

U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs Registration Division (7505P) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460

EPA Reg. Number:

Date of Issuance:

5905-599

5/12/16

Term of Issuance:

Conditional

Name of Pesticide Product:

HM-1508 Insecticide

NOTICE OF PESTICIDE:

X Registration
Reregistration
(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Bill Washburn Helena Chemical Company 225 Schilling Boulevard, Suite 300 Collierville, TN 38017

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/registration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Date:

5/12/16

Kable Bo Davis, Product Manager 03

Invertebrate & Vertebrate Branch 1, Registration Division (7505P)

EPA Form 8570-6

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2. You are required to comply with the data requirements described in the DCIs identified below:

a. beta-Cyfluthrin GDCI-118831-1054 GDCI-118831-1119

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCIs listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: http://www.epa.gov/pesticide-contacts/contacts-office-pesticide-programs-pesticide-re-evaluation-division

- 3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.
- 4. Make the following label changes before you release the product for shipment:
 - Revise the EPA Registration Number to read, "EPA Reg. No. 5905-599."
- 5. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

• Basic CSF dated 09/04/2015

If you have any questions, please contact Tim Ciarlo by phone at 703-347-8082, or via email at Ciarlo.Timothy@epa.gov.

RESTRICTED USE PESTICIDE

Due to Toxicity to Fish and Aquatic Organisms

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

> GROUP **INSECTICIDE 3A**

HM-1508 Insecticide

For control of certain insect pests on field, vegetable, tree and vine crops.

ACTIV	FING	RED	IENT.
ACIIV		JRED	ILINI.

ß-cyfluthrin

Cyano(4-fluoro-3-phenoxyphenyl)methyl-3-(2,2-dichloroethenyl)-2,2-dimethyl-cyclopropanecarboxylate	12.86%
OTHER INGREDIENTS:	87.14%
TOTAL:	100.00%

Contains 1 lb Beta-cyfluthrin per gallon.

KEEP OUT OF REACH OF CHILDREN **CAUTION / PRECAUCION**

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 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 eye. 		
	 Call a poison control center or doctor for treatment advice. 		
IF SWALLOWED:	 Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. 		
	 Do not induce vomiting unless told to do so by a poison control center or doctor. 		
	• • • • • • • • • • • • • • • • • • • •		
	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 mouth-to-mouth if possible. 		
	 Call a poison control center or doctor for further treatment advice. 		
Note To Physician: ANTIDOTE - No specific antidote is available. Treat symptomatically.			
For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-424-9300.			
Have a product con	tainer or label with you when calling a poison control center or doctor, or		

EPA REG. No	AD xxxxxx
EPA Est. No.	NET CONTENTS:

ACCEPTED

going for treatment.

05/12/2016

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

5905-599

Manufactured for **Helena Chemical Company** 225 Schilling Boulevard, Suite 300 Collierville, TN 38017

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or protective glasses. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Harmful if inhaled. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.

Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Barrier laminate or Viton gloves
- Shoes plus socks
- Protective 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.

Engineering controls 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 [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations User should:

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

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. For terrestrial uses, 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 washwater or rinsate. Apply this product only as specified on this label.

This pesticide is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area. Additional information may be obtained by consulting your Cooperative Extension Service.

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

Buffer Zone Requirements:

Vegetative Buffer Strip:

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 Beta Cyfluthrin 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. 2 1 pp.

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_023819.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 or natural ponds, estuaries, and commercial fishponds).

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 or natural ponds, estuaries, and commercial fishponds).

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 or natural ponds, estuaries, and commercial fishponds).

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 measured 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 wingspan 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 crosswind, 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.

RUNOFF MANAGEMENT

Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When used on erodible soils, best management practices for minimizing runoff should be employed. Consult your local Soil Conservation Service for recommendations in your use area. Do not apply if soil is saturated with water. Do not apply under conditions that favor drift from runoff. Do not apply in the rain.

INSECT RESISTANCE STATEMENT

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 alone may not continue to provide adequate control of resistant pests. If poor performance cannot be attributed to improper application, extreme weather conditions, etc., 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/state Extension agent for the best alternative method of control in your area. Consult your state Cooperative Extension Service agent or agricultural advisor for insect resistance management strategies and recommended insect control methods in your area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame. Do not mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

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

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 (REI). 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 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
- · Barrier laminate or Viton gloves
- Shoes plus socks
- Protective eyewear

HM-1508 INSECTICIDE may be used for control of a broad spectrum of insect pests by contact action. Because of this contact activity, good spray coverage of the crop is needed for the highest level of control.

PRODUCT INFORMATION AND INSTRUCTIONS

Unless specified otherwise in the crop-specific application section, HM-1508 INSECTICIDE may be applied by the following methods:

Foliar Spray Application

Foliar applications may be made using properly calibrated ground sprayers, fixed- or rotary-winged aircraft or through properly designed, sprinkler-type, chemigation equipment (See Chemigation Application directions below). Thorough and uniform coverage of plants, with direct contact of the spray mixture to the target pests, is required for satisfactory control.

Avoid application procedures where thorough coverage of plant is not possible. Applications made with less than thorough coverage may result in slower activity and/or less overall control from a single application than an application made with higher gallonage. Refer to Spray Drift Reduction Management section for application guidelines on minimizing drift from all application methods.

Ground applications should be made in a minimum of 10 gallons/A unless specified otherwise in crop-specific application section.

Aerial applications should be made in a minimum of 2 gallons/A unless specified otherwise in crop-specific application section, however 5 gallons/A are recommended. See crop specific gallonage requirements. Aerial applications made to dense canopies may not provide sufficient coverage of lower leaves or interior plant portions to provide pest control. Higher labeled rates of HM-1508 INSECTICIDE may be necessary for aerial applications.

Chemigation applications (See Chemigation Application directions below) should be made as concentrated as possible. For best results apply at 100% input/travel speed, for center pivots or 0.1 inch (2,716 gallons) up to 0.15 inch (4,073 gallons) of water/A, for other systems. Higher labeled rates of HM-1508 INSECTICIDE may be necessary for chemigation applications.

Chemigation Application

Types of Irrigation Systems: HM-1508 INSECTICIDE may be applied through sprinkler type irrigation systems only. These types include; center pivot, lateral move, or solid set irrigation systems. Do not apply HM-1508 INSECTICIDE through any other type of irrigation system.

Injection for Chemigation: Inject the specified dosage of HM-1508 INSECTICIDE into the irrigation main, water stream: (1) through a constant flow, metering device; (2) into the center of the main line flow via a pitot tube or equivalent; (3) at a point ahead of at least one, right-angle turn in main stream flow such that thorough mixing with the irrigation water is ensured.

Uniform Water Distribution and System Calibration: The irrigation system must provide uniform distribution of HM-1508 INSECTICIDE treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in or on the crop can result from non-uniform distribution.

The system must be calibrated to uniformly distribute the rates specified for chemigation application to specific crops. If you have questions about calibration, contact your Cooperative Extension Service agent, equipment manufacturers, or other experts.

Chemigation Monitoring: 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.

Required Injection and Sprinkler System Safety Devices: 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 back-flow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection. 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/engine stops or in cases where there is no water pump, when water pressure decreases to the point where pesticide distribution is adversely affected. Injection systems must use a metering pump or equivalent, such as a positive displacement injection pump (e.g., diaphragm pump, venturi injection) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Using Water from Public Water Systems: Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction.

As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must 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 or in cases where there is no water pump, 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.

Chemical Supply Tank Dilution and Agitation: For injection of HM-1508 INSECTICIDE, use a chemical supply tank for pre-mixing HM-1508 INSECTICIDE with either water or non-emulsifiable oil before injecting mixture into the irrigation line. Dilution ratio should be at least 4 parts of either water/ or non-emulsifiable oil to 1 part HM-1508 INSECTICIDE. If necessary, constant mechanical or hydraulic agitation should be maintained in the chemical supply tank during the entire period of application. Determine the required amounts of HM-1508 INSECTICIDE and either water or non-emulsifiable oil to mix in the tank. The amount of HM-1508 INSECTICIDE needed equals the number of fluid oz of HM-1508 INSECTICIDE to be applied per acre multiplied by the number of acres to be chemigated. The amount of emulsion needed equals the gallons of emulsion delivered per hour by the injection pump, multiplied by the number of hours chemigation will take place. The amount of either water or non-emulsifiable oil needed equals the amount of emulsion needed minus the amount of HM-1508 INSECTICIDE needed.

Cleaning the Chemical Injection System: In order to apply pesticides accurately, the chemical injection system must be kept clean; free from chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

Flushing the Irrigation System: At the end of the application period, allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

Center-Pivot and Automatic-Move Linear Systems: Inject the specified dosage per acre continuously for one complete revolution (center pivot) or move of the system. The system should be run at maximum speed. It is recommended that nozzles in the immediate area of control panels, chemical supply tanks, pumps, and system safety devices be plugged to prevent chemical contamination of these areas. The use of END GUNS is NOT recommended. End guns that provide uneven distribution of treated water can result in crop injury, lack of effectiveness, or illegal pesticide residues in or on the crop.

Solid Set and Manually Controlled Linear Systems: Injection should be during the last 30 to 60 minutes of a regular irrigation period or as a separate 30 to 60 minute application not associated with a regular irrigation.

CROP ROTATION STATEMENT

Treated areas may be replanted with any crop as soon as practical after last application.

Maximum usage when applying both cyfluthrin and beta-cyfluthrin products to the same crop within the same season:

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

Сгор	Maximum Seasonal Total for Either Product Used Alone (pounds active ingredient/acre)		Maximum Seasonal Total When Applying Both Products to the Same Crop (pounds active ingredient/acre)
	beta-cyfluthrin*	cyfluthrin**	beta-cyfluthrin* Plus cyfluthrin**
Alfalfa	0.175	0.35	0.35
Corn (field, pop, seed)	0.088	0.175	0.175
Cotton	0.15	0.3	0.3
Grasses	0.089	0.176	0.176
Peanut	0.066	0.131	0.131
Sorghum	0.066	0.131	0.131
Soybean	0.088	0.175	0.175
Sugarcane	0.132	0.263	0.263
Sunflower	0.066	0.131	0.131
Tobacco	0.0022	0.0044	0.0044
Barley, Buckwheat, Millet (Pearl And Proso), Oat, Rye, Triticale And Wheat	0.038	0.076	0.076
Brassica (Cole) Leafy Vegetables, CG 5	0.1	0.2	0.2
Cucurbits, CG 9	0.088	0.175	0.175
Fruiting vegetables, CG 8	0.132	0.263	0.263
Leafy vegetables, CG 4	0.1	0.2	0.2
Dried Shelled Legume Vegetables, CSG 6C	0.05	0.1	0.1
Pea, Southern	0.083	0.165	0.165
Potato, and other tuberous and corm vegetables, CSG 1C	0.132	0.263	0.263
Carrot and Radish	0.11	0.22	0.22
Sweet corn	0.22	0.44	0.44
Citrus, CG 10	0.05	0.1	0.1
Grape	0.1	0.2	0.2
Нор	0.125	0.25	0.25
Pome fruit, CG 11	0.022	0.044	0.044
Stone fruit, CG 12	0.044	0.088	0.088
Tree nut crops, CG 14	0.022	0.044	0.044

^{*}HM-1508 INSECTICIDE

^{**}Any cyfluthrin product approved for crop use.

FIELD CROPS

CROP USE DIRECTIONS

For all crops, apply specific dosage of HM-1508 INSECTICIDE at early threshold for target pest, as population begins to develop. Degree of control or suppression of additional labeled pests will be determined, in part by the stage of pest development at application and infestation level of those pests.

Application timing should be based on careful scouting and local economic thresholds. HM-1508 INSECTICIDE may be applied before, during, or after planting. Use the higher rates for moderate to heavy insect pressure. Lower rates are generally adequate for low to moderate insect pressure but require careful scouting and may require more frequent application.

HM-1508 INSECTICIDE is an Emulsifiable Concentrate formulation and is active by contact and ingestion. Thorough coverage is necessary for optimum performance

ALFALFA		
	Rate	Rate
PESTS CONTROLLED	Fluid oz/ Acre	Lb A.I. / Acre
Alfalfa looper		
Army cutworm	0.8 - 1.6	0.0065 - 0.0125
Cutworms		
Green cloverworm		
Meadow spittlebug		
Potato leafhopper		
Alfalfa caterpillar		
Alfalfa plant bug	1.6 - 2.8	0.0125 – 0.022
Alfalfa webworm		
Alfalfa weevil		
Armyworm		
(1st and 2nd instar)		
Aster leafhopper		
Beet armyworm		
(1st and 2nd instar)		
Corn earworm		
Corn rootworms (adult)		
Cucumber beetles (adult)		
Egyptian alfalfa weevil		
Fall armyworm		
(1st and 2nd instar)		
Grape colaspis (adult)		
Japanese beetle (adult)		
June beetle (adult)		
Loopers		
Lygus bug		
Mexican bean beetle		
Stink bugs		
Tarnished plant bug		
Threecornered alfalfa hopper		
Velvetbean caterpillar		
Yellowstriped armyworm		
(1st and 2nd instar)		
Blotch leafminer	2.0 - 2.8	0.0155 - 0.022
Grasshoppers		
Western yellowstriped armyworm		
(1st and 2nd instar)		
PESTS SUPPRESSED		
Blue pea aphid	2.8	0.022
Cowpea aphid		
Pea aphid		
Whitefly (adult)		

Pre-Harvest Interval (PHI) / Pre-Grazing Interval: 7 days.

Maximum HM-1508 INSECTICIDE allowed per cutting: 5.6 fluid oz/A (0.044 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 22.4 fluid oz/A 0.175 lb Al/Acre).

Make applications as necessary but no closer than a 5-day interval.

Due to potential injury to bees, do not apply to alfalfa grown for seed.

Foliar Application Notes

For applications to mixed-stands of ALFALFA with GRASSES intentionally grown for forage or hay, please see the section of this label entitled: GRASS – Pasture / Rangeland / Grass for Seed / Grass for Hay / Grass in mixed-stands with Alfalfa. Carefully observe the restrictions and use directions associated with both crops.

CORN – Foliar Applications

Field Corn, Popcorn, Seed Corn, Teosinte – (see Sweet Corn application information in

Vegetable Crops Section)

vegetable Crops Section)	B.4	
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre
Black cutworm		
Flea beetles	0.8 - 1.6	0.007 - 0.013
Granulate cutworm		
Sand hill cutworm		
Armyworm		
(1st and 2nd instar)	1.6 - 2.8	0.013 - 0.022
Bean leaf beetle		
Cereal leaf beetle		
Chinch bug		
Click beetle (adult)		
Corn earworm		
Corn rootworms (adult)		
European corn borer*		
Grape colaspis (adult)		
Japanese beetle(adult)		
June beetle (adult)		
Leafhoppers		
Masked chafer (adult)		
Southern armyworm		
(1st and 2nd instar)		
Southern corn leaf beetle		
Southwestern corn borer*		
Stalk borer*		
Stink bugs		
Webworm		
Western bean cutworm		
Yellowstriped armyworm		
(1st and 2nd instar)		
Grasshoppers	2.1 – 2.8	0.017 - 0.022
Fall armyworm	2.8	0.022
(1st and 2nd instar)		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): Grain or fodder – **21 days**; Green forage – **0 day**.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 11.2 fluid oz/A (0.088 lb Al/Acre).

Maximum number of applications per season: **4**. Three applications may be applied up to early dent stage. One application may be made between early dent and 21 days before harvest.

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 qt/A – aerial application.

^{*} Application must be made prior to the larva boring into the plant.

CORN - Soil Applications

Field Corn, Popcorn, Seed Corn, Teosinte –(see sweet Corn application information in Vegetable Crop Section)

- Garage and a control			
	Rate	Rate**	
PESTS CONTROLLED	fluid oz/1000 row-ft	fluid oz/Acre	
Seedcorn maggot	0.12 – 0.16	2.0 – 2.8	
Wireworm			
PEST SUPPRESSED			
White grub	0.14 - 0.16	2.5 – 2.8	

Soil Application Restrictions

Pre-Harvest Interval (PHI): Grain or fodder – **21 days**; Green forage – **0 day**.

Maximum HM-1508 INSECTICIDE allowed at planting: **2.8 fluid oz/A (0.022 lb Al/Acre)**.

Maximum HM-1508 INSECTICIDE allowed per crop season: **11.2 fluid oz/A (0.088 lb Al/Acre)**.

Soil Application Notes

APPLICATION INSTRUCTIONS: HM-1508 INSECTICIDE may be applied in water or in liquid, pop-up fertilizer at planting. Apply in a minimum of 2 GPA of total mix volume when applied in water. Good agitation must be maintained at all times during application.

INSTRUCTIONS FOR LIQUID POP-UP FERTILIZER APPLICATION: Perform a compatibility test prior to mixing the entire tank to ensure that HM-1508 INSECTICIDE will remain in solution while applying. Take a known amount of the fertilizer to be used as a carrier and place in a glass jar. Add the appropriate amount of HM-1508 INSECTICIDE based on the labeled use rate. Add other components to be tank mixed. Gently agitate the solution. Examine the solution for signs of incompatibility such as flocculation, precipitation, separation, etc. If incompatibility occurs, contact your local Helena Chemical representative for additional information. Fertilizers containing zinc have been shown to be incompatible with HM-1508 INSECTICIDE.

PLACEMENT: Total mix volume should be applied in the open furrow ahead of the closing wheels for optimum coverage.

ROW WIDTH: The above rate calculations are based on standard 30 in. row spacing. For row spacing less than 30 inches, adjust rate not to exceed **2.8 fluid oz/A (0.022 lb Al/Acre). Diminished control may occur when rate is decreased below specified rate per 1000 row-ft.

COTTON			
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre	
Cotton leafperforator			
Cotton leafworm	0.8 - 1.6	0.007 - 0.013	
Cutworms			
Thrips			
Boll weevil			
Cabbage looper	1.6 - 2.6	0.013 - 0.021	
Cotton aphid			
Cotton bollworm*			
Cotton fleahopper			
Cucumber beetle			
European corn borer			
Flea beetles			
Garden webworm			
Lygus bug*			
Pink bollworm			
Saltmarsh caterpillar			
Southern garden leafhopper			
Stink bugs			
Tarnished plant bug*			
Threecornered alfalfa hopper			
Tobacco budworm*			
Ovicidal Control:			
Cotton bollworm and tobacco			
budworm			
Grasshopper	2.0 – 2.8	0.016 - 0.022	
Beet armyworm	3.2	0.025	
(1st and 2nd instar)			
Cotton leafminer			
Fall armyworm			
(1st and 2nd instar)			
Soybean looper			
Yellowstriped armyworm			
(1st and 2nd instar)			
PEST SUPPRESSED			
Whitefly (adult)	3.2	0.025	
Eglior Application Postrictions		· · · · · · · · · · · · · · · · · · ·	

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 5-day interval: 3.2 fluid oz/A (0.025 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 19.2 fluid oz/A (0.15 lb Al/Acre).

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 qt/A – aerial application.

Do not graze treated fields.

Do not make more than a total of 6 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season.
*See INSECT RESISTANCE statement elsewhere on this label.

GRASS		
Pasture / Rangeland / Grass for See	d / Grass for Hay / Grass in i	mixed-stands with Alfalfa
_	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Armyworms		
Army cutworm	1.6 – 1.9	0.013 - 0.015
Cereal leaf beetle		
Cutworms		
Green cloverworm		
Meadow spittlebug		
Potato leafhopper		
Aster leafhopper		
Beet armyworm	2.6 - 2.8	0.02 - 0.022
(1st and 2nd instar)		
Corn earworm		
Chinch bug		
Crickets		
Fall armyworm		
(1st and 2nd instar)		
Grass thrips		
Grasshoppers		
Japanese beetle (adult)		
June beetle (adult)		
Loopers		
Lygus bug		
Southern armyworm		
(1st and 2nd instar)		
Stink bugs		
Tarnished plant bug		
Velvetbean caterpillar		
Webworms		
Western Yellowstriped armyworm		
(1st and 2 nd instar)		
Yellowstriped armyworm		
(1st and 2nd instar)		

Foliar Application Restrictions: Grass for Pasture, Rangeland and Grass for Seed

Pre-Grazing Interval: **0 day** (minimum time between last application and beginning of foraging or seed harvest). Maximum HM-1508 INSECTICIDE allowed per 5-day interval: **2.8 fluid oz/A (0.022 lb Al/Acre).**

Maximum HM-1508 INSECTICIDE allowed per crop season: 11.3 fluid oz/A (0.089 lb Al/Acre).

Foliar Application Restrictions: Grass for Hay

Pre-Harvest Interval (PHI): **0 day** (minimum time between last application and baling for harvest).

Maximum HM-1508 INSECTICIDE allowed per 5-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per cutting: 11.3 fluid oz/A (0.089 lb Al/Acre).

Foliar Application Restrictions: Grass in mixed-stands with Alfalfa

See additional PESTS CONTROLLED from ALFALFA section of Label.

Pre-Harvest Interval (PHI) / Pre-Grazing Interval: 7 days (minimum time between last application and beginning of foraging or

Maximum HM-1508 INSECTICIDE allowed per cutting: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 11.3 fluid oz/A (0.089 lb Ál/Acre).

PEANUT			
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre	
Cutworms Green cloverworm Potato leafhopper Rednecked peanutworm Velvetbean caterpillar	1.0 – 1.8	0.008 – 0.014	
Armyworm (1st and 2nd instar) Bean leaf beetle Corn earworm Corn rootworms (adult) Grape colaspis (adult) Grasshoppers Japanese beetle (adult) June beetle (adult) Stink bugs Threecornered alfalfa hopper Vegetable weevil	1.8 – 2.4	0.014 – 0.019	
Beet armyworm (1st and 2nd instar) Fall armyworm (1st and 2nd instar) Southern armyworm (1st and 2nd instar) Whitefringed beetle (adult) PESTS SUPPRESSED	2.4 – 2.8	0.019 – 0.022	
Soybean looper Thrips Whitefly (adult)	2.8	0.022	

Foliar Application Restrictions
Pre-Harvest Interval (PHI): 14 days (minimum time between final application and threshing for seed).
Maximum HM-1508 INSECTICIDE allowed per 10-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).
Maximum HM-1508 INSECTICIDE allowed per crop season: 8.4 fluid oz/A (0.066 lb Al/Acre).

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 qt/A – aerial application.

SORGHUM		
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre
Cutworms	1.0 – 1.3	0.008 - 0.01
Sorghum midge		
Armyworm		
(1st and 2nd instar)	1.3 - 2.8	0.010 - 0.022
Beet armyworm		
(1st and 2nd instar)		
Black wooly bear		
European corn borer*		
Fall armyworm		
(1st and 2nd instar)		
False chinch bug		
Flea beetle		
Sorghum headworm (corn earworm)		
Sorghum webworm		
Southern armyworm		
(1st and 2nd instar)		
Southwestern corn borer*		
Stalk borer*		
Stink bugs		
True armyworm		
(1st and 2nd instar)		
Webworms		
Yellowstriped armyworm		
(1st and 2nd instar)		
Chinch bug		
Grasshoppers	2.0 - 2.8	0.019 - 0.022
Sugarcane rootstock weevil		

Pre-Harvest Interval (PHI): 14 days.

If more than 5.6 fluid oz/Acre is applied, allow at least 14 days between last application and grazing. Maximum HM-1508 INSECTICIDE allowed per 10-day interval: **2.8 fluid oz/A (0.022 lb Al/Acre)**.

Maximum HM-1508 INSECTICIDE allowed per crop season: 8.4 fluid oz/A (0.066 lb Al/Acre).

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 qt/A – aerial application.

* Application must be made prior to the larva boring into the plant.

SOYBEAN		
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre
Bean leaf beetle	0.8 – 1.6	0.007 - 0.013
(growth stage VC-V2)		
Cutworms		
Potato leafhopper		
Thrips		
Green cloverworm		
Armyworm	1.6 – 2.8	0.013 - 0.022
(1st and 2nd instar)		
Bean leaf beetle		
Bean leaf webber		
Beet armyworm		
(1st and 2nd instar)		
Blister beetle		
Cabbage looper		
Click beetle (adult)		
Corn earworm		
Corn rootworms (adult)		
Cucumber beetle		
European corn borer		
Fall armyworm		
(1st and 2nd instar)		
Grape colaspis (adult)		
Japanese beetle (adult)		
June beetle (adult)		
Lygus bug		
Masked chafer (adult)		
Mexican bean beetle		
Saltmarsh caterpillar		
Silverspotted skipper		
Southern armyworm		
(1st and 2nd instar)		
Stink bugs		
Tarnished plant bug*		
Threecornered alfalfa hopper		
Tobacco budworm*		
Velvetbean caterpillar		
Webworm		
Woolybear caterpillar		
Yellowstriped armyworm		
(1st and 2nd instar)		
Grasshoppers	2.0 - 2.8	0.016 - 0.022
Soybean aphid		
PESTS SUPPRESSED		
Lesser cornstalk borer	2.8	0.022
Soybean looper*		

Pre-Harvest Interval (PHI) for seed: **21 days**; dry vines (hay) and green forage may be fed 15 days after last application.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: **2.8 fluid oz/A (0.022 lb Al/Acre)**. Maximum HM-1508 INSECTICIDE allowed per crop season: **11.2 fluid oz/A (0.088 lb Al/Acre)**.

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 qt/A – aerial application.

SUGARCANE		
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Sugarcane borer*	2.1	0.017
Rice stalk borer*	2.8	0.022

Pre-Harvest Interval (PHI): 15 days.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 16.8 fluid oz/A (0.132 lb Al/Acre).

For ground application, apply in a minimum of 10 GPA.

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 qt/A – aerial application.

Do not apply if soil is saturated with water.

Do not apply under conditions that favor runoff.

Do not apply in the rain.

^{*} Application must be made prior to the larva boring into the plant.

SUNFLOWER		
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre
Cutworms Sunflower beetle	0.8 – 1.6	0.007 - 0.013
Sunflower stem weevil (adult)	1.6 – 2.4	0.013 - 0.019
Banded sunflower moth Grasshoppers Stink bugs Sunflower bud moth Sunflower headclipping weevil Sunflower midge Sunflower moth Sunflower seed weevil	2.0 – 2.8	0.016 - 0.022
Palestripped flea beetle	2.8	0.022

Foliar Application Restrictions

Pre-Harvest Interval (PHI) and Pre-grazing or Foraging Interval: **30 days**.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 8.4 fluid oz/A (0.066 lb Al/Acre).

DO NOT apply by ULV application.

Use not permitted in California.

TOBACCO		
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ibs Al/Acre
Cutworms	0.28	0.0022

Foliar Application Restrictions

Apply up to 7 days following transplanting as an individual plant treatment.

Maximum HM-1508 INSECTICIDE allowed per crop season: 0.28 fluid oz/A (0.0022 lb Al/Acre).

Maximum number of applications: 1.

Minimum application volume (water): 15 GPA - ground

Use not permitted in CA.

CEREAL GRAIN (EXCEPT RICE)

Includes all members of Crop Group 15 (except rice): Wheat, Corn, Millet (pearl and proso), Barley, Buckwheat, Oats, Popcorn, Rye, Sorghum, Teosinte, and Triticale

FORAGE, FODDER AND STRAW OF CEREAL GRAIN

Includes all members of Crop Group 16, Forage, Fodder, and Straw of all commodities included in group cereal grains (except rice).

See use instructions for each crop.

BARLEY, BUCKWHEAT, MILLET (PEARL and PROSO), OAT, RYE, TRITICALE and WHEAT		
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	lb Al/Acre
Army cutworm	1.0 – 1.8	0.008 - 0.014
Cereal leaf beetle		
Cutworms		
Armyworm	1.8 – 2.4	0.014 - 0.019
(1st and 2nd instar)		
Bird cherry-oat aphid*		
English grain aphid*		
Fall armyworm		
(1st and 2nd instar)		
Flea beetles		
Grasshoppers		
Grass sawfly		
Pale western cutworm		
Russian wheat aphid*		
Southern armyworm		
(1st and 2nd instar)		
Stink bugs		
Yellowstriped armyworm		
(1st and 2nd instar)		
Chinch bug	2.4	0.019

Foliar Application Restrictions

Pre-Grazing or Foraging Interval: 3 days. Pre-Harvest Interval (PHI): 30 days.

Maximum HM-1508 INSECTICIDE allowed per 3-day interval: 2.4 fluid oz/A (0.019 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 4.8 fluid oz/A (0.038 lb Al/Acre).

VEGETABLE CROPS

CROP USE DIRECTIONS

For all crops, apply specific dosage of HM-1508 INSECTICIDE at early threshold for target pest, as population begins to develop. Degree of control or suppression of additional labeled pests will be determined, in part by the stage of pest development at application and infestation level of those pests.

Application timing should be based on careful scouting and local economic thresholds. HM-1508 INSECTICIDE may be applied before, during, or after planting. Use the higher rates for moderate to heavy insect pressure. Lower rates are generally adequate for low to moderate insect pressure but require careful scouting and may require more frequent application.

HM-1508 INSECTICIDE is an Emulsifiable Concentrate formulation and is active by contact and ingestion. Thorough coverage is necessary for optimum performance.

^{*} For best control, applications must be made prior to insects damaging the plants. Use the higher rate range and increased water volume for applications occurring after plant damage has taken place or following booting in order to receive better coverage. Once damage occurs or plant growth stage reaches booting, control may be limited to suppression only.

BRASSICA (COLE) LEAFY VEGETABLES

Includes all members of Crop Group 5: Broccoli, Broccoli raab (rapini), Chinese (gai lon) broccoli, Brussels sprouts, Cabbage, Chinese (bok choy) cabbage, Chinese (napa) cabbage, Chinese mustard (gai choy) cabbage, Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, and Turnip greens.

mizaria, mastara greene, masta	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Cutworms	0.8 – 1.6	0.007 - 0.013
Potato leafhopper		
Thrips		
Alfalfa looper	1.6 – 2.4	0.013- 0.019
Cabbage looper		
Cabbage webworm		
Imported cabbageworm		
Southern cabbageworm		
Armyworm	2.4 – 3.2	0.019- 0.025
(1st and 2nd instar)		
Beet armyworm		
(1st and 2nd instar)		
Cabbage flea beetle		
Corn earworm		
Diamondback moth (larvae)*		
Fall armyworm		
(1st and 2nd instar)		
Grasshoppers		
Japanese beetle (adult)		
Lygus bug		
Meadow spittlebug		
Southern armyworm		
(1st and 2nd instar)		
Stink bugs		
Tarnished plant bug*		
Vegetable weevil (adult)		
Yellowstriped armyworm		
(1st and 2nd instar)		
PEST SUPPRESSED		
Whitefly (adult)	3.2	0.025

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 3.2 fluid oz/A (0.025 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 12.8 fluid oz/A (0.1 lb Al/Acre).

For aerial applications, apply in a minimum of 5 GPA.

Due to potential injury to bees, do not apply to crops grown for seed.

CUCURBITS (except crops grown for seed)

Includes all members of Crop Group 9: Balsam apple, Balsam pear, Bitter melon, Chayote, Chinese cucumber, Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes: hyotan, cucuzza, henchmia and Chinese okra), Muskmelon (includes: cantaloupe, true 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, and zucchini) Watermelon, Winter squash (includes: butternut squash, calabaza, hubbard squash, acorn squash and spaghetti squash)

(morados: batternat squash, salabaza, nabbara squash, asom squash and spagneth squash)		
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Cutworms	0.8 – 1.6	0.007 - 0.013
Potato leafhopper		
Armyworm	1.6 – 2.4	0.013 - 0.019
(1st and 2nd instar)		
Cabbage looper		
Corn earworm		
Grasshoppers		
Melonworm		
Pickleworm		
Rindworm		
Stink bugs		
Cucumber beetles	2.4 – 2.8	0.019 0.022
Lygus bug		
Tarnished plant bug *		
Tobacco budworm		
PEST SUPPRESSED		
Whitefly (adult)	2.8	0.022

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: **2.8 fluid oz/A (0.022 lb Al/Acre).** Maximum HM-1508 INSECTICIDE allowed per crop season: **11.2 fluid oz/A (0.088 lb Al/Acre).**

^{*} See INSECT RESISTANCE statement elsewhere on this label.

FRUITING VEGETABLES

Includes all members of Crop Group 8: Eggplant, Groundcherry, Pepino, Pepper (includes: bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, and Tomato

рорроз, оттерроз, осоттор	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Celery leaftier Colorado potato beetle * European corn borer Garden webworm Potato aphid Potato leafhopper Stink bugs Tomato fruitworm (corn earworm) Tomato hornworm	1.6 – 2.8	0.013 - 0.022
Beet armyworm (1st and 2nd instar) Cabbage looper Southern armyworm (1st and 2nd instar) Tarnished plant bug * Thrips (except <i>Thrips palmi</i>) Tomato pinworm Variegated cutworm Western yellowstriped armyworm (1st and 2nd instar)	2.1 – 2.8	0.017 – 0.022
Flea beetles Garden symphylan	2.8	0.022
PESTS SUPPRESSED Leafminers (Adult) Pepper weevil Whitefly (adult)	2.8	0.022

Foliar Application Restrictions

Pre-Harvest Interval (PHI) for tomato: **0 day**. PHI for all other fruiting vegetables included in this section: **7 days**.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 16.8 fluid oz/A (0.132 lb Al/Acre).

For reduction of damage caused by garden symphylan, apply specified dosage to the top of the planting beds prior to transplanting.

Spray should cover the entire top of the beds. Thoroughly incorporate to a depth of approximately 4 to 6 inches. A maximum of 1 pretransplant application is allowed per crop season.

LEAFY VEGETABLES

Includes all members of Crop Group 4: Amaranth (Chinese spinach), Arugula (rouquette), Cardoon, Celery, Chinese celery, Celtuce, Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Endive (escarole), Florence fennel, Lettuce (head and leaf), New Zealand spinach, Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, Swiss chard, Vine spinach

DECTS CONTROLLED	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Cutworms	0.8 - 1.6	0.007 – 0.013
Potato leafhopper		
Thrips		
Alfalfa looper	1.6 – 2.4	0.013 - 0.019
Cabbage looper		
Green cloverworm		
Imported cabbageworm		
Saltmarsh caterpillar		
Beet armyworm	2.4 - 3.2	0.019 - 0.025
(1st and 2nd instar)		
Corn earworm		
Diamondback moth (larvae)*		
European corn borer		
Fall armyworm		
(1st and 2nd instar)		
Flea beetles		
Grasshoppers		
Japanese beetle (adult)		
Leafhoppers		
Lygus bug		
Meadow spittlebug		
Southern armyworm		
(1st and 2nd instar)		
Stink bugs		
Tarnished plant bug*		
Vegetable weevil (adult)		
Yellowstriped armyworm		
(1st and 2nd instar)		
PEST SUPPRESSED		
Whitefly (adult)	3.2	0.025

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 3.2 fluid oz/A (0.025 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 12.8 fluid oz/A (0.1 lb Al/Acre).

For aerial applications, apply in a minimum of 5 GPA.

Due to potential injury to bees, do not apply to crops grown for seed.

DRIED SHELLED LEGUME VEGETABLES

Includes all members of Crop Subgroup 6C: Adzuki bean, Blackeyed pea, Broad bean, Catjang, Chickpea (Garbanzo bean), Cowpea, Crowder pea, Field bean, Field pea, Guar, Kidney bean, Lablab bean, Lentil, Dry Lima bean, Lupin (grain, sweet, white and white sweet), Moth bean, Mung bean, Navy bean, Pigeon pea, Pinto bean, Rice bean, Tepary bean, Urd bean (Southern pea included in separate section.)

	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Cutworms	0.8 – 1.6	0.007 - 0.013
Potato leafhopper		
Cowpea curculio*	1.6 – 2.4	0.013 - 0.019
Stink bugs		
Tarnished plant bug*		
Bean leaf beetle	2.4 – 3.2	0.019 0.025
Bean leaf webber		
Beet armyworm		
(1st and 2nd instar)		
Blister beetle		
Cabbage looper		
Corn earworm		
Cucumber beetle		
European corn borer		
Fall armyworm		
(1st and 2nd instar)		
Grasshoppers		
Green cloverworm		
Japanese beetle (adult)		
Lygus bug		
Mexican bean beetle		
Pea leaf weevil		
Pea weevil		
Saltmarsh caterpillar		
Silverspotted skipper		
Soybean looper*		
Threecornered alfalfa hopper		
Tobacco budworm*		
Velvetbean caterpillar		
Webworm		
Woolybear caterpillar		
Yellowstriped armyworm		
(1st and 2nd instar)		
PEST SUPPRESSED		
Pea aphid	3.2	0.025

Foliar Application Restrictions

Pre-Harvest Interval (PHI): **7 days** (minimum time between final application and threshing for seed). Maximum HM-1508 INSECTICIDE allowed per 14-day interval: **3.2 fluid oz/A (0.025 lb Al/Acre)**. Maximum HM-1508 INSECTICIDE allowed per crop season: **6.4 fluid oz/A (0.05 lb Al/Acre)**. Do not feed treated vines or hay to livestock.

PEA, SOUTHERN		
PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre
Cutworms	0.8 – 1.6	0.007 - 0.013
Potato leafhopper		
Beet armyworm	1.6 – 2.1	0.013 - 0.017
(1st and 2nd instar)		
Corn earworm		
Cowpea curculio*		
Fall armyworm		
(1st and 2nd instar)		
Grasshoppers		
Lygus bug		
Southern armyworm		
(1st and 2nd instar)		
Stink bugs		
Tarnished plant bug*		
Thrips		
Yellowstriped armyworm		
(1st and 2nd instar)		

Pre-Harvest Interval (PHI): 3 day.

Maximum HM-1508 INSECTICIDE allowed per 5-day interval: 2.1 fluid oz/A (0.017 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 10.5 fluid oz/A (0.083 lb Al/Acre).

Due to potential injury to bees, do not apply to southern peas grown for seed.

Do not feed treated vines or hay to livestock.

Do not apply to cowpea or southern pea varieties grown for livestock feed.

*See INSECT RESISTANCE statement elsewhere on this label.

POTATO AND OTHER TUBEROUS AND CORM VEGETABLES

Includes all members of Crop Subgroup 1C: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Edible canna, Cassava (bitter and sweet), Chayote root, Chufa, Dasheen (taro), Ginger, Leren, Potato, Sweet potato, Tanier, True yam, Turmeric, Yam bean

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	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Cutworms	0.8 - 1.6	0.007 - 0.013
Potato leafhopper		
Cabbage looper	1.6 - 2.8	0.013 - 0.022
Colorado potato beetle*		
Cucumber beetles		
European corn borer		
Flea beetles		
Potato psyllid		
Potato tuberworm		
Sweet potato weevil (adults)		
Tarnished plant bug*		
PEST SUPPRESSED		
Aphids	2.8	0.022

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

If more than 5.6 fluid oz/Acre is applied, allow at least 14 days between last application and grazing.

Maximum HM-1508 INSECTICIDE allowed per 5-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 16.8 fluid oz/A (0.132 lb Al/Acre).

CARROT AND RADISH	CARROT AND RADISH	
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	lb Al/Acre
Aster leafhopper	1.6 – 2.8	0.013 - 0.022
Cutworms		
Flea beetles		
Potato leafhopper		
Carrot weevil	2.8	2.8

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: **2.8 fluid oz/A (0.022 lb Al/Acre)**. Maximum HM-1508 INSECTICIDE allowed per crop season: **14.0 fluid oz/A (0.11 lb Al/Acre)**.

Do not harvest radish tops (leaves) for human consumption.

Due to potential injury to bees, do not apply to crops grown for seed.

WEET CORN – FOLIAR APPLICATIONS		
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Black cutworm	0.8 - 1.6	0.007 - 0.013
Flea beetles		
Granulate cutworm		
Sand hill cutworm		
Armyworm	1.6 - 2.8	0.013 - 0.022
(1st and 2nd instar)		
Bean leaf beetle		
Cereal leaf beetle		
Chinch bug		
Click beetle (adult)		
Corn earworm		
Corn rootworms (adult)		
Corn silk fly (adult)		
European corn borer*		
Grape colaspis (adult)		
Japanese beetle (adult)		
June beetle (adult)		
Leafhoppers		
Masked chafer (adult)		
Southern armyworm		
(1st and 2nd instar)		
Southern corn leaf beetle		
Southwestern corn borer*		
Stalk borer*		
Stink bugs		
Webworm		
Western bean cutworm		
Yellowstriped armyworm		
(1st and 2nd instar)	0.0.00	0.040 0.000
Grasshoppers	2.0 - 2.8	0.016 - 0.022
Fall armyworm	2.8	0.022
(1st and 2nd instar)		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 2-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 28.0 fluid oz/A (0.22 lb Al/Acre).

Minimum ULV application volume (once refined cotton seed/vegetable oil): 1.0 gt/A – aerial application.

* Application must be made prior to the larva boring into the plant.

SWEET CORN – Soil Applicatio	ns	
	Rate	Rate
PESTS CONTROLLED	fluid oz/1000 row-ft	fluid oz/Acre
Seedcorn maggot	0.12 - 0.16	2.0 – 2.8
Wireworm		
PEST SUPPRESSED		
White grub	0.14 - 0.16	2.5 – 2.8

Soil Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed at planting: **2.8 fluid oz/A (0.022 lb Al/Acre)**. Maximum HM-1508 INSECTICIDE allowed per crop season: **28.0 fluid oz/A (0.22 lb Al/Acre)**. Use not permitted in California.

Soil Application Notes

APPLICATION INSTRUCTIONS: HM-1508 INSECTICIDE may be applied in water or in liquid, pop-up fertilizer at planting. Apply in a **minimum of 2 GPA** of total mix volume when applied in water. Good agitation must be maintained at all times during application.

INSTRUCTIONS FOR LIQUID POP-UP FERTILIZER APPLICATION: Perform a compatibility test prior to mixing the entire tank to ensure that HM-1508 INSECTICIDE will remain in solution while applying. Take a known amount of the fertilizer to be used as a carrier and place in a glass jar. Add the appropriate amount of HM-1508 INSECTICIDE based on the labeled use rate. Add other components to be tank mixed. Gently agitate the solution. Examine the solution for signs of incompatibility such as flocculation, precipitation, separation, etc. If incompatibility occurs, contact your local Helena Chemical representative for additional information. Fertilizers containing zinc have been shown to be incompatible with HM-1508 INSECTICIDE.

PLACEMENT: Total mix volume should be applied in the open furrow ahead of the closing wheels for optimum coverage.

TREE and VINE CROPS CROP USE DIRECTIONS

For all crops, apply specific dosage of HM-1508 INSECTICIDE at early threshold for target pest, as population begins to develop. Degree of control or suppression of additional labeled pests will be determined, in part by the stage of pest development at application and infestation level of those pests.

Specified application rates within this label are based on full-size mature trees and vines. Application timing should be based on careful scouting and local economic thresholds. Use the higher rates for moderate to heavy insect pressure or when applying by air. Lower rates are generally adequate for smaller trees/vines or low to moderate insect pressure but require careful scouting and may require more frequent application.

HM-1508 INSECTICIDE is an Emulsifiable Concentrate (EC) formulation and is active by contact and ingestion. For tree and vine crops, apply by ground or air equipment using sufficient water to obtain through coverage of target plant parts for optimum performance.

CITRUS (California and Arizona, Only)

Includes all members of Crop Group 10: Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (sweet and sour), Pummelo, Satsuma mandarin, White sapote, and other cultivars and/or hybrids of these.

	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Glassywinged sharpshooter	1.6 – 3.2	0.013 - 0.025
Foliar feeding cutworms	2.4 – 3.2	0.019 - 0.025
Fuller rose beetle (larvae and adults		
on foliage)		
Grasshoppers		
Root-weevil complex (larvae and		
adults on foliage)		
Asian citrus psyllid	2.4 - 6.4	0.019 - 0.05
Citrus thrips	6.4	0.05
Katydid		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 0 day.

Maximum HM-1508 INSECTICIDE allowed per 7-day interval: 6.4 fluid oz/A (0.05 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 6.4 fluid oz/A (0.05 lb Al/Acre).

Minimum application volume (water): 25 GPA – ground, 25 GPA – aerial application.

GRAPE		
Includes: Table grape, Raisin, Win	e and Muscadine grape	
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Glassywinged sharpshooter	1.6 – 3.2	0.013 - 0.025
Grape leaf skeletonizer		
Western grape leaf skeletonizer		
Climbing cutworm	2.4 - 3.2	0.019 - 0.025
Grape berry moth		
Grape bud beetle		
Grape cane gallmaker (adult)		
Grape flea beetle		
Grape leaffolder		
Grape leafhopper		
Grape leafroller		
Grape mealybug (crawlers)		
Omnivorous leafroller		
Orange tortrix		
Spiders (excluding black widow,		
brown recluse, and hobo)		
Thrips		
Variegated leafhopper		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 3 days.

Maximum HM-1508 INSECTICIDE allowed per 14-day interval: 3.2 fluid oz/A (0.025 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 12.8 fluid oz/A (0.1 lb Al/Acre).

Minimum application volume (water): 50 GPA – ground, 10 GPA – aerial application.

НОР		
	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Hop aphid	3.2	0.025
Hop flea beetle		
Hop looper		
Hop plant bug		

Pre-Harvest Interval (PHI): 7 days.

Maximum HM-1508 INSECTICIDE allowed per 14-day interval: 3.2 fluid oz/A (0.025 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 16.0 fluid oz/A (0.125 lb Al/Acre).

Minimum application volume (water): 25 GPA – ground, 10 GPA – aerial application.

POME FRUIT Includes all members of Crop Group 11: Apple, Crabapple, Loquat, Mayhaw, Pear, Oriental pear, Quince

	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	lb Al/Acre
Green fruitworm	1.4 – 2.0	0.011 - 0.016
Potato leafhopper		
White apple leafhopper		
Codling moth	2.0 – 2.4	0.016 - 0.019
Oriental fruit moth		
Spotted tentiform leafminer		
Stink bugs		
Tarnished plant bug		
Western tentiform leafminer		
Apple leafroller	2.4 - 2.8	0.019 - 0.022
Apple maggot (adult)		
Ermine moth		
European apple sawfly		
Lesser appleworm		
Obliquebanded leafroller		
Pandemis leafroller		
Pear sawfly (larvae = pear slug)		
Periodical cicada		
Plum curculio		
Redbanded leafroller		
San Jose scale (crawlers)		
Tufted apple bud moth		
Variegated leafroller		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 7 days.

Maximum HM-1508 INSECTICIDE allowed per 14-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 2.8 fluid oz/A (0.022 lb Al/Acre).

Minimum application volume (water): 100 GPA – ground application, 10 GPA – aerial application.

STONE FRUIT

Includes all members of Crop Group 12: Apricot, Cherry (sweet and tart), Nectarine, Peach, Plum (includes Chickasaw, Damson, and Japanese), Plumcot, Prune (fresh and dried)

	Rate	Rate
PESTS CONTROLLED	fluid oz/Acre	Ib Al/Acre
Green fruitworm	1.4 – 2.0	0.011 - 0.016
Lesser peach tree borer		
White apple leafhopper		
Codling Moth	2.0 – 2.4	0.016 - 0.019
Lygus bug		
Oriental fruit moth		
Stink bugs		
Tarnished plant bug		
American plum borer	2.4 - 2.8	0.019 - 0.022
Black cherry aphid		
Cherry fruit fly		
Obliquebanded leafroller		
Omnivorous leafroller		
Peach twig borer		
Periodical cicada		
Plum curculio		
Redbanded leafroller		
Western cherry fruit fly		
Foliar Application Destrictions		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 7 days.

Maximum HM-1508 INSECTICIDE allowed per 14-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 5.6 fluid oz/A (0.044 lb Al/Acre).

Minimum application volume (water): 50 GPA – ground application, 10 GPA – aerial application.

TREE NUT CROPS

Includes all members of Crop Group 14: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut (black and English)

PESTS CONTROLLED	Rate fluid oz/Acre	Rate Ib Al/Acre
Potato leafhopper	1.4 – 2.0	0.011 - 0.016
White apple leafhopper		
Ants (on foliage)	2.0 – 2.4	0.016 - 0.019
Codling moth		
Common earwig		
Filbertworm		
Leaffooted bug		
Navel orangeworm		
Pecan nut casebearer		
Pecan weevil		
Stink bugs		
Tarnished plant bug		
Twolined spittlebug		
Hickory shuckworm	2.4 – 2.8	0.019 - 0.022
Obliquebanded leafroller		
Peach twig borer		
Walnut husk fly		

Foliar Application Restrictions

Pre-Harvest Interval (PHI): 14 days.

Maximum HM-1508 INSECTICIDE allowed per 14-day interval: 2.8 fluid oz/A (0.022 lb Al/Acre).

Maximum HM-1508 INSECTICIDE allowed per crop season: 2.8 fluid oz/A (0.022 lb Al/Acre).

Minimum application volume (water): 100 GPA – ground application, 10 GPA – aerial application.

ATE CONVERSION CHART		
FLUID OZ PER ACRE	LB AI PER ACRE	ACRES PER GALLON
0.8	0.0065	160
1.0	0.008	128
1.2	0.0095	107
1.4	0.011	91
1.6	0.0125	80
1.8	0.014	71
2.0	0.0155	64
2.2	0.017	56
2.4	0.019	53
2.6	0.0205	49
2.8	0.022	46
3.0	0.0235	43
3.2	0.025	40
6.4	0.05	20

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place and away from open flame and extreme heat. Store in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Handle and open container in a manner as to prevent spillage. If container is leaking, invert container to prevent leakage. If the container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material.

Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away.

PESTICIDE DISPOSAL:

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, 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.

CONTAINER DISPOSAL - RETURNABLE/REFILLABLE SEALED CONTAINER: Do not rinse container. Do not break seals. Replace the dust cover/cap and return container, intact to point of purchase.

CONDITIONS OF SALE - LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

Read the Conditions of Sale - Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, the Company makes no other warranties or representations of any kind; express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

- 1. Refund of the purchase price paid by buyer or user for product bought, or
- 2. Replacement of the product used

To the extent consistent with applicable law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.