appropriate spray drift precautions are now listed on page 4.
d. For all crops in the Remarks section the application rates in both ounces of product and pounds of active ingredient per acre.
e. Wherever "Apply HERO Insecticide at an interval of 3 to 4 days until pests numbers are reduced to acceptable levels.", "Repeat as necessary to maintain control." or other similar statements appear add "Do not exceed maximum allowable rate.".

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f. On page 21 change "Dealers Should Sell in Original Packages" to Dealers Must Sell in Original Packages".

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.

Please note that acceptance of this letter does not constitute reregistration of this product.

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

Sincerely yours,



f Richard Gebken  
Product Manager (13)  
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 certificate.



EPA Reg. No. 279-3315

EPA Est. 279-

Active Ingredients:	By Wt.
Zeta-Cypermethrin*	3.75%
Bifenthrin**	11.25%
Other Ingredients***:	85.00%
	100.0%

HERO™ contains 1.24 pounds active ingredients per gallon.  
\* *Cis/trans* isomer ratio: Max 75% (±) *cis* and Min. 25% (±) *trans*  
\*\* *Cis* isomers 97% minimum; *trans* isomers 3% maximum.  
\*\*\* Contains Petroleum Distillates

U.S. Patent No. Pending

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See other panels for additional precautionary information.

ACCEPTED  
with COMMENTS  
by EPA Entry Date  
  
MAR 10 2009  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
is accepted, for the pesticide  
registered under EPA Reg. No.  
279-3315

**FMC**  
FMC Corporation  
Agricultural Products Group  
1735 Market Street  
Philadelphia PA 19103

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<b>FIRST AID</b>	
<b>IF SWALLOWED</b>	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.
<b>IF ON SKIN OR CLOTHING</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>IF IN EYES</b>	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 for treatment advice.
<b>IF INHALED</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>NOTE TO PHYSICIAN</b>	
Contains petroleum distillates. Vomiting may cause aspiration pneumonia.	
<b>HOTLINE NUMBER</b>	
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 Assistance.	

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans (and Domestic Animals)

**Caution**

Harmful if swallowed, inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Do not get on skin, in eyes or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. 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:**

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 Barrier Laminate; or Butyl, Nitrile, or Neoprene Rubber ≥ 14 mls; or Viton ≥ 14 mls, 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 Barrier Laminate; or Butyl, Nitrile, or Neoprene Rubber ≥ 14 mls; or Viton ≥ 14 mls, and shoes plus socks and protective eyewear.

#### User Safety Requirements

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.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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### **User Safety Recommendations**

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 washwaters.

The use of HERO is prohibited in areas where its application may result in exposure to endangered species. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species

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 or Chemical Hazards**

Combustible: 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.

**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.

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.

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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.

### Engineering Control Statements

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 (540CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

### STORAGE AND DISPOSAL

#### Pesticide Storage

Do not freeze. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. 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.

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

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

#### 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 non-uniform 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.

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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 that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment

HERO Insecticide should be applied continuously for the duration of the water application. HERO Insecticide 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 used.

## **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, Texas. 21pp. <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 vortices. 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.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

### Rotational Crops

Crops for which bifenthrin and zeta-cypermethrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days following the final application of HERO Insecticide.

### Tank-Mixture

HERO Insecticide may be applied in tank mixtures with other products approved for use on, Cotton, Corn, Eggplant, Peppers, Tomatoes, Head Lettuce, Head & Stem Brassica, Succulent Peas & Beans, and Pecans. Observe all restrictions and precautions that appear on the labels of these products. Test for compatibility of products before mixing.

### HERO Insecticide contains the pyrethroids zeta-cypermethrin and bifenthrin.

#### Maximum Usage When Applying Zeta-Cypermethrin and Cypermethrin Products to the Same Crop Within the Same Season.

Do not apply more than the maximum seasonal total for either zeta-cypermethrin or cypermethrin products when used alone; do not apply more than the combined maximum seasonal total for both products as outlined in the table below.

Crop	Maximum Seasonal Total (lbs ai/acre)			Cypermethrin**	Maximum Seasonal Total (lbs ai/acre) When Applying Cypermethrin and Zeta-cypermethrin Products to the Same Crop	Maximum Seasonal Total (lbs ai/acre) When Applying Zeta-cypermethrin Products to the Same Crop
	Zeta-cypermethrin *				Zeta-cypermethrin* plus Cypermethrin **	Zeta-cypermethrin*
	Mustang	Mustang Max	HERO			
Cotton	0.3	0.15	0.1125	0.6	0.6	0.3
Field Corn	0.2	0.10	0.10	NA	NA	0.2
Sweet Corn	0.3	0.15	0.0675	NA	NA	0.3
Eggplant	0.3	0.15	0.0675	NA	NA	0.3
Pepper (Bell & Non-Bell)	0.3	0.15	0.0675	NA	NA	0.3
Tomato	0.3	0.15	0.105	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
Soybean	0.3	0.15	0.10	NA	NA	0.3
Succulent Peas and Beans	0.3	0.15	0.0675	NA	NA	0.3



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Root and Tuber	0.3	0.15	0.050	NA	NA	0.3
Pecans	0.3	0.15	0.1125	0.6	0.6	0.3

\* *Mustang or Fury* (1.5 EW or 1.5 EC); *Mustang Max* (0.8 EC or 0.8 EW); *HERO*; or any zeta-cypermethrin product approved for crop use.  
 \*\* Any cypermethrin product approved for crop use.  
 NA = Not Applicable.

**Maximum Usage When Applying Bifenthrin Products to the Same Crop Within the Same Season.**

Crop	Maximum Seasonal Total (lbs ai/acre)		
	Bifenthrin		When Applying Bifenthrin * Products Plus <i>HERO</i> to the Same Crop
	<i>HERO</i>	Bifenthrin *	
Cotton	0.3375	0.50	.50
Field Corn	0.30	0.30	.30
Sweet Corn	0.20	0.20	.20
Eggplant	0.20	0.20	.20
Pepper (Bell & Non-Bell)	0.20	0.20	.20
Tomato	0.315	0.32	0.32
Head Lettuce	0.3375	0.50	0.50
Head and Stem Brassica	0.3375	0.50	0.50
Soybean	0.30	0.30	0.30
Succulent Peas and Beans	0.20	0.20	0.20
Root and Tuber	0.150 (foliar only)	0.50 (foliar + soil applic.)	0.50
Pecans	0.3375	0.50	0.50

\* Any bifenthrin product approved for crop use.

**FIELD CROPS**

**Cotton (14 day PHI)**

Pests	Rate of Application
European Corn Borer Grasshoppers Soybean (Banded) Thrips Tobacco Thrips	3.6 – 10.3 ounces (0.035 – 0.10 lbs ai) per acre
Armyworm, Fall Armyworm, Yellowstriped Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm	5.2 – 10.3 ounces (0.05 – 0.10 lbs ai) per acre
Armyworm, Beet Carmine Spider Mite Lygus Species Pink Bollworm Twospotted Spider Mite Whitefly	10.3 ounces (0.10 lbs ai) per acre
<b>RESTRICTIONS – Cotton</b>	

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Do not apply more than 0.45 pounds active ingredient per acre per season.

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

**REMARKS - Cotton**

HERO Insecticide may be applied in water or refined vegetable oil (soybean/cottonseed).

**Application in Water:** Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air; 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.

**ULV Application:** Apply the recommended rate of HERO Insecticide in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.

**To Control Boll Weevil:** Apply HERO Insecticide at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.

**To Control Mites and Aphids:** Apply when pests first appear. Repeat as necessary to maintain control.

**Field Corn (Grain and Silage), Popcorn,  
Field Corn Grown for Seed.  
Foliar Use Only.**

Pests	Rate of Application
Army Cutworm Bean Leaf Beetle Common Stalk Borer Cutworm Species Flea Beetle Grasshoppers Green Cloverworm Hop Vine Borer Western Bean Cutworm	2.6 – 6.1 ounces (0.025 – 0.06 lbs ai) per acre
Aphid Species Armyworm, Beet Armyworm, Fall Armyworm, Southern Armyworm, True Armyworm Species Armyworm, Yellowstriped Cereal Leaf Beetle Chinch Bug Corn Earworm Corn Rootworm Adult Cucumber Beetle Adult European Corn Borer Greenbug Homworms Japanese Beetle Adult Meadow Spittlebug Sap Beetle Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tobacco Budworm Webworms	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Banks Grass Mite Carmine Mite Lygus Species Twospotted Spider Mite	10.3 ounces (0.10 lbs ai) per acre

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**RESTRICTIONS – Field Corn**

HERO Insecticide is for use in foliar applications only. Soil applications of this product are prohibited.

Do not apply more than 0.4 pound active per acre per season for foliar applications.

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

Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.

Use of ultra low volume (ULV) application on corn is prohibited.

Do not make aerial or ground applications to corn if heavy rainfall is imminent.

Use of HERO Insecticide on corn is prohibited in all coastal counties.

**REMARKS – Field Corn**

**General:** Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

**To control ear-attacking pests:** Apply HERO Insecticide just before silking and repeat as necessary to maintain control.

**Southwestern Corn Borer, European Corn Borer:** Make application for corn borer control with initial application at or shortly before egg hatch.

**For control of other insect pests:** Apply when pests first appear and repeat as necessary.

**For Control of Mites:**

Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.

For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.

Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.

**For mite control in Texas, New Mexico, Oklahoma, and Arizona:** Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.

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**Sweet Corn (Grain and Silage),  
Sweet Corn Grown For Seed (3 day PHI)  
Foliar Use Only.**

Pests	Rate of Application
Army Cutworm Armyworm, Beet Armyworm, Fall Armyworm, Southern Armyworm Species Armyworm, True Armyworm, Yellowstriped Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adult Corn Silk Fly Cucumber Beetle Adult Cutworm Species European Corn Borer Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Leafhoppers Sap Beetle Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Webworms Western Bean Cutworm	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Banks Grass Mite Carmin Mite Lygus Species Twospotted Spider Mite	10.3 ounces (0.10 lbs ai) per acre

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**RESTRICTIONS – Sweet Corn**

Do not apply more than 0.266 pounds active per acre per season.

Do not graze livestock in treated areas or cut treated crops for feed within 3 days of the last application.

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

Use of ultra low volume (ULV) application on corn is prohibited.

Do not make aerial or ground applications to corn if heavy rainfall is imminent.

Use of HERO Insecticide is prohibited in all coastal counties.

**REMARKS – Sweet Corn**

**General:** Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

**To control ear-attacking pests:** Apply HERO Insecticide when silking begins and repeat as necessary to maintain control.

**Southwestern Corn Borer, European Corn Borer:** Make 2 applications for corn borer control with the initial application at or shortly before egg hatch.

**For control of other insect pests:** Apply when pests first appear and repeat as necessary.

**For Control of Mites:**

Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.

For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.

Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.

**Soybeans (21 day PHI)**

Pests	Rate of Application
Bean Leaf Beetle Cutworms Flea beetle Grasshoppers Green cloverworm Painted Lady (Thistle) Caterpillar Silverspotted Skipper	2.6 – 6.1 ounces (0.025 – 0.06 lbs ai) per acre

Alfalfa Caterpillar Armyworms* Blister Beetle spp. Corn Earworm Corn Rootworm Adult Cowpea Curculio Cucumber Beetle Adult Dectes Stem Borer European Corn Borer False Chinch Bug Hornworms Imported Cabbageworm Japanese beetle Adult Leaf Skeletonizer spp. Leafhoppers Leafminers Adults Lesser Cornstalk Borer Loopers Mexican Bean Beetle Pea Leaf Weevil Saltmarsh Caterpillar Seedcorn Maggot Adult Soybean Aphid Spittlebug Stink Bug Three-Cornered Alfalfa Hopper Thrips Tobacco Budworm* Velvetbean Caterpillar Webworm Woollybear Caterpillar	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Lygus Species Whitefly Two Spotted Spider Mite	10.3 ounces (0.10 lbs ai) per acre
<p><b>RESTRICTIONS</b></p> <p>Do not apply more than 0.40 pounds active ingredient per acre per season.</p> <p>Do not make applications less than 30 days apart.</p> <p>Do not graze or harvest treated soybean forage, straw, or hay for livestock feed.</p> <p><b>REMARKS - Soybean</b></p> <p>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).</p> <p>Thorough coverage is essential to achieve control. Apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels.</p> <p>Follow appropriate spray drift precautions on this label.</p> <p>* Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Refer to the resistance management statement in the DIRECTIONS FOR USE section of this label.</p>	

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## VEGETABLES

### Eggplant (7 day PHI)

Pests	Rate of Application
Armyworm, Beet Armyworm, Fall Armyworm, Southern Armyworm, Yellowstriped Cabbage Looper Celery Leaf Tier Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworm Species European Corn Borer Flea Beetle Garden Webworm Grasshoppers Hornworms Leafhopper Species Meadow Spittlebug Pepper Maggot Adult Pepper Weevil Southwestern Corn Borer Stink Bug Tobacco Budworm Tomato Fruitworm Tomato Hornworm Tomato Pinworm Vegetable Leafminer	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Banks Grass Mite Carmine Mite Lygus Species Pacific Spider Mite Thrips Species Tomato Psyllid Twospotted Spider Mite Whitefly	10.3 ounces (0.10 lbs ai) per acre
<p><b>RESTRICTIONS – Eggplant</b></p> <p>Do not apply more than 0.266 pounds active per acre per season.</p> <p>Do not make applications less than 7 days apart.</p> <p><b>REMARKS – Eggplant</b></p> <p>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>	

### Peppers, bell and non-bell (7 day PHI)

(including: bell pepper, chili pepper, cooking pepper, pimento, and sweet pepper).

Pests	Rate of Application
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16/22

<p>Armyworm, Beet          Armyworm, Fall          Armyworm, Southern          Armyworm, Yellowstriped          Cabbage Looper          Celery Leaf Tier          Colorado Potato Beetle          Corn Earworm          Cucumber Beetle          Cutworm Species          European Corn Borer          Flea Beetle          Garden Webworm          Grasshoppers          Hornworms          Leafhopper Species          Meadow Spittlebug          Pepper Maggot Adult          Pepper Weevil          Southwestern Corn Borer          Stink Bug          Tobacco Budworm          Tomato Fruitworm          Tomato Hornworm          Tomato Pinworm          Vegetable Leafminer</p>	<p>4.0 – 10.3 ounces          (0.04 – 0.10 lbs ai) per          acre</p>
<p>Banks Grass Mite          Carmine Mite          Lygus Species          Pacific Spider Mite          Thrips Species          Tomato Psyllid          Twospotted Spider Mite          Whitefly</p>	<p>10.3 ounces          (0.10 lbs ai) per acre</p>
<p><b>RESTRICTIONS – Peppers</b></p> <p>Do not apply more than 0.266 pounds active per acre per season.</p> <p>Do not make applications less than 7 days apart.</p> <p><b>REMARKS – Peppers</b></p> <p>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>	



17/22

**Tomato (1 day PHI)**  
(including: groundcherry and tomatillo).

Pests	Rate of Application
Armyworm, Beet Armyworm, Fall Armyworm, Southern Armyworm, Yellowstriped Cabbage Looper Celery Leaf Tier Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworm Species European Corn Borer Flea Beetle Garden Webworm Grasshoppers Hornworms Leafhopper Species Meadow Spittlebug Pepper Maggot Adult Pepper Weevil Southwestern Corn Borer Stink Bug Tobacco Budworm Tomato Fruitworm Tomato Hornworm Tomato Pinworm Vegetable Leafminer	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Banks Grass Mite Carmine Mite Lygus Species Pacific Spider Mite Thrips Species Tomato Psyllid Twospotted Spider Mite Whitefly	10.3 ounces (0.10 lbs ai) per acre
<p><b>RESTRICTIONS – Tomato</b></p> <p>Do not apply more than 0.42 pounds active per acre per season.</p> <p>Do not make more than four applications per season.</p> <p>Do not make applications less than 10 days apart.</p> <p><b>REMARKS – Tomato</b></p> <p>Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment and 2 gallons per acre by air.</p> <p>Thorough coverage is essential to achieve control.</p>	

**Head Lettuce (7 day PHI)**

Pests	Rate of Application
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18/22

<p>Aphid Species          Armyworms          Corn Earworm          Crickets          Cucumber Beetle          Cutworm Species          Diamondback Moth          Flea Beetle          Imported Cabbageworm          Leafhopper Species          Loopers          Saltmarsh Caterpillar          Stink Bug          Tobacco Budworm</p>	<p>4.0 – 10.3 ounces          (0.04 – 0.10 lbs ai)          per acre</p>
<p>Carmine Mite          Lygus Species          Onion Thrips          Twospotted Spider Mite          Whitefly</p>	<p>10.3 ounces          (0.10 lbs ai) per          acre</p>
<p><b>RESTRICTIONS – Head Lettuce</b></p> <p>Do not apply more than 0.45 pounds active per acre per season.</p> <p>Do not make applications less than 7 days apart.</p> <p><b>REMARKS – Head Lettuce</b></p> <p>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. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>	

19/22

**Head & Stem Brassica (7 day PHI)**

(including: Broccoli; Chinese Broccoli (gai lan, white flowering broccoli); Brussels Sprouts; Cauliflower; Cavalo broccolo; Kohlrabi; Cabbage; Chinese Cabbage (napa)).

Pests	Rate of Application
Aphid Species Armyworms Click Beetle Corn Earworm Crickets Cucumber Beetle Cutworm Species Diamondback Moth Flea Beetle Grasshoppers Imported Cabbageworm Leafhopper Species Leafminer Species Loopers Saltmarsh Caterpillar Southern Cabbageworm Stink Bug Tobacco Budworm Wireworm Adults	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Banks Grass Mite Cabbage Webworm Carmine Mite Lygus Species Pacific Spider Mite Thrips Species Twospotted Spider Mite Whitefly	10.3 ounces (0.10 lbs ai) per acre
<p><b>RESTRICTIONS – Head &amp; Stem Brassica</b></p> <p>Do not apply more than 0.45 lb. active ingredient per acre per season.</p> <p>Do not make more than 5 applications after bloom.</p> <p>Do not make applications less than 7 days apart.</p> <p>Do not apply within 7 days of harvest.</p> <p><b>REMARKS – Head &amp; Stem Brassica</b></p> <p>Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 15 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>	

**Succulent Peas and Beans (3 day PHI)**

(including: Bean (*Phaseolus* spp.) (includes runner bean, snap bean, wax bean, lima bean (green)); broad bean (succulent); bean (*Vigna* spp.) (includes asparagus bean, Chinese longbean, moth bean, yardlong bean, blackeyed pea, cowpea, southern pea); jackbean; pea (*Pisum* spp.) (includes dwarf pea, edible-pod pea, snow pea, sugar snap pea, English pea, garden pea, green pea); pigeon pea; soybean (immature seed); sword bean.

Pests	Rate of Application
Alfalfa Caterpillar Aphid Species Armyworm, Beet Armyworm, Fall Armyworm, Southern Armyworm, True Armyworm, Yellowstriped	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre

Bean Leaf Beetle Blister Beetle Species Corn Earworm Corn Rootworm Adult Cowpea Curculio Cucumber Beetles Cutworms European Corn Borer Flea Beetle Grasshoppers Green Cloverworm Ground Beetles Imported Cabbageworm Japanese beetle Adult Leaf Skeletonizer Leafhopper Species Leafminers Lesser Cornstalk Borer Loopers Mexican Bean Beetle Painted Lady (Thistle) Caterpillar Pea Leaf Weevil Pea Weevil Saltmarsh Caterpillar Sap Beetle Seedcorn Beetle Seedcorn Maggot Silverspotted Skipper Southwest Corn Borer Spittlebug Stink Bugs Threecornered alfalfa hopper Tobacco Budworm Velvetbean Caterpillar Webworm Species Western Bean Cutworm Woolly Bear Caterpillar	
Banks Grass Mite Carmine Mite Lygus Species Thrips Species Twospotted Spider Mite Whitefly	10.3 ounces (0.10 lbs ai) per acre
<p><b>RESTRICTIONS – Succulent Peas &amp; Beans</b></p> <p>Do not apply more than 0.266 pounds active per acre per season.</p> <p>Do not make applications less than 5 days apart.</p> <p><b>REMARKS – Succulent Peas &amp; Beans</b></p> <p>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p>	

**Root and Tuber Vegetables Group 1 (except Sugar Beet) (21 day PHI)** including: Arracacha; Arrowroot; Artichoke (Chinese and Jerusalem); Garden Beet; Edible Burdock; Edible Cannas; 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); Rutabaga; Salsify (Oyster Plant); Black Salsify; Spanish Salsify; Skirret; Sweet Potato; Tanier (Cocoyam); Turmeric; Turnip; Yam Bean; and Yam (True).

Pest	Rate of Application
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21/22

Cutworms Flea Beetle Grasshoppers	2.6 – 6.1 ounces (0.025 – 0.06 lbs ai) per acre
Aphids Armyworms* Banded Cucumber beetle Black flea beetle Chinch bug Colorado Potato Beetle Cucumber beetle Adult European cornborer False chinch bug Loopers Potato leafhopper Sugarcane beetle Sweetpotato flea beetle Sweetpotato weevil Adult Potato Tuberworm**	4.0 – 10.3 ounces (0.04 – 0.10 lbs ai) per acre
Lygus species Two Spotted Spider Mite	10.3 ounces (0.10 lbs ai) per acre

**RESTRICTIONS – Root and Tuber Vegetables**

Do not make applications less than 21 days apart.

Do not apply more 0.20 pounds of active ingredient per acre per season.

Do not make more than two foliar applications per season

Leaves of Root and Tuber Vegetables cannot be used for food or feed.

**REMARKS – Root and Tuber Vegetables**

Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 3 gallons by air).

Thorough coverage is essential to achieve control.

Apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold levels.

Follow appropriate spray drift precautions on this label.

\* Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Refer to the resistance management statement in the **DIRECTIONS FOR USE** section of this label.

\*\* For Tuberworm control (adults and larvae) apply prior to harvest or senescence when economic thresholds are met.

**TREE NUTS**

**Pecans (21 day PHI)**

Pests	Rate of Application
Black Pecan Aphid Hickory Shuckworm Pecan Nut Casebearer Pecan Weevil Yellow Pecan Aphid	10.3 ounces (0.10 lbs ai) per acre

22/22

**RESTRICTIONS – Pecans**

Do not apply more than 0.45 lb. active ingredient per acre per season.

Do not make applications less than 15 days apart.

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

**REMARKS – Pecans**

**Application by ground:**

Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.

**Application by air:**

Apply the specified dosage in a minimum of 10 gallons of finished spray per acre.

**Dealers Should Sell in Original Packages Only.**

Conditions of Sale and Limitation of Warranty and Liability:

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

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