



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

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

May 30, 2012

Mr. Matthew Granahan,
Regulatory Manager
Nufarm Americas, Inc.
150 Harvester Drive,
Suite 200
Burr Ridge, IL 60527

Subject: Notification "to change 'Fluid Ounces/100 Gallons' to '*Fluid Ounces/Acre*' –
on Pg 32 of Label".

Nufarm Lambda-Cyhalothrin 1EC Insecticide (EPA Reg. No. 228-708)
Date of Application: March 12, 2012

Dear Mr. Granahan:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration (PR) Notice 98-10 for the subject product. The Registration Division (RD), after conducting a review of your request for its applicability, finds that the action requested falls within the scope of the aforementioned notice.


Please note that we have approved the amended labeling for this product with the understanding that it is consistent with the Agency's previously stamped accepted label(s); and other than the above stated, no other changes have been made to the labeling and/or the Confidential Statement of Formula (CSF).

The label submitted with the application have been stamped "Notification" and will be placed in our records. If you have any questions regarding this letter, please contact me or Dr. B. A. Akinlosotu at (703) 605-0653.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Suarez".

Mark Suarez,
Product Manager 13
Insecticide Branch
Registration Division (7505P)

 United States Environmental Protection Agency Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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Application for Pesticide - Section I

1. Company/Product Number 228-708	2. EPA Product Manager Mark Suarez	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Nufarm Lambda-Cyhalothrin 1 EC Insecticide	PM# 13	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section - II

<input type="checkbox"/> Amendment - Explain below. <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - Explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Label notification consistent and 98-10, see cover letter for detailed explanation. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container 16, 32 fl. oz. 1,02.5, 30, 220, 250 Gallons		5. Location of Label Directions <input checked="" type="checkbox"/> _____	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Other _____ <input type="checkbox"/> Stenciled					

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

Name Matthew Granahan matthew.granahan@us.nufarm.com	Title Regulatory Manager	Telephone No. (Include Area Code) 630.455.2048
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Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Matthew Granahan	5. Date 03/12/2012	



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Nufarm Americas Inc.
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527
Telephone: (630) 455.2000 Facsimile: (630) 455.2001
www.us.nufarm.com

March 12, 2012

Via Overnight Courier

Mark Suarez (PM-13)
U. S. Environmental Protection Agency (7504P)
Document Processing Desk (NOTIF)
Room S4900, One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202

Subject: Nufarm Lambda-Cyhalothrin 1 EC Insecticide
EPA Reg. No. 228-708
Non-Notification Submission per PRN 98-10 (Typographical Error)

Dear Mr. Suarez:

Nufarm Americas Inc. would like ^{to} address a typographical error on Page 32 of 36 on the above referenced label. On the **TURFGRASS** table, "Fluid Ounces / 100 Gallons" is incorrect, this has been corrected to "Fluid Ounces / Acre" on the attached submission. ✓
With this change this table matches up with the UPI-2005 EXP-06 RUP Insecticide (70506-121) EPA Accepted label. This change in text is being undertaken to correct a typographical error per PRN 98-10 (IV. Non-Notifications, A. Typographical and Printing Errors). Due to the nature of this Typographical error, Nufarm wishes to communicate this change to the EPA.

To process this request please find enclosed the following:

- Application for Pesticide Registration EPA form 8570-1
- Certification with Respect to Label Integrity
- Revised labeling – clean (1 copy)
- Revised labeling – highlighted (1 copy)
- CD containing the proposed labeling

If you should have any questions regarding this matter, please feel free to contact me at (630) 455-2048 or matthew.granahan@us.nufarm.com.

Sincerely,

Matthew Granahan
Regulatory Manager
Nufarm Americas, Inc.

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RESTRICTED USE PESTICIDE
DUE TO TOXICITY TO FISH AND AQUATIC ORGANISMS
FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS, OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

NOTIFICATION

MAY 30 2012

GROUP 3 INSECTICIDE

Nufarm Lambda-Cyhalothrin 1 EC INSECTICIDE

FOR AGRICULTURAL, TURF, AND ORNAMENTAL USE TO CONTROL LISTED PESTS.

ACTIVE INGREDIENT:

Lambda-cyhalothrin¹

[1α(S*),3 α (Z)]-(±)-cyano-(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate.....

13.0%
87.0%
100.0%

OTHER INGREDIENTS²:

TOTAL:.....

¹Contains 1 pound of Lambda-Cyhalothrin per gallon
²Contains petroleum distillates

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

PRECAUCION AL USUARIO: Si usted no puede leer o entender ingles, no use este product hasta que la etiqueta le haya sido explicada ampliamente.
(TO THE USER: If you cannot read or understand English, do not use this product until the label has been fully explained to you.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 228-708
EPA EST. NO. _____

MANUFACTURED FOR
NUFARM AMERICAS INC.
150 HARVESTER DRIVE
BURR RIDGE, IL 60527
800-455-2000



NET CONTENTS _____ GALS. (_____ Liters)

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING / AVISO

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

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

Personal Protective Equipment (PPE)

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks
- Chemical-resistant footwear, and
- Chemical-resistant gloves.

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

When mixing and loading wear a chemical-resistant apron. For overhead exposure wear chemical-resistant headgear. When cleaning equipment wear a chemical resistant apron.

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 thoroughly with soap and water after handling and 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.

FIRST AID

IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • DO NOT give any liquid to the person • DO NOT induce vomiting unless told to do so by the poison control center or doctor. • DO NOT give anything by mouth to an unconscious person.
IF IN EYES	<ul style="list-style-type: none"> • 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 ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED	<ul style="list-style-type: none"> • Move the 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

Contains petroleum distillate – vomiting may cause aspiration pneumonia.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates.

For terrestrial uses: **DO NOT** apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. **DO NOT** apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when disposing of equipment washwater.

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

Physical and Chemical Hazards

COMBUSTIBLE. **DO NOT** use or store near heat or open flame.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

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.

Shake well before using.

DO NOT apply when wind speed favors drift beyond the area intended for treatment.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls over short sleeve shirt and short pants
- Chemical-resistant gloves, Category F (such as nitrile rubber, butyl rubber, barrier laminate, or Vitor® 14 mils).
- Chemical-resistant footwear plus socks and headgear

NON-AGRICULTURAL USE REQUIREMENTS

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

Keep adults, children, and pets off treated areas until spray has dried.

GENERAL USE REQUIREMENTS AND PRECAUTIONS

Thorough crop coverage is necessary for control of listed pests. Apply with ground or air application equipment in sufficient water to insure full coverage of foliage. For Row Crops: apply in a minimum of 2 gallons per acre by air or 10 gallons per acre by ground unless otherwise specified on this label. For Orchard and Vine Crops: apply by ground in a minimum of 50 gallons per acre or by air in a minimum of 10 gallons per acre unless otherwise specified on this label. When foliage is dense or pest pressure is high (heavier insect or egg pressure, larger larval stages), the use of higher application volumes and/or higher use rates may improve initial and residual control.

RESISTANCE MANAGEMENT

This product contains a Group 3 Insecticide (lambda-cyhalothrin). Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

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

SPRAY DRIFT PRECAUTIONS

BUFFER ZONES

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 this product 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. 21 pp.

www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf

In the State of New York, a 25 ft. vegetated, non-cropped buffer strip untraversed by drainage tiles must be maintained between a treated field and a coastal salt marsh or stream that drains into a coastal salt marsh, for both aerial or ground application. For aerial applications, the 25 ft. vegetated non-cropped buffer strip for runoff protection would be part of the larger 150 ft. buffer strip (or 450 ft. buffer strip for ULV application) required for spray drift.

Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)

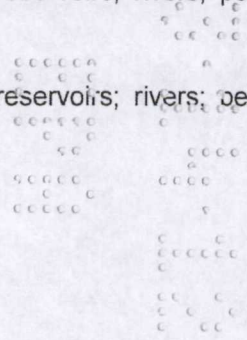
DO NOT apply within 25 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes; natural ponds; estuaries; and commercial fish ponds).

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 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 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 downward. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

CHEMIGATION

Sprinkler Irrigation Application

Apply this product at rates and timing described in the **Crop Specific Use Directions** provided on this label. As local recommendations differ, consult your local State Extension Service or other local experts for recommendations on adjuvant or diluent types, rates and mixing instructions.

Check the irrigation system to insure uniform application of water to all areas. Thorough coverage of foliage is required for good control. Good agitation in the pesticide supply tank should be maintained prior to and during the entire application period.

Apply by injecting the recommended rate of this product into the irrigation system using a metering device that will introduce a constant flow and by distributing the product to the target area in 0.1-0.2 acre inch of water. In general, use the least amount of water required for proper distribution and coverage. It is recommended that the product be injected into the main irrigation line ahead of a right angle turn in the line to insure adequate dispersion or mixing in the irrigation water. Once the application is completed, flush the entire irrigation and injection system with clean water before stopping the system.

In addition to the above recommendations, if application is being made during a normal irrigation set of a stationary sprinkler, the recommended rate of this product for the area covered should be injected into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.

It is not recommended that this product be applied through an irrigation system connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Use Precautions - Sprinkler Irrigation Application

- A. Apply this product only through (sprinkler including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move) irrigation system(s). **DO NOT** apply this product through any other type of irrigation system.
- B. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- C. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- D. **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- E. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- F. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
- G. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- H. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- I. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- J. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- K. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- L. Any alternatives to the above required safety devices must conform to the list of EPA-approved alternative devices.
- M. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.
- N. **DO NOT** apply through chemigation systems connected to public water systems.

SPECIFIC USE RESTRICTIONS & LIMITATIONS

AGRICULTURAL USES

ALFALFA & ALFALFA GROWN FOR SEED		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Alfalfa Caterpillar Army Cutworm Cutworm species Green Cloverworm Leafhopper species Looper species Threecornered Alfalfa Hopper Velvetbean Caterpillar Webworm species	0.015 – 0.025	1.92 – 3.20
Alfalfa Seed Chalcid (Adult) Alfalfa Weevil Armyworm Bean Leaf Beetle (Adult) Blister Beetle species Blue Alfalfa Aphid Clover Leaf Weevil species Clover Root Borer (Adult) Clover Root Curculio species (Adult) Clover Stem Borer (Adult) Corn Earworm Cowpea Aphid Cowpea Curculio (Adult) Cowpea Weevil (Adult) Cucumber Beetle species (Adult) Egyptian Alfalfa Weevil Fall Armyworm ¹ Grape Colaspis (Adult) Grasshopper species Green June Beetle (Adult) Green Peach Aphid ³ Japanese Beetle (Adult) Meadow Spittlebug Mexican Bean Beetle Pea Aphid Pea Weevil (Adult) Plant Bug species including Lygus species ³	0.02 – 0.03	2.56 – 3.84

Spotted Alfalfa Aphid Stink Bug species Sweet Clover Weevil (Adult) Thrips species ⁴ Western Yellowstriped Armyworm Whitefringed Beetle species (Adult) Yellowstriped Armyworm		
Beet Armyworm ^{1,3} Blotch Leafminer ³ Spider Mites ²	0.03	3.84

Application Methods

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

Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gals. Per acre by air or 10 gals. Per acre by ground. When foliage is dense and/or pest populations are high 5–10 gals. Per acre by air or 20 gals. Per acre by ground and higher use rates are recommended. Use higher rates for increased residual control.

Remarks

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**.

⁴Does not include Western Flower Thrips.

Restrictions

DO NOT apply when bees are actively foraging by applying during the early morning or during the evening hours. Be aware of bee hazard resulting from a cool evening and/or morning dew. It may be advisable to remove bee shelters during and for 2–3 days following application. Avoid direct application to bee shelters.

DO NOT apply more than 0.03 lb. a.i. (3.84 fl. oz. or 0.24 pts. of product) per acre per cutting.

DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pts. of product) per acre per season.

DO NOT apply within 1 day of harvest for forage or within 7 days of harvest for hay.

CANOLA

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Armyworm species Cabbage Seedpod Weevil Cutworm species Diamondback Moth Flea Beetle Grasshoppers Looper species Lygus Bug	0.015 – 0.03	1.92 – 3.84
Cabbage Aphid	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.

Restrictions

DO NOT apply within 7 days of harvest.

DO NOT apply more than 0.09 lb. a.i. (11.52 fl. oz. or 0.72 pt. of product) per acre per year.

CEREAL GRAINS: Field Corn, Sweet Corn, Popcorn, Seed Corn

AT PLANTING APPLICATION

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Corn Rootworm Larvae: Mexican Northern Southern Western Cutworm species Lesser Cornstalk Borer Red Imported Fire Ant ¹ Seedcorn Beetle Seedcorn Maggot White Grub species Wireworm species	0.005 lbs. a.i. per 1000 ft. of row ²	0.66 fl. oz. per 1000 ft. of row ²

Application Methods

Apply the specified dosage in a minimum of 3 gallons finished spray per acre using one of the following methods:

- In-Furrow Spray** – Apply into the seed furrow through spray nozzles or microtubes, behind the planter furrow openers and in front of the press wheel; OR
- Banded Spray** – Apply at planting as a 5-7 inch T-band spray across the open seed furrow between the furrow openers and the press wheels or as a band application behind the press wheel.

Remarks

¹ For Suppression Only
² Lbs. a.i. and fl. oz. / Acre of this product applied at 0.66 fl. oz./1000 ft. of Row for Various Row Spacings

Row Spacing	40"	38"	36"	34"	32"	30"
Linear Ft./ Acre	13,068	13,756	14,520	15,374	16,335	17,424
Lbs. a.i. / Acre	0.067	0.07	0.075	0.079	0.084	0.09
Fl. oz. / Acre	8.6	9.1	9.6	10.1	10.8	11.5

For cutworm control, this product may be applied before, during or after planting. For soil incorporated applications, use higher rates for improved control.

Restrictions

DO NOT harvest or graze livestock or cut treated crops for feed within 21 days of at plant application.
DO NOT apply more than 0.09 lb. a.i. (11.52 fl. oz. or 0.72 pt. of product) per acre per crop at plant.
 For field corn, popcorn, and seed corn **DO NOT** apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per crop from at plant and foliar applications.
 For sweet corn **DO NOT** apply more than 0.48 lb. a.i. (61.44 fl. oz. or 3.84 pt. of product) per acre per crop from at plant and foliar applications.

CEREAL GRAINS: Field Corn, Popcorn, Seed Corn

FOLIAR APPLICATIONS

Pests	Lbs a.i. / Acre	Fluid ounces/Acre
For control of: Corn Earworm ¹ Cutworm species Green Cloverworm Meadow Spittlebug Western Bean Cutworm ¹	0.015 – 0.025	1.92 – 3.20

Armyworm ² Bean Leaf Beetle Bird Cherry-Oat Aphid ³ Cereal Leaf Beetle Corn Leaf Aphid ³ Corn Rootworm Beetle (Adult): Mexican Northern Southern Western English Grain Aphid ³ European Corn Borer ¹ Fall Armyworm ² Flea Beetle species Grasshopper species Hop Vine Borer ¹ Japanese Beetle (Adult) Lesser Cornstalk Borer Sap Beetle (Adult) Seedcorn Beetle Southwestern Corn Borer ¹ Stalk Borer ¹ Stink Bug species Tobacco Budworm ^{1,4} Webworm species Yellowstriped Armyworm ²	0.02 – 0.03	2.56 – 3.84
Beet Armyworm ⁴ Chinch Bug Greenbug ^{3,4} Mexican Rice Borer ¹ Rice Stalk Borer ¹ Southern Corn Leaf Beetle ³ Sugarcane Borer ¹	0.03	3.84

Application Methods

Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods and should be targeted for control before insects enter the stalk or ear.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage and ears (if present). When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹ For control before the larva bores into the plant stalk or ear.

² Use higher rates for large larvae.

³ Suppression only.

⁴ See **Resistance** statement under **General Use Requirements and Precautions**.

For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small corn. Direct spray to the base of corn plants. Repeat applications at 3-5-day intervals if needed. This product may only suppress heavy infestations and/or subsequent migrations.

For control of adult corn rootworm beetles (*Diabrotica* species) as part of an aerial applied corn rootworm control program use a minimum of 0.03 lb. a.i. (3.84 fl. oz. of product) per acre.

Restrictions

DO NOT apply within 21 days of harvest.

DO NOT allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after last treatment.

DO NOT feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment.

DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pts. of product) per acre per crop from at plant and foliar applications.

DO NOT apply more than 0.06 lb. a.i. (7.68 fl. oz. or 0.48 pts. of product) per acre after silk initiation.
DO NOT apply more than 0.03 lb. a.i. (3.84 fl. oz. or 0.24 pts. of product) per acre after corn has reached the milk stage (yellow kernels with milky fluid).

CEREAL GRAINS: Sweet Corn

FOLIAR APPLICATIONS		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Aphid species ^{2,3} Armyworm ¹ Aster Leafhopper Beet Armyworm ^{1,3} Chinch Bug Common Cornstalk Borer Corn Earworm Corn Rootworm Beetle (Adult): Mexican Northern Southern Western Cutworm species European Corn Borer Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Sap Beetle (Adult) Southern Armyworm ¹ Southwestern Corn Borer Spider Mite species ² Stink Bug species Tarnished Plant Bug Webworm species Western Bean Cutworm Yellowstriped Armyworm ¹	0.02 – 0.03	2.56 – 3.84
Corn Silkfly (Adult) ²	0.03	3.84

Application Methods

Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 4 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods and should be targeted for control before insects enter the stalk or ear.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage and ears (if present). When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹Use higher rates for large larvae.
²Suppression only.
³See **Resistance** statement under **General Use Requirements and Precautions**.

For control of adult corn rootworm beetles (*Diabrotica* species) as part of an aerial applied corn rootworm control program use a minimum of 0.025 lb. a.i. (3.20 fl. oz. of product) per acre.

Restrictions

DO NOT apply within 1 day of harvest.

DO NOT allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after last treatment.

DO NOT feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment.

DO NOT apply more than 0.48 lb. a.i. (61.44 fl. oz. or 3.84 pts. of product) per acre per crop from at plant and foliar applications.

CEREAL GRAINS: Rice & Wild Rice		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Bird Cherry-Oat Aphid Chinch Bug Fall Armyworm Grasshopper species Greenbug Leafhopper species Rice Stink Bug Rice Water Weevil (Adult) Sharpshooter species True Armyworm Yellow Sugarcane Aphid Yellowstriped Armyworm	0.025 – 0.04	3.20 – 5.12
European Corn Borer ¹ Mexican Rice Borer ¹ Rice Seed Midge ¹ Rice Stalk Borer ¹ Sugarcane Borer ¹	0.03 – 0.04	3.84 – 5.12
Application Methods		
Apply as required by scouting. Timing and frequency of application should be based upon insect populations reaching locally determined economic thresholds. Determine the need for repeat applications, usually at intervals of 5-7 days, by scouting. Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water (or a total carrier volume) per acre but ensure sufficient volume is used to provide adequate coverage. In addition, adding an emulsifiable crop oil (e.g., 1 pt. per acre) when lower aerial application volumes are used is recommended to help improve coverage, reduce evaporation, and improve efficacy.		
Remarks		
¹ For control before the larvae bores into the plant stalk.		
For control of rice water weevil in dry seeded rice: make a foliar application as indicated by scouting for the presence of adults and/or feeding scars, usually within a time-frame of 0-5 days after permanent flood establishment. DO NOT exceed 10 days from starting permanent flood until insecticide application unless scouting indicates weevils have not been previously present. Adults may also be treated at later stages of rice development to reduce overwintering populations.		
For control of rice water weevil in water seeded rice: make the first foliar application after pinpoint flood as indicated by scouting for the presence of adults and/or feeding scars usually when rice has emerged 0.5 inch above the waterline. Under conditions of prolonged migration into the field, start field scouting for rice water weevil adults and/or feeding scars 3-5 days after the initial treatment and, if needed, apply a second application within 7-10 days of the first application. Adults may also be treated at later stages of rice development to reduce overwintering populations.		
California: In addition to above directions for control of rice water weevil in water seeded rice, this product may be applied at the 1-3 leaf growth stage, with the majority at the 2 leaf growth stage. Adults are vulnerable on levees and in the water. Larvae are vulnerable while feeding on the leaf prior to entering the soil. Monitor for adults, based upon field history and density of population. Monitor field edges and levee areas for adults. Treat in the following manner: a) spray the inside perimeter of the field, or b) spray the entire field.		
Greenbug is known to have many biotypes. This product may only provide suppression. If satisfactory control is not achieved with the first application of this product, a resistant biotype may be present. Use alternate chemistry for control.		
For control of stem borers: scout fields, when rice growth is near panicle differentiation, for early symptoms of damaging populations exhibited as discoloration (orange-tan) around the junction of the leaf sheath and leaf blade which is caused by feeding of young larvae within the sheath. Applications must be made before larvae bore into rice stems. Make the first application at panicle differentiation to 2 inch panicle for partial control. Make the second application at boot to heading for maximum control. All rice varieties are susceptible to stem borer damage, but Cocodrie and Priscilla are particularly susceptible.		
Restrictions		
DO NOT release flood water within 7 days of an application. DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per season.		

DO NOT apply more than 0.04 lb. a.i. (5.12 fl. oz. or 0.32 pt. of product) per acre within 21 to 27 days of harvest.
DO NOT apply within 21 days of harvest.
DO NOT use treated rice fields for the aquaculture of edible fish and Crustacea.
DO NOT apply as an ultra-low volume (ULV) spray.
 Mixers/loaders supporting aerial applications to wild rice at a rate of 0.04 lb ai per acre, and treating 1200 acres (or more) per day must wear a dust-mist respirator.

CEREAL GRAINS: Sorghum (Grain)

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Sorghum Midge	0.015 – 0.02	1.92 – 2.56
Armyworm Beet Armyworm ³ Corn Earworm European Corn Borer ² Fall Armyworm ¹ Flea Beetle species Grasshopper species Lesser Cornstalk Borer ² Southwestern Corn Borer ² Stink Bug species Webworm species Yellowstriped Armyworm ¹	0.02 – 0.03	2.56 – 3.84
Chinch Bug Mexican Rice Borer ² Rice Stalk Borer ² Sugarcane Borer ²	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
 Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹Use higher rates for large larvae.
²For control before the larva bores into the plant stalk.
³See **Resistance** statement under **General Use Requirements and Precautions**.

For sorghum midge control: begin applications when 25% of the sorghum heads have emerged and are in tip bloom. Repeat applications at 5-day intervals if needed.

For chinch bug control: begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of sorghum plants. Repeat applications at 3-5-day intervals if needed. This product may only suppress heavy infestations and/or subsequent migrations.

Restrictions

DO NOT apply more than 0.08 lb. a.i. (10.24 fl. oz. or 0.64 pt. of product) per acre per season.
DO NOT apply more than 0.06 lb. a.i. (7.68 fl. oz. or 0.48 pt. of product) per acre per season after crop emergence.
DO NOT apply more than 0.02 lb. a.i. (2.56 fl. oz. or 0.16 pt. of product) per acre per season once crop is in soft dough stage.
DO NOT apply within 30 days of harvest.

CEREAL GRAINS: Barley, Buckwheat, Oats, Rye, Triticale, Wheat, Wheat Hay

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Army Cutworm Cutworm species	0.015 – 0.025	1.92 – 3.20

Armyworm Bird Cherry-Oat Aphid ¹ Cereal Leaf Beetle English Grain Aphid ¹ Fall Armyworm Flea Beetle species Grasshopper species Hessian Fly ⁴ Orange Blossom Wheat Midge Russian Wheat Aphid ¹ Stink Bug species Yellowstriped Armyworm	0.02 – 0.03	2.56 – 3.84
Grass Sawfly	0.025 – 0.03	3.20 – 3.84
Chinch Bug Corn Leaf Aphid ² Greenbug ^{1,3} Mite species ²	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹ Best control is obtained before insects begin to roll leaves. Once crop has started to boot, this product may provide suppression only. Higher rates and increased coverage will be necessary.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**

⁴Make applications when adults emerge.

For chinch bug control: repeat applications at 3-5-day intervals if needed. This product may only suppress heavy infestations and/or migrations.

Greenbug is known to have many biotypes. This product may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.

Restrictions

DO NOT apply within 30 days of harvest.

DO NOT allow livestock to graze in treated areas or harvest treated wheat forage as feed for meat or dairy animals within 7 days after treatment.

DO NOT feed treated straw to meat or dairy animals within 30 days after the last treatment.

DO NOT apply more than 0.06 lb. a.i. (7.68 fl. oz. or 0.48 pts. of product) per acre per season.

COLE CROPS (HEAD & STEM BRASSICA): Broccoli, Brussels Sprouts, Cabbage, Cavalo Broccolo, Cauliflower, Chinese Broccoli (gai lon), Chinese Cabbage (napa), Chinese Mustard Cabbage (gai choy), Kohlrabi

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Alfalfa Looper Cabbage Looper Cabbage Webworm Cutworm species Imported Cabbageworm Southern Cabbageworm	0.015 – 0.025	1.92 – 3.20

Aphid species ^{2,3} Armyworm Beet Armyworm ^{1,3} Corn Earworm Diamondback Moth ³ Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leafhopper species Meadow Spittlebug Plant Bug species including Lygus species ³ Spider Mite species ² Stink Bug species Thrips species ² Vegetable Weevil (Adult) Whitefly species ^{2,3} Yellowstriped Armyworm	0.02 – 0.03	2.56 – 3.84
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Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water / acre.

Remarks

¹For control of first and second instar only.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**.

Restrictions

DO NOT apply within 1 day of harvest.

DO NOT apply more than 0.24 lb. a.i. (30.72 fl. oz. or 1.92 pt. of product) per acre per season.

COTTON

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Soybean Thrips Tobacco Thrips	0.015 – 0.02	1.92 – 2.56
Cabbage Looper Cotton Fleahopper Cotton Leafperforator Cotton Leafworm Lygus Bug species ³ Pink Bollworm Saltmarsh Caterpillar	0.02 – 0.03	2.56 – 3.84
Bandedwing Whitefly ^{2,3} Beet Armyworm ^{1,3} Boll Weevil Brown Stink Bug Cotton Aphid ^{2,3} Cotton Bollworm European Corn Borer Fall Armyworm Green Stink Bug Southern Green Stink Bug Sweetpotato Whitefly ^{2,3}	0.025 – 0.04	3.20 – 5.12

Tobacco Budworm ³ Twospotted Spider Mite ²		
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Application Methods

Apply as required by scouting, usually at intervals of 5 – 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage.

Applications may also be made with equipment adapted and calibrated for ULV sprays. This product may be mixed with once-refined vegetable oil and applied in a minimum of at least one (1) quart of finished spray/A.

Remarks

¹For control of first and second instar only.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**.

Under light bollworm/budworm infestation levels: 0.02 lb. a.i. (2.56 fl. oz. of product) per acre may be applied in conjunction with intense field monitoring.

For boll weevil control: spray on a 3-5 day schedule.

When applied according to label directions **for control of cotton bollworm and tobacco budworm**, this product also provides ovicidal control of unhatched *Heliothine* species eggs.

Restrictions

DO NOT apply within 21 days of harvest.

DO NOT graze livestock in treated areas.

DO NOT apply more than 0.2 lb. a.i. (25.6 fl. oz. or 1.6 pt. of product) per acre per season.

DO NOT make more than a total of 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season.

CUCURBIT VEGETABLES: including Chayote (fruit), Chinese Waxgourd (Chinese preserving melon), Citron Melon, Cucumber, Gherkin, Gourds (edible): *Lagenaria* species – includes: hyotan, cucuzza, *Luffa acutangula*, *L. cylindrical* – includes: hechima, Chinese okra; *Momordica* species – includes: balsam apple, balsam pear, bitter melon, Chinese cucumber; Muskmelons (hybrids and/or cultivars of *Cucumis melo*) – includes: true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon; Pumpkin, Squash, summer (*Cucurbita pepo* var. *meloepo*) – includes: crookneck squash, scallop squash, straightneck squash, vegetable marrow, Zucchini Squash, winter (*Cucurbita maxima*; *C. moschata*) – includes butternut squash, calabaza, hubbard squash (*C. mixta*; *C. pepo*) – includes: acorn squash, spaghetti squash Watermelon – includes: hybrids and/or varieties of *Citrullus lanatus*

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Armyworm species ¹ Blister Beetle species Cabbage Looper Corn Earworm Cricket species Cucumber Beetle species (adults) Cutworm species Flea Beetle species Grasshopper species June Beetle species Leaffooted Bug Leafhopper species Lygus Bug species ¹ Melonworm Pickleworm Plant Bug species Rindworm species complex Saltmarsh Caterpillar	0.02 – 0.03	2.56 – 3.84

Squash Beetle Squash Bug species Squash Vine Borer species Stink Bug species Thrips species ^{1,2} Tobacco Budworm ¹ Webworm species		
Aphid species ¹ Leafminer species ^{1,3} Whitefly species ^{1,3} Spider Mite species ³	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of all plant parts. When applying by air, apply in a minimum of 2 gallons total solution per acre. When applying by ground, a minimum of 10 gallons total solution per acre is recommended.

Use higher application volumes and/or rates when foliage is dense, pest populations are high, larvae are large, weather conditions are adverse and/or as plant size increases. Use higher rates for longer residual.

Remarks

¹ See **Resistance** statement under **General Use Requirements and Precautions**.

² Does not include Western Flower Thrips

³ Suppression only.

Insects that bore or tunnel into leaves, vines, stems or fruit must be controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of this product.

Restrictions

DO NOT apply within 1 day of harvest.

DO NOT apply more than 0.18 lb. a.i. (23 fl. oz. or 1.44 pt. of product) per acre per season.

FRUITING VEGETABLES including Eggplant, Ground cherry, Pepino, Peppers (bell and nonbell), Tomatillo, Tomato

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cabbage Looper Cutworm species Hornworm species	0.015 – 0.025	1.92 – 3.20
Aphid species ^{2,3} Beet Armyworm ^{1,3} Blister Beetle species Colorado Potato Beetle ³ Cucumber Beetle species (Adult) European Corn Borer ⁴ Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leafhopper species Leafminer species ² Meadow Spittlebug Pepper Weevil (Adult) ² Plant Bug species Southern Armyworm ¹ Spider Mite species ² Stalk Borer ⁴ Stink Bug species Thrips ⁵	0.02 – 0.03	2.56 – 3.84

Tobacco Budworm ³ Tomato Fruitworm Tomato Pinworm Tomato Psyllid ^{2,3} Vegetable Weevil (Adult) Whitefly species ^{2,3} Yellowstriped Armyworm ¹		
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Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water / acre.

Remarks

¹For control of first and second instar only.
²Suppression only.
³See **Resistance** statement under **General Use Requirements and Precautions**.
⁴ For control before the larva bores into the plant stalk or fruit.
⁵ Does not include Western Flower Thrips

Restrictions

DO NOT apply within 5 days of harvest.
DO NOT apply more than 0.36 lb. a.i. (46.08 fl. oz. or 2.88 pt. of product) per acre per season.

GRASS, FORAGE, FODDER, and HAY: Pasture and Rangeland Grass, Grass Grown for Hay or Silage, and Grass Grown for Seed

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Army Cutworm Cutworm species Essex Skipper Range Caterpillar Striped Grass Looper	0.015 – 0.025	1.92 – 3.20
Beet Armyworm Billbug species ³ Bird Cherry-Oat Aphid ¹ Black Grass Bug Black Turfgrass Beetle (adult) Blue Stem Midge Cereal Leaf Beetle Chinch Bug Crane Fly species Cricket species English Grain Aphid ¹ Fall Armyworm Flea Beetle species Grass Mealybug Grass Sawfly (adult) Grasshopper species Green June Beetle (adult) Greenbug ^{1,2} Japanese Beetle (adult) Katydid species Leafhopper species Mite species ³ Russian Wheat Aphid ¹ Southern Armyworm Spittlebug species	0.02 – 0.03	2.56 – 3.84

Stink Bug species Sugarcane Aphid Thrips species Ticks, except Deer ticks, which may transmit Lyme disease True Armyworm Webworm species Yellowstriped Armyworm		
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Application Methods

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

Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage.

When applying by air, apply in a minimum of 2 gallons total solution per acre.

When applying by ground, a minimum of 7 gallons total solution per acre is recommended.

Use higher application volumes and rates when foliage is dense, pest populations are high, larvae are large and/or weather conditions are adverse. Use higher rates for longer residual.

Remarks

¹Best control is obtained before insects begin to roll leaves.

²See **Resistance** statement under **General Use Requirements and Precautions**.

³Suppression only.

For chinch bug control: this product may only suppress heavy infestations and/or migrations. In this situation, a second application using an alternative chemistry may be needed.

Greenbug is known to have many biotypes. This product may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.

Restrictions

Pasture and rangeland grass may be used for grazing or cut for forage 0 days after application.

DO NOT cut grass to be dried and harvested for hay until 7 days after the last application. Grass grown for seed:

Straw and mature seed (seed screenings) may be used as feed 7 days after the last application. Regrowth of grass grown for seed may be used for grazing, cut for forage or cut to be dried and harvested for hay.

DO NOT apply more than 0.03 lb. a.i. (3.84 fl. oz. or 0.24 pt. of product) per acre per cutting for pastures, rangeland and grasses grown for seed. A minimum re-treatment interval (RTI) of 30 days is required for pastures and rangeland receiving 0.03 lb. ai./A which have not been cut between applications.

DO NOT apply more than 0.09 lb. a.i. (11.52 fl. oz. or 0.72 pt. of product) per acre per season.

LEGUME VEGETABLES (Beans & Peas):

Edible Podded (Only) *Canavalia ensiformis* – jackbean; *Canavalia gladiata* – sword bean; *Glycine max* – soybean (immature seed)

Edible Podded, Succulent Shelled or Dried Shelled *Cajanus cajan* – Pigeon pea; *Phaseolus* species – includes: field, kidney, lima, navy, pinto, runner, snap, tepary and wax beans; *Pisum* species – includes: dwarf, edible-pod, English, field, garden, green, snow and sugar snap peas; *Vigna* species – includes: adzuki, asparagus, moth, mung, rice, urd and yardlong beans, black-eye pea, catjang, Chinese longbean, cowpea, Crowder pea, and Southern pea

Succulent Shelled or Dried Shelled *Vicia faba*. – broadbean (favabean)

Dried Shelled (Only) *Cicer arietinum* – chickpea (garbonzo bean)

Dried Shelled (Only) *Cyamopsis tetragonoloba* – guar; *Lablab purpureus* – Lablab bean (hyacinth bean); *Lupinus* species – includes: grain, sweet, white and sweet white lupines; *Lens esculata* – Lentils

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Green Cloverworm Imported Cabbageworm Mexican Bean Beetle Saltmarsh Caterpillar Velvetleaf Caterpillar	0.015 – 0.025	1.92 – 3.20

Alfalfa Caterpillar Aphid species ⁴ Armyworm ² Bean Leaf Beetle Bean Leafskeletonizer Blister Beetle species Corn Earworm Corn Rootworm Beetle species (Adult) Cucumber Beetle species (Adult) Curculio and Weevil species ¹ (foliage and pod feeding adults and larvae) European Corn Borer Fall Armyworm ² Flea Beetle species (Adult) Flea Hopper species Grasshopper species Japanese Beetle (Adult) Leafhopper species Leaftier species Looper Species Meadow Spittlebug Painted Lady Butterfly (Larva) Plant Bug species including Lygus species ⁴ Stalk Borer ¹ Stink Bug species Threecornered Alfalfa Hopper Thrips species ^{4,5} Tobacco Budworm ⁴ Webworm species	0.02 – 0.03	2.56 – 3.84
Beet Armyworm ^{3,4} Leafminer species ^{3,4} Lesser Cornstalk Borer ³ Soybean Looper ^{3,4} Spider Mite species ³ Whitefly species ^{3,4}	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹For control before the larva bores into the plant stalk or pods.

²Use higher rates for large larvae.

³For suppression only.

⁴See **Resistance** statement under **General Use Requirements and Precautions**

⁵Does not include Western Flower Thrips.

Restrictions

For edible podded and succulent shelled legume vegetables, **DO NOT** apply within 7 days of harvest.

For dried shelled legume vegetables, **DO NOT** apply within 21 days of harvest.

DO NOT apply more than 0.12 lb .a.i. (15.36 fl. oz. or 0.96 pts. of product) per acre per season.

For succulent and dried shelled peas and beans, **DO NOT** graze livestock in treated areas or harvest vines for forage or hay.

LEGUME VEGETABLES: Soybeans		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Bean Leaf Beetle Cabbage Looper Corn Earworm Corn Rootworm Beetle (Adult): Mexican Northern Southern Western Cutworm species Green Cloverworm Mexican Bean Beetle Painted Lady (Thistle) Caterpillar Potato Leafhopper Saltmarsh Caterpillar Soybean Aphids ⁴ Threecornered Alfalfa Hopper Thrips species ⁵ Velvetbean Caterpillar Woollybear Caterpillar	0.015 – 0.025	1.92 – 3.20
Armyworm ¹ Blister Beetle species European Corn Borer Fall Armyworm ¹ Grasshopper species Japanese Beetle (Adult) Plant Bug species Silverspotted Skipper Stink Bug species Tobacco Budworm ³ Webworm species Yellowstriped Armyworm ¹	0.025 – 0.03	3.20 – 3.84
Beet Armyworm ^{2,3} Lesser Cornstalk Borer ² Soybean Looper ^{2,3} Spider Mite species ²	0.03	3.84
Application Methods		
Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.		
Remarks		
¹ Use higher rates for large larvae. ² Suppression only. ³ See Resistance statement under General Use Requirements and Precautions . ⁴ Use lower rates for early season applications and/or lighter populations. ⁵ Does not include Western Flower Thrips.		
For control of adult corn rootworm beetles (<i>Diabrotica</i> species) as part of an aerial-applied corn rootworm control program use a minimum of 0.02 lb. a.i (1.28 fl. oz. of product) per acre.		
Restrictions		
DO NOT graze or harvest treated soybean forage, straw, or hay for livestock feed. DO NOT apply within 30 days of harvest.		

DO NOT apply more than 0.06 lb. a.i. (7.68 fl. oz. or 0.48 pt. of product) per acre per season.

LETTUCE (Head & Leaf)		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Alfalfa Looper Cabbage Looper Cutworm species Green Cloverworm Imported Cabbageworm Saltmarsh Caterpillar	0.015 – 0.025	1.92 – 3.20
Aphid species ^{2,3} Armyworm Beet Armyworm ^{1,3} Corn Earworm Diamondback Moth ³ European Corn Borer Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leafhopper species Meadow Spittlebug Plant Bug species including Lygus species ³ Southern Armyworm Spider Mite species ² Stink Bug species Tobacco Budworm ³ Vegetable Weevil (Adult) Whitefly species ^{2,3}	0.02 – 0.03	2.56 – 3.84
Application Methods		
Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.		
Remarks		
¹ For control of the first and second instar only. ² Suppression only. ³ See Resistance statement under General Use Requirements and Precautions .		
Restrictions		
DO NOT apply within 1 day of harvest. DO NOT apply more than 0.3 lb. a.i. (38.4 fl. oz. or 2.4 pt. of product) per acre per season.		

ONION (BULB) AND GARLIC		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Leafminer species (Adult) Onion Maggot (Adult) Seedcorn Maggot (Adult)	0.015 – 0.025	1.92 – 3.20

Aphid species ² Armyworm species ¹ Flower Thrips ^{2,3} Onion Thrips ³ Plant Bug species Stink Bug species Tobacco Thrips ³ Western Flower Thrips ^{2,3}	0.02 – 0.03	2.56 – 3.84
Application Methods		
Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.		
Use the higher label rates as thrips population increases and avoid rescue situations.		
Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage.		
When applying by air, apply in a minimum of 2 gallons of water per acre.		
Remarks		
¹ For control of the first and second instar only.		
² Suppression only.		
³ See Resistance statement under General Use Requirements and Precautions .		
For thrips control by aerial application: the addition of 1% COC v/v, ¼% NIS v/v or a silicone adjuvant (follow manufacturers use directions) may enhance the deposition of the spray and increase plant coverage.		
Restrictions		
DO NOT apply within 14 days of harvest.		
DO NOT apply more than 0.24 lb. a.i. (30.72 fl. oz. or 1.92 pt. of product) per acre per season.		

PEANUTS

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Green Cloverworm Potato Leafhopper Rednecked Peanut Worm Threecornered Alfalfa Hopper Velvetbean Caterpillar	0.015 – 0.025	1.92 – 3.20
Bean Leaf Beetle Corn Earworm Fall Armyworm ¹ Grasshopper species Southern Corn Rootworm (Adult) Stink Bug species Tobacco Thrips Vegetable Weevil Whitefringed Beetle (Adult)	0.02 – 0.03	2.56 – 3.84
Aphid species ² Beet Armyworm ^{2,3} Lesser Cornstalk Borer ² Soybean Looper ^{2,3} Spider Mite species ²	0.03	3.84
Application Methods		
Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.		
Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.		
Remarks		

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**.

Restrictions

DO NOT apply within 14 days of harvest.

DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per season.

POME FRUITS: Apple, Crabapple, Loquat, Mayhaw, Oriental Pear, Pear, Quince

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Apple Aphid Apple Maggot (Adult) Cherry Fruit Fly species (Adult) Codling Moth Green Fruitworm Japanese Beetle Leafhopper species Leafroller species Lesser Appleworm Omnivorous Leafroller Orange Tortrix Oriental Fruit Moth Pear Psylla ¹ Pear Sawfly Periodical Cicada Plant Bug species Plum Curculio Rosy Apple Aphid San Jose Scale (fruit infestations only) Spirea Aphid ¹ Stink Bug species Tent Caterpillar species Tentiform Leaf Miner species Tree Borer species Tufted Apple Budworm Webworm species	0.02 – 0.04	2.56 – 5.12

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.

Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gallons of water per acre, but use higher rates as appropriate for thorough coverage

Remarks

¹Suppression only.

Restrictions

DO NOT apply within 21 days of harvest.

DO NOT apply more than 0.2 lb. a.i. (25.6 fl. oz. or 1.6 pt. of product) per acre per year.

DO NOT apply more than 0.16 lb. a.i. (20.48 fl. oz. or 1.28 pt. of product) per acre per year post bloom.

POTATO and SWEET POTATO: (see Tuberos and Corm Vegetables section below)

STONE FRUITS: Apricot, Chickasaw Plum, Damson Plum, Japanese Plum, Nectarine, Peach, Plum, Plumcot, Prune, Sweet and Tart Cherry

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: American Plum Borer Apple Maggot (Adult) Cherry Fruit Fly species (Adult) Codling Moth Green Fruitworm Japanese Beetle June Beetle Leafhopper species Leafroller species Oriental Fruit Moth Peach Twig Borer Peachtree Borer species Pear Sawfly Periodical Cicada Plant Bug species Plum Curculio Rose Chafer Stink Bug species Tent Caterpillar species Thrips species ¹	0.02 – 0.04	2.56 – 5.12

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold and IPM recommendations.

Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gallons of water per acre, but use higher rates as appropriate for thorough coverage

Remarks

¹Suppression only.

Restrictions

DO NOT apply within 14 days of harvest.

DO NOT apply more than 0.2 lb. a.i. (25.6 fl. oz. or 1.6 pt. of product) per acre per year.

DO NOT apply more than 0.16 lb. a.i. (20.48 fl. oz. or 1.28 pt. of product) per acre per year post bloom.

SUGARCANE

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Mexican Rice Borer ¹ Pygmy Mole Cricket Rice Stalk Borer ¹ Sugarcane Aphid ³ Sugarcane Beetle (Adult) ² Sugarcane Borer ¹ West Indian Crane fly Yellow Sugarcane Aphid ³	0.025 – 0.04	3.20 – 5.12

Application Methods

Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹For control before the larva bores into the plant stalk.

²Suppression only of beetles active above ground.

³See **Resistance** statement under **General Use Requirements and Precautions**.

Restrictions

DO NOT apply within 21 days of harvest.

DO NOT apply more than 0.16 lb. a.i. (20.48 fl. oz. or 1.28 pt. of product) per acre per season.

SUNFLOWER

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Sunflower Beetle	0.015 – 0.025	1.92 – 3.20
Banded Sunflower Moth Fall Armyworm ¹ Grasshopper species Head-Clipper Weevil (Adult) Japanese Beetle (Adult) Leafhopper species Meadow Spittlebug Painted Lady (Thistle) Caterpillar Seed Weevil (Adult) Spotted Cabbage Looper Stem Weevil (Adult) Stink Bug species Sunflower Maggot (Adult) Sunflower Moth Woollybear Caterpillar	0.02 – 0.03	2.56 – 3.84
Beet Armyworm ^{2,3} Spider Mite species ²	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.

Apply with ground or air equipment using sufficient water to obtain full coverage of sunflower heads and foliage.

When applying by air, apply in a minimum of 2 gallons of water per acre, but use higher rates as appropriate for thorough coverage

Remarks

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**.

Restrictions

DO NOT apply within 45 days of harvest.

DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per season.

DO NOT apply more than 0.09 lb. a.i. (11.52 fl. oz. or 0.72 pt. of product) per acre per season after bloom inflation.

DO NOT apply as an ultra-low volume (ULV) spray.

TOBACCO

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Armyworm species ¹ Blister Beetle species Cabbage Looper Corn Earworm Cucumber Beetle species (Adult) Cutworm species Grasshopper species Japanese Beetle (Adult) Katydid species	0.015 – 0.03	1.92 – 3.84

Plant Bug species ³ Potato Tuberworm Salt Marsh Caterpillar Stinkbug species Tobacco Aphid species ^{2,3} Tobacco Budworm ³ Tobacco Flea Beetle (Adult) Tobacco Hornworm Tobacco Thrips species ² Tomato Hornworm Tree Cricket species Vegetable Weevil (Adult) Webworm species		
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Application Methods

Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.

When applying by air, apply in a minimum of 2 gallons of water per acre, but use higher rates as appropriate for thorough coverage

Remarks

¹For control of first and second instars only.

²Suppression only.

³See **Resistance** statement under **General Use Requirements and Precautions**.

Restrictions

DO NOT apply within 40 days of harvest.

DO NOT apply more than 0.09 lb. a.i. (11.52 fl. oz. or 0.72 pt. of product) per acre per year.

TREE NUTS: Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazlenut), Hickory Nut, Macadamia Nut (Bush Nut), Pistachio, Black Walnut, English (Persian) Walnut

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Ants Chinch Bug Codling Moth Filbertworm Leaffooted Bug Leafroller species Navel Orangeworm Peach Twig Borer Plant Bug species Stink Bug species Walnut Aphid Walnut Husk Fly species (Adult)	0.02 – 0.04	2.56 – 5.12

PECANS

Hickory Shuckworm Pecan Aphid species Pecan Casebearer species Pecan Phylloxera species Pecan Spittlebug Pecan Weevil Stink Bug species	0.02 – 0.04	2.56 – 5.12
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Application Methods

Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.

Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When

applying by air, apply in a minimum of 5 gallons of water per acre, but use higher rates as appropriate for thorough coverage

Restrictions

DO NOT apply within 14 days of harvest.
DO NOT apply more than 0.16 lb. a.i. (20.48 fl. oz. or 1.28 pt. of product) per acre per year.
DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per year post bloom.

TUBEROUS AND CORM VEGETABLES: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem only), Canna (edible), Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen, Ginger, Leren, Potato, Sweet Potato, Tanier, Turmeric, Yam (bean and true)

Pests	Lbs. AI / Acre	Fluid ounces/Acre
For control of: Cutworm species Leafhopper species Saltmarsh Caterpillar Sweet Potato Hornworm Woollybear Caterpillar species	0.015 – 0.025	1.92 – 3.20
Aphid species ¹ Armyworm species ¹ Blister Beetle species Colorado Potato Beetle ¹ Corn Earworm Cricket species Cucumber Beetle species (adults) European Corn Borer Flea Beetle species (adults) Grasshopper species Looper species ¹ Lygus Bug species ¹ Plant Bug species Potato Psyllid Potato Tuberworm Stink Bug species Sweet Potato Leaf Beetle (adults) Sweet Potato Vine Borer Thrips species ^{1,2} Tortoise Beetle species Webworm species Weevil species (adults)	0.02 – 0.03	2.56 – 3.84
Leafminer species ^{1,3} Spider Mite species ³ Whitefly species ^{1,3}	0.03	3.84

Application Methods

Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
 Apply with ground or air equipment using sufficient water to obtain full coverage of all above ground plant parts. When applying by air, apply in a minimum of 2 gallons total solution per acre. When applying by ground, a minimum of 10 gallons total solution per acre is recommended.

Remarks

¹Use higher rates for large larvae.
²Suppression only.
³See **Resistance** statement under **General Use Requirements and Precautions**.
 Use higher application volumes and/or rates when foliage is dense, pest populations are high, larvae are large, weather conditions are adverse and/or as plant size increases. Use higher rates for longer residual.
 Insects that bore or tunnel into leaves, vines, stems, tubers or corms must be controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of this product.

Restrictions
<p>DO NOT apply within 7 days of harvest.</p> <p>DO NOT apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per season.</p>

NON-AGRICULTURAL USES

CONIFER AND DECIDUOUS TREES: Plantations and Nurseries

Pests	Lbs. AI / Acre	Fluid ounces/Acre
<p>For control of:</p> <ul style="list-style-type: none"> Bagworm Balsam Twig Aphid Balsam Wooly Aphid Birch Leafminer Black Pine Weevil Elm Leaf Beetle European Elm Bark Beetle Gypsy Moth Japanese Beetle June Beetle species Leaf Beetle species Leafroller species May Beetle species Mealybug species¹ Pales Weevil Pine Chafer Pine Colaspis Beetle Pine Conelet Bug Pine Leaf Chermid Pine Needle Scale Pine Sawfly species Pine Tip Moth species Pine Tortoise Scale Pine Weevil species Poplar Aphid species Sawfly species Spittlebug species Spruce Budworm Tent Caterpillar species Tussock Moth species Webworm species 	<p>0.02 – 0.04</p>	<p>2.56 – 5.12</p>

Application Methods

Apply with ground equipment using sufficient water to obtain full coverage of target site. Make applications when pests appear. Apply in sufficient volume to ensure sufficient coverage of foliage.

When applying by air, apply in a minimum of 2 gallons of water per acre.

Remarks

¹Suppression only.

To control exposed foliage, flower, cone, seed and bark feeding insects, apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.

Restrictions

DO NOT apply more than 0.24 lb. a.i. (30.72 fl. oz. or 1.92 pt. of product) per acre per year.

CONIFER AND DECIDUOUS TREES: Seed Orchards

Pests	Lbs. AI / Acre	Fluid ounces/Acre
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For control of: Coneworm species Seed Bug species Thrips species	See Below	See Below
Application Methods		
For high volume sprayers, dilute 5.12 fl. oz. per 100 gallons of water and apply 5-10 gals. of finished spray per tree. For low volume sprayers, dilute 20 fl. oz. per 100 gallons of water and apply 100 gals. of finished spray per acre. For aerial applications, apply 15 fl. oz. / A in a minimum of 10 gallons finish spray per acre.		
Restrictions		
DO NOT apply more than 0.5 lb. a.i. (64 fl. oz. or 4 pts. of product) per acre per year.		

NON-CROPLAND (Excluding Public Land)		
Pests	Lbs. AI / Acre	Fluid ounces/Acre
See Crop Outlets on this label for target pests and use rates	See Crop Outlets	See Crop Outlets
Application Methods		
Apply with ground equipment using sufficient water to obtain full coverage of target site. When applying by air, apply in a minimum of 2 gallons of water per acre.		
Remarks		
Spray non-cropland adjacent to agricultural areas to control migratory insects which may threaten crops. Follow general use directions, rates, and spray recommendations found elsewhere on this label for the adjacent crop outlet and target pests. Use the highest labeled rates for dense/large foliage, high insect populations and larger larval stages. Repeat application as necessary to maintain control.		
Restrictions		
DO NOT apply more than 0.2 lb. a.i. (25.6 fl. oz. or 1.6 pt. of product) per acre per year. DO NOT graze livestock on treated areas.		

Rate Conversion Chart			
lbs A.I./ A	fl. oz. / A	pts. / A	Treated Acres / gal.
0.015	1.92	0.12	66
0.02	2.56	0.16	50
0.025	3.20	0.20	40
0.03	3.84	0.24	33
0.04	5.12	0.32	25

TURF AND ORNAMENTAL USES

Use NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE for application to ornamentals grown in commercial greenhouses, shade houses, and nurseries, and turf grown on sod farms or for commercial seed production.

Use NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE for applications to maintain indoor and outdoor areas where turf and ornamentals are grown, such as residential landscape areas and non-residential landscapes around institutional, public, commercial, and industrial buildings, parks, recreational areas, golf courses, and athletic fields.

Use NUFARM LAMBDA-CYHALOTHIN 1 EC INSECTICIDE for applications to golf course fairways, greens, greens aprons, and tee areas.

NOTE: Time application to flowering plants during periods when pollinating insects are not present, such as early morning or late evening.

DO NOT apply this product through any type of irrigation system when making turf and ornamental applications.

DO NOT apply this product to edible crops or crops grown for food/feed when making turf and ornamental applications.

DO NOT make aerial applications of this product when treating turf and ornamentals.

SPRAY DRIFT PRECAUTIONS

Observe restrictions found elsewhere on this label. **DO NOT** make applications when wind speed is 15 miles per hour or greater. Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Avoid spraying during conditions of low humidity and / or high temperature.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when the wind direction is toward the aquatic area. **DO NOT** make outdoor applications during temperature inversions. Inversions are characterized by stable air and increasing temperature with height above 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.

APPLICATION

NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE mixes easily with water and may be used in all types of application equipment. Mix product with the required amount of water and apply as a dilute application to the point of runoff. Apply product using spray nozzles which produce a coarse droplet size. Formation of very small droplets may be minimized by appropriate nozzle selection and by avoiding excessive spray pressure. For application to ornamental plants like holly, pine, or ivy which have hard-to-wet foliage, add a spreader-sticker to enhance knockdown and increase residual activity. If application is made as a concentrate or mist-type application, use the same amount of product as would be used in a dilute application.

MIXING

NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE is to be diluted with water for spray application and may be used in all types of application equipment.

- 1) Fill spray tank with 1/2 – 3/4 of the required volume of water. Use water with a pH of between 5 – 7; use a buffering agent to adjust pH.
- 2) Slowly add the required amount of NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE to the spray tank and mix under agitation.
- 3) Fill spray tank with the remaining quantity of water while continuing to agitate mixture.
- 4) Apply spray mixture under constant agitation.

If application is interrupted, agitate or re-suspend spray solution before resuming application.

Always add NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE last if adding other chemicals to the spray tank.

If mixed with other EC formulations or oils, use within 24 hours.

Make up only the amount of application volume required for the area to be treated as specified in the mixing charts below.

NUFARM LAMBDA-CYHALOTHRIN 1 EC mixing chart for ORNAMENTAL Insect Pest Control

NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE USE RATE / 100 Gallons	1.3 fl.oz.	2.6 fl.oz.	4.4 fl.oz.
Spray Tank Volume (gallons)	Amount of NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE to use		
25	0.33	0.65	1.1
50	0.65	1.3	2.2
100	1.3	2.6	4.4
200	2.6	5.2	8.8
300	4.0	7.9	13.3

NUFARM LAMBDA-CYHALOTHRIN 1 EC mixing chart for TURF Insect Pest Control

NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE USE RATE / Acre	4.4 fl.oz / A	8.8 fl.oz / A	17.6 fl.oz / A
Application Volume (GPA)	NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE (fl.oz.) to add per 100 gallon spray tank		
2	5.0	10.0	20.0

4	2.5	5.0	10.0
6	1.7	3.3	6.7
8	1.2	2.5	5.0
10	1.0	2.0	4.0

Conversion Rate: 1 fl.oz. = 29.6 mL

COMPATIBILITY

NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE is compatible with most commonly used fungicides, miticides, liquid fertilizers, and other insecticides. Use a jar test to check physical compatibility using the correct proportions of product if local experience is unavailable.

NOTE: Phytotoxicity has not been evaluated on all ornamental cultivars under all environmental conditions with all potential tank mixtures. Certain cultivars may be sensitive to the final spray mixture. If local use experience is unavailable, pre-spray a selection of ornamental plants and observe them for 7-10 days for phytotoxicity prior to full scale application.

ORNAMENTALS (in Greenhouses, Shadehouses, Nurseries, Residential landscapes, Landscaped areas around Institutional, Public, Commercial and Industrial buildings, Parks, Recreational areas, Golf courses, and Athletic fields) including Trees, Shrubs, Flowers, Evergreens, Foliage plants, and Ground covers)

Pests	Fluid ounces/Acre
Ants (including imported fire ants)	
Aphids	
Armyworms	
Azalea caterpillars	
Bagworms ¹	
Black vine weevils (Adult)	
Boxelder bugs	
California oakworms	
Cankerworms	
Cockroaches	
Crickets	
Cutworms	
Eastern tent caterpillar	
Elm leaf beetles	
European sawflies	
Fall webworms	
Flea beetles	
Forest tent caterpillar	1.3 – 4.4
Gypsy moth larvae	(38 -128 mL)
Japanese beetles (Adult)	
June beetles (Adult)	
Lace bugs	
Leaf-feeding caterpillars	
Leafhoppers	
Leafminers (Adult)	
Leaf rollers	
Leaf skeletonizers	
Midges	
Mosquitoes	
Oleander moth larvae	
Pillbugs	
Pine sawflies	
Pine shoot beetles	
Pinetip moths	
Plant bugs	
Root weevils	

Sawflies Scale insects (Crawlers) ² Spiders Spittlebugs Striped beetles Striped oakworms Thrips Tip moths Tussock moth larvae Wasps	
Broadmites Brown softscales California redscales (Crawler) Clover mites Mealybugs Pine needlescales (Crawler) Spider mites Whiteflies	2.6 – 4.4 (75 – 128 mL)

Application Methods

Begin application to ornamentals before high insect pest populations become established. Reapply as necessary to keep pest populations under control, using higher rates as pest pressure increases.

Good spray coverage is necessary to provide the most effective level of control. For ornamentals with waxy, hard-to-wet foliage, add a spreader-sticker at specified rates to enhance the control of insects.

For spot treatments, use 0.44 fl.oz. NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE per 1 – 2.5 gallons of water. Apply at 7-day intervals if retreatment is necessary.

Consult your state university or local Cooperative Extension Service for specific pest control application timing for your local area.

Remarks

¹ **Bagworm:** Apply NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE when bagworm larvae begin to hatch and spray directly onto larvae. Control will be best if the larvae are young.

² **Scale:** Cover the plant thoroughly with NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE spray, including trunks, stems, twigs, and foliage.

Restrictions

DO NOT apply more than 0.36 lbs. AI (46 fl.oz. product) / A / yr.

TURFGRASS: (including Sod Farms, Lawns around Residential, Institutional, Public, Commercial, and Industrial buildings, Parks, Recreational areas, Golf courses, and Athletic fields, and Golf course and Athletic field turf)

Pests	Fluid ounces / Acre
Ants (including imported fire ants)	✓
Armyworms	
Centipedes	
Crickets	
Cutworms	
Earwigs	
Fleas (Adult)	
Grasshoppers	4.4 – 8.8
Japanese beetles (Adult)	(2.9 – 6 mL / 1000 ft ²)
Millipedes	
Mites	
Pillbugs	
Sod webworms	
Sow bugs	
Ticks (including species which transmit Lyme disease)	

Bluegrass billbugs (Adult)	
Black turfgrass ataeenius (Adult)	
Chiggers	
Fleas (Adult)	8.8
Grub (Suppression)	(6 mL / 1000 ft ²)
Hyperodes weevils (Adult)	
Mole crickets (Nymphs and young adults)	
Chinch bugs ¹	17.6
Mole crickets (Mature adults) ¹	(12 mL / 1000 ft ²)

Application Methods

Begin application to turf before the establishment of high insect pest populations and before significant turf damage has occurred. Reapply as necessary to keep pest populations under control, using higher rates as pest pressure increases. Apply at 7-day intervals if retreatment is necessary.

For spot treatments, use 0.44 fl.oz. of NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE per 1 -2.5 gallons of water.

See remarks section below for additional instructions specific to certain turf pests.

Remarks

Armyworms, cutworms, fleas, and other surface pests: For best results, apply NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE at specified rates in 2 – 5 gallons of water per 1000 ft². If high rainfall amounts are forecast, a spreader-sticker may be useful; otherwise the addition of adjuvants is not necessary under normal conditions for surface insect control in turf. Delay watering or mowing for 12 – 24 hours for optimum control of surface-feeding insect pests.

Chinch bugs, billbugs, and other thatch inhabiting pests: For best results, apply NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE at specified rates in 2 – 10 gallons of water per 1000 ft². The use of a nonionic wetting agent, penetrant, or similar adjuvant is recommended at label rates. Irrigate lightly after application with up to ½ inch of water to move the NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE into the thatch layer. If irrigation is not available, then use high water application rates.

Mole crickets, grubs, and other subsurface insect pests: For best results apply NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE at specified rates in 4 – 10 gallons of water per 1000 ft². The use of a nonionic wetting agent, penetrant, or similar adjuvant is strongly recommended following label rates. Use the highest water application rates possible with your sprayer. Apply NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE to turf which is wet with dew, rain, or irrigation. Water-in immediately after application with 1/4 – 1/2 inch of water.

Fire Ants: Treat individual mounds with a drench application by means of a watering can. Use 0.32 fl.oz. of NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE per 2.5 gallons of water. Thoroughly soak each mound as well as a 3 ft. diameter circle around each mound. Apply the mixture gently to avoid disturbing the mound; disturbing the mound may cause ants to migrate and reduce the effectiveness of the treatment. For best results, apply in early morning or late evening hours. Make additional treatments if necessary, but not more than every 7 days.

Mosquitoes: Apply as a general spray around landscape plantings, turf, and building foundations to control mosquitoes. For best results, apply NUFARM LAMBDA-CYHALOTHRIN 1 EC INSECTICIDE at specified rates in 2 – 5 gallons of water per 1000 ft².

Restrictions

¹**Chinch bugs and Mole crickets:** Not for use on mature adult mole crickets and chinch bugs in New York State.

DO NOT apply more than 0.36 lbs. AI (46 fl.oz. product) / A / yr.

DO NOT apply when turfgrass is waterlogged or when soils are saturated with water (i.e., will not accept irrigation).

Keep children and pets off treated areas until spray has dried.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: DO NOT ALLOW PRODUCT TO FREEZE. Store in a cool, dry place and 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 the container is leaking, invert to prevent leakage. If 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. You may contact CHEMTREC at 800-424-9300 for decontamination procedures or any other assistance that may be necessary.

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

CONTAINER DISPOSAL [HANDLING]:

[Nonrefillable Containers 5 Gallons or Less]

Nonrefillable container: DO NOT reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. 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 1/4 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

[Nonrefillable containers larger than 5 gallons]

Nonrefillable container. DO NOT reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

[Refillable containers larger than 5 gallons]

Refillable container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

[Refillable containers for return to Nufarm]

Refillable Container: Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

(RV031212)

LABEL HISTORY

File Name	Revision Mark	Comments
000228-00TNI.20100222.Draft_Label	RV022210	SECTION 3- Submission
000228-00TNI.20100617.MASTER	RV061710	SECTION 3- Approval
000228-00708.20100924.Revised_label	RV092410	Notification to correct certain typographical errors
000228-00708.20101228.MASTER	RV122810	EPA APPROVAL
000228-00708.20110627.T-O_Addition	RV062711	Addition of Turf and Ornamental Uses
000228-00708.20110930.MASTER	RV093011	EPA APPROVAL
000228-00708.20120312.EPA Notification	RV031212	EPA Notification