



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

**EPA Reg. Number:**  
 91234-55

**Date of Issuance:**  
 1/9/18

**NOTICE OF PESTICIDE:**

Registration  
 Reregistration  
 (under FIFRA, as amended)

**Term of Issuance:**  
 Unconditional

**Name of Pesticide Product:**  
 A115.02

**Name and Address of Registrant (include ZIP Code):**

Dave Bolin, Ph.D.  
 Atticus, LLC  
 501 Cascade Pointe Lane, Suite 102  
 Cary, NC 27513

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

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

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

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. Submit one copy of the revised final printed label for the record before you release the product for shipment.

**Signature of Approving Official:**

Kable Bo Davis, Product Manager 3  
 Invertebrates & Vertebrates Branch I, Registration Division (7505P)

**Date:**

1/9/18

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

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSF:

- Basic CSF dated 08/11/2017

If you have any questions, please contact Maggie Rudick by phone at 703-347-0257, or via email at [rudick.maggie@epa.gov](mailto:rudick.maggie@epa.gov).

Enclosure

**ACCEPTED**  
 01/09/2018  
 Under the Federal Insecticide, Fungicide  
 and Rodenticide Act as amended, for the  
 pesticide registered under  
 EPA Reg. No. 91234-55

[Note to reviewer: [Text] in brackets denotes optional or explanatory language  
 [Note to reviewer: {Text} in braces denotes where in the final label text will appear  
 {BOOKLET FRONT PANEL LANGUAGE}]

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

**GROUP 3 INSECTICIDE**

**A115.02<sup>[TM]</sup>**

[Alternate Brand Name: Serpent 1 EC]

**ACTIVE INGREDIENT:**

Lambda-cyhalothrin<sup>1</sup>

[1α(S\*),3α(Z)]-(±)-cyano-(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate ..... 13.1%

**OTHER INGREDIENTS:** ..... 86.9%

**TOTAL:** ..... 100.0%

<sup>1</sup>Synthetic pyrethroid

Contains petroleum distillate.

Contains 1 pound active ingredient per gallon.

Contains lambda-cyhalothrin, the active ingredient used in Karate®.

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER/PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice</li> </ul>
<b>NOTE TO PHYSICIAN</b> Contains petroleum distillate - vomiting may cause aspiration pneumonia.	
<b>HOT LINE NUMBER</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency medical assistance, call SafetyCall: <b>1-844-685-9173</b> . For chemical emergency: spill, leak, fire, exposure or accident, call CHEMTREC: <b>1-800-424-9300</b> .	

See inside label booklet for additional Precautionary Statements and Directions for Use.

**For Chemical Emergency**  
**Spill, Leak, Fire, Exposure, or Accident**  
**Call CHEMTREC Day or Night**  
**Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

**EPA Reg. No.: 91234-55**

**EPA Est. No.:**

**Net Contents:**

[0118] [20180104a]

**Manufactured For:**  
 Atticus, LLC  
 501 Cascade Pointe Lane, Suite 102  
 Cary, NC 27513

[A115.02™] is not manufactured, or distributed by Syngenta Crop Protection, LLC, seller of Karate®.
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## {LANGUAGE INSIDE BOOKLET}

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER/PELIGRO

Corrosive. Causes skin burns. May be fatal if swallowed or inhaled. Causes substantial but temporary eye injury. Do not get in eyes on skin or clothing. Do not breathe vapor or spray mist. Harmful if absorbed through skin. Wear protective clothing, gloves, eyewear (goggles, face shield, or safety glasses) and respirator as indicated under **Personal Protective Equipment**. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco, or using the toilet.. 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 a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2 to 30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Applicators and other handlers must wear:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves including barrier laminate, nitrile rubber, neoprene rubber or viton >14 mils,
- Chemical-resistant footwear plus socks,
- Protective eyewear,
- Chemical-resistant headgear for overhead exposure,
- Chemical-resistant apron when cleaning equipment, mixing, or loading,
- For exposures in enclosed areas, use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.
- For exposures outdoors, use a NIOSH approved respirator with any R, P or HE filter.

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

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

#### **USER SAFETY RECOMMENDATIONS**

##### **Users should:**

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

## ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife.

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

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

## PHYSICAL OR CHEMICAL HAZARDS:

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

## DIRECTIONS FOR USE RESTRICTED USE PESTICIDE

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

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

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

### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.**

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

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves including barrier laminate, nitrile rubber, neoprene rubber or viton >14 mils,
- Chemical-resistant footwear plus socks,
- Protective eyewear,
- Chemical-resistant headgear for overhead exposure.

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR PEST CONTROL, AND/OR ILLEGAL RESIDUES.

### Use Directions:

Initial and residual control are contingent upon thorough crop coverage. Apply with ground or air equipment using

sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gal. per acre by air or 10 gal. per acre by ground unless otherwise specified in this label. When foliage is dense or pest pressure is high (heavier insect or egg pressure, larger larval stages), use of higher application volumes and/or higher use rates may improve initial and residual control.

For cutworm control, **A115.02** may be applied before, during or after planting. For soil incorporated applications, use higher rates for improved control.

**Resistance Management:**

**A115.02** is a Group 3 Insecticide (contains the active ingredient 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 products containing **A115.02** 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](http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf)*

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

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

**Buffer Zone for ULV Aerial Application:**

Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes; natural ponds; estuaries; and commercial fish ponds).

**Buffer Zone for Non-ULV Aerial Application:**

Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes; natural ponds; estuaries; and commercial fish ponds).

**SPRAY DRIFT REQUIREMENTS**

**Wind Direction and Speed:**

Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph.

**Temperature Inversion:**

Do not make aerial or ground applications into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

**Droplet Size:**

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

**Additional Requirements for Ground Applications:**

Wind speed must be 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 drop 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 **A115.02** at rates and timing described elsewhere in 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. These recommendations should be proven, through university and extension field trials, to be effective with **A115.02** applied by chemigation.

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 specified rate of **A115.02** 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 **A115.02** 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 **A115.02** 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:**

- 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.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 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.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- The system must contain a functional check valve. Vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water- source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick- closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Any alternatives to the above required safety devices must conform to the list of EPA-approved alternative devices.
- Do not apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.
- Do not apply through chemigation systems connected to public water systems.

**SPECIFIC USE DIRECTIONS  
AGRICULTURAL USES**

**ALFALFA AND ALFALFA GROWN FOR SEED**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
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 <sup>1</sup> Grape Colaspis (Adult) Grasshopper species Green June Beetle (Adult) Green Peach Aphid <sup>3</sup> Japanese Beetle (Adult) Meadow Spittlebug Mexican Bean Beetle Pea Aphid Pea Weevil (Adult) Plant Bug species including Lygus species <sup>3</sup> Spotted Alfalfa Aphid Stink Bug species Sweet Clover Weevil (Adult) Thrips species <sup>4</sup> Western Yellowstriped Armyworm Whitefringed Beetle species (Adult) Yellowstriped Armyworm	0.02 - 0.03	2.56 - 3.84
Beet Armyworm <sup>1,3</sup> Blotch Leafminer <sup>3</sup> Spider Mites <sup>2</sup>	0.03	3.84

<sup>1</sup> Use higher rates for large larvae.

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

<sup>4</sup> Does not include Western Flower Thrips.

**Application Instructions for Alfalfa and Alfalfa Grown for Seed:**

- 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 to obtain full coverage of foliage. Apply in a minimum of 2 gal. per acre by air or 10 gal. per acre by ground. When foliage is dense and/or pest populations are high.
- 5-10 gal. per acre by air or 20 gal. per acre by ground and higher use rates are recommended. Use higher rates for increased residual control.
- Avoid application 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. Do not apply directly to bee shelters.
- Do not apply more than 0.03 lb. a.i. (3.84 fl. oz. or 0.24 pt. of product) per acre per cutting.
- 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 within 1 day of harvest for forage or within 7 days of harvest for hay.

**Canola**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Armyworm species	0.015 – 0.03	1.92 – 3.84
Cabbage Seedpod Weevil		
Cutworm species		
Diamondback Moth		
Flea Beetle		
Grasshoppers		
Looper species		
Lygus Bug		
Cabbage Aphid	0.03	3.84

**Application Instructions for Canola:**

- 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 foliage. When applying by air, apply a minimum of 2 gal. of water per acre.
- 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:**

**CORN (at Plant): Field Corn, Popcorn, Seed Corn, Sweet Corn**

Target Pest	Rate	
	lb. a.i. / A	fl. oz. / A
Corn Rootworm Larvae: Mexican Northern Southern Western Cutworm species Lesser Cornstalk Borer	0.005 lbs. a.i. per 1000 ft. of row <sup>2</sup>	0.66 fl. oz. per 1000 fl. of row <sup>2</sup>
Seedcorn Beetle Seedcorn Maggot White Grub species Wireworm species		

<sup>2</sup> lbs. a.i. and fl. oz./A of A115.02 Applied at 0.66 fl. oz./1000 ft. of Row for Various Row Spacings						
Row Spacing	40"	38"	36"	34"	32"	30"
linear ft./A	13,068	13,756	14,520	15,374	16,335	17,424
lbs. a.i./A	0.067	0.07	0.075	0.079	0.084	0.09
fl. oz./A	8.6	9.1	9.6	10.1	10.8	11.5

**Application Instructions for CORN (at Plant): Field Corn, Popcorn, Seed Corn, Sweet Corn:**

- Banded Applications - Apply at planting as a 5-7 inch T-band sprayed across the open seed furrow between the furrow openers and the press wheels or as a band application behind the press wheel.
- In-Furrow Applications - Apply into the seed furrow through spray nozzles or microtubes, behind the planter furrow openers and in front of the press wheel.
- Apply a minimum of 3 gal. finished spray per acre.
- 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:**

**CORN (Foliar): Field Corn, Popcorn, Seed Corn**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Corn Earworm <sup>1</sup> Cutworm species Green Cloverworm Meadow Spittlebug Western Bean Cutworm <sup>1</sup>	0.015 – 0.025	1.92 – 3.20
Armyworm <sup>2</sup> Bean Leaf Beetle Bird Cherry-Oat Aphid <sup>3</sup> Cereal Leaf Beetle Corn Leaf Aphid <sup>3</sup> Corn Rootworm Beetle (Adult): Mexican Northern Southern Western English Grain Aphid <sup>3</sup> European Corn Borer <sup>1</sup> Fall Armyworm <sup>2</sup> Flea Beetle species Grasshopper species Hop Vine Borer <sup>1</sup> Japanese Beetle (Adult) Lesser Cornstalk Borer Sap Beetle (Adult) Seed corn Beetle Southwestern Corn Borer <sup>1</sup> Stalk Borer <sup>1</sup> Stink Bug species Tobacco Budworm <sup>1,4</sup> Webworm species Yellowstriped Armyworm <sup>2</sup>	0.02 – 0.03	2.56 – 3.84
Beet Armyworm <sup>4</sup> Chinch Bug Greenbug <sup>3,4</sup> Mexican Rice Borer <sup>1</sup> Rice Stalk Borer <sup>1</sup> Southern Com Leaf Beetle <sup>3</sup> Sugarcane Borer <sup>1</sup>	0.03	3.84

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

<sup>2</sup> Use higher rates for large larvae.

<sup>3</sup> Suppression only.

<sup>4</sup> See **Resistance** statement under **General Use Directions**.

**Application Instructions for CORN (Foliar): Field Corn, Popcorn, Seed Corn:**

- 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.
- 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 gal. of water per acre.

- 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. **A115.02** 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.
- 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 pt. of product) per acre per crop from at plant and foliar application.
- Do not apply more than 0.06 lb. a.i. (7.68 fl. oz. or 0.48 pt. of product) per acre after silk initiation. Do not apply more than 0.03 lb. a.i. (3.84 fl. oz. or 0.24 pt. of product) per acre after corn has reached the milk stage (yellow kernels with milky fluid).

**CEREAL GRAINS:**

**CORN (Foliar): Sweet Corn**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Aphid Species <sup>2,3</sup>	0.02 - 0.03	2.56 - 3.84
Armyworm <sup>1</sup>		
Aster Leafhopper		
Beet Armyworm <sup>1,3</sup>		
Chinch Bug		
Common Cornstalk Borer		
Corn Earworm		
Corn Rootworm Beetle (Adult):		
Mexican		
Northern		
Southern		
Western		
Cutworm species		
European Corn Borer		
Fall Armyworm <sup>1</sup>		
Flea Beetle species		
Grasshopper species		
Japanese Beetle (Adult)		
Sap Beetle (Adult)		
Southern Armyworm <sup>1</sup>		
Southwestern Corn Borer		
Spider Mite species <sup>2</sup>		
Stink Bug species		
Tarnished Plant Bug		
Webworm species		
Western Bean Cutworm		
Yellowstriped Armyworm <sup>1</sup>		
Corn Silkfly (Adult) <sup>2</sup>	0.03	3.84

<sup>1</sup> Use higher rates for large larvae.

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

**Application Instructions for CORN (Foliar): Sweet Corn:**

- 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 gal. of water per acre.
- 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. (3.2 fl. oz. of product) per acre.
- 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 animal within 21 days after last treatment.
- 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:**

**RICE, WILD RICE**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Bird Cherry-Oat Aphid	0.025 – 0.04	3.20 – 5.12
Cinch Bug		
Fall Armyworm		
Grasshopper species		
Greenbug		
Leafhopper species		
Rice Stink Bug		
Riceworm		
Rice Water Weevil (Adult)		
Sharpshooter species		
True Armyworm		
Yellow Sugarcane Aphid		
Yellowstriped Armyworm		
European Corn Borer <sup>1</sup>	0.03 – 0.04	3.84 – 5.12
Mexican Rice Borer <sup>1</sup>		
Rice Seed Midge <sup>1</sup>		
Rice Stalk Borer <sup>1</sup>		
Sugarcane Borer <sup>1</sup>		

<sup>1</sup> For control before the larvae bores into the plant stalk.

**Application Instructions for RICE, WILD RICE:**

- 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.
- **A115.02** can be safely used when propanil products are being used for weed control.
- 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 gal. 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.
- 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, **A115.02** 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. **A115.02** may only provide suppression. If satisfactory control is not achieved with the first application of **A115.02**, 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.
  - 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 dust-mist respirator.
  - 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.



**CEREAL GRAINS:  
SORGHUM (Grain)**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Cutworm species Sorghum Midge	0.015 – 0.02	1.92 – 2.56
Armyworm Beet Armyworm <sup>3</sup> Corn Earworm European Corn Borer <sup>2</sup> Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Lesser Cornstalk Borer <sup>2</sup> Southwestern Corn Borer <sup>2</sup> Stink Bug species Webworm species Yellowstriped Armyworm <sup>1</sup>	0.02 – 0.03	2.56 – 3.84
Chinch Bug Mexican Rice Borer <sup>2</sup> Rice Stalk Borer <sup>2</sup> Sugarcane Borer <sup>2</sup>	0.03	3.84

<sup>1</sup> Use higher rates for large larvae.

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

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

**Application Instructions for SORGHUM (Grain):**

- 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 gal. of water per acre.
- 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. **A115.02** may only suppress heavy infestations and/or subsequent migrations.
- 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:**

**BUCKWHEAT, BARLEY, OATS, RYE, TRITICALE, WHEAT, WHEAT HAY**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Army Cutworm Cutworm species	0.015 – 0.025	1.92 – 3.20
Armyworm Bird Cherry-Oat Aphid <sup>1</sup> Cereal Leaf Beetle English Grain Aphid <sup>1</sup> Fall Armyworm Flea Beetle species Grasshopper species Hessian Fly <sup>4</sup> Orange Blossom Wheat Midge Russian Wheat Aphid <sup>1</sup> 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 <sup>2</sup> Greenbug <sup>1,3</sup> Mite species <sup>2</sup>	0.03	3.84

<sup>1</sup> Best control is obtained before insects begin to roll leaves. Once crop has started to boot, **A115.02** may provide suppression only. Higher rates and increased coverage will be necessary.

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

<sup>4</sup> Make applications when adults emerge.

**Application Instructions for BUCKWHEAT, BARLEY, OATS, RYE, TRITICALE, WHEAT, WHEAT HAY:**

- 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 gal. of water per acre.
- For chinch bug control, repeat applications at 3 - 5-day intervals if needed. **A115.02** may only suppress heavy infestations and/or migrations.
- Greenbug is known to have many biotypes. **A115.02** may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.
- 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 pt. of product) per acre per season.

**COLE CROPS (HEAD AND STEM BRASSICA):**

**Broccoli; Brussels Sprouts; Cabbage; Cauliflower; Cavalo Broccolo; Chinese Broccoli (gai lon); Chinese Cabbage (napa); Chinese Mustard (gai choy); Kohlrabi**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Alfalfa Looper Cabbage Looper Cabbage Webworm Cutworm species Imported Cabbageworm Southern Cabbageworm	0.015 - 0.025	1.92 - 3.20
Aphid species <sup>2,3</sup> Armyworm Beet Armyworm <sup>1,3</sup> Corn Earworm Diamondback Moth <sup>3</sup> Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leafhopper species Meadow Spittlebug Plant Bug species including Lygus species <sup>3</sup> Spider Mite species <sup>2</sup> Stink Bug species Thrips species <sup>2</sup> Vegetable Weevil (Adult) Whitefly species <sup>2,3</sup> Yellowstriped Armyworm	0.02 - 0.03	2.56 - 3.84

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

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

**Application Instructions for COLE CROPS (HEAD AND STEM BRASSICA):**

- 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 gal. of water per acre.
- 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

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
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 <sup>3</sup> Pink Bollworm Saltmarsh Caterpillar	0.02 - 0.03	2.56 - 3.84
Bandedwing Whitefly <sup>2,3</sup> Beet Armyworm <sup>1,3</sup> Boll Weevil Brown Stink Bug Cotton Aphid <sup>2,3</sup> Cotton Bollworm European Corn Borer Fall Armyworm Green Stink Bug Southern Green Stink Bug Sweetpotato Whitefly <sup>2,3</sup> Tobacco Budworm <sup>3</sup> Twospotted Spider Mite <sup>2</sup>	0.025 - 0.04	3.20 - 5.12

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

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

### Application Instructions for COTTON:

- Apply as required by scouting, usually at intervals of 5 - 7 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.
- Applications may also be made with equipment adapted and calibrated for ULV sprays. **A115.02** may be mixed with once-refined vegetable oil and applied in a minimum of at least one qt. of finished spray /A.
- 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, **A115.02** also provides ovicidal control of unhatched *Heliothine* species eggs.
- 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:**

Chayote (fruit); Chinese Waxgourd (Chinese preserving melon); Citron Melon; Cucumber Gherkin; Gourd (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; Muskmelon (hybrids and/or cultivars of *Cucumis melo*)- includes: true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, 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*

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Armyworm species <sup>1</sup>	0.02-0.03	2.56-3.84
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 <sup>1</sup>		
Melonworm		
Pickleworm		
Plant Bug species		
Rindworm species complex		
Saltmarsh Caterpillar		
Squash Beetle		
Squash Bug species		
Squash Vine Borer species		
Stink Bug species		
Thrips species <sup>1,2</sup>		
Tobacco Budworm <sup>1</sup>		
Webworm species		
Aphid species <sup>1</sup>	0.03	3.84
Leafminer species <sup>1,3</sup>		
Spider Mite species <sup>3</sup>		
Whitefly species <sup>1,3</sup>		

<sup>1</sup> See **Resistance** statement under **General Use Directions**.

<sup>2</sup> Does not include Western Flower Thrips

<sup>3</sup> Suppression only.

**Application Instructions for CUCURBIT VEGETABLES:**

- 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 gal. total solution per acre. When applying by ground, a minimum of 10 gal. 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.
- 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 **A115.02**.
- Do not apply more than 0.18 lb. a.i. (23 fl. oz. or 1.44 pt. of product) per acre per season. Do not apply within 1 day of harvest.

**FRUITING VEGETABLES:**

**Eggplant; Ground cherry; Pepino; Peppers (bell and nonbell); Tomatillo; Tomato**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Cabbage Looper Cutworm species Hornworm species	0.015 - 0.025	1.92 - 3.20
Aphid species <sup>2,3</sup> Beet Armyworm <sup>1,3</sup> Blister Beetle species Colorado Potato Beetle <sup>3</sup> Cucumber Beetle species (Adult) European Corn Borer <sup>4</sup> Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leafhopper species Leafminer species <sup>2</sup> Meadow Spittlebug Pepper Weevil (Adult) Plant Bug species Southern Armyworm <sup>1</sup> Spider Mite species <sup>2</sup> Stalk Borer <sup>4</sup> Stink Bug species Thrips <sup>5</sup> Tobacco Budworm <sup>3</sup> Tomato Fruitworm Tomato Pinworm Tomato Psyllid <sup>2,3</sup> Vegetable Weevil (Adult) Whitefly species <sup>2,3</sup> Yellowstriped Armyworm <sup>1</sup>	0.02 - 0.03	2.56 - 3.84

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

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

<sup>4</sup> For control before the larva bores into the plant stalk or fruit.

<sup>5</sup> Does not include Western Flower Thrips.

**Application Instructions for FRUITING VEGETABLES:**

- 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 gal. of water per acre.

- 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

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Army Cutworm Cutworm species Essex Skipper Range Caterpillar Striped Grass Looper	0.015 - 0.025	1.92 - 3.2
Beet Armyworm Billbug species <sup>3</sup> Bird Cherry-Oat Aphid <sup>1</sup> Black Grass Bug Black Turfgrass Beetle (adult) Blue Stem Midge Cereal Leaf Beetle Chinch Bug Crane Fly species Cricket species English Grain Aphid <sup>1</sup> Fall Armyworm Flea Beetle species Grass Mealybug Grass Sawfly (adult) Grasshopper species Green June Beetle (adult) Greenbug <sup>1,2</sup> Japanese Beetle (adult) Katydid species Leafhopper species Mite species <sup>3</sup> Russian Wheat Aphid <sup>1</sup> Southern Armyworm Spittlebug species Stink Bug species Sugarcane Aphid Thrips species Tick species True Armyworm Webworm species Yellowstriped Armyworm	0.02 - 0.03	2.56 - 3.84

<sup>1</sup> Best control is obtained before insects begin to roll leaves.

<sup>2</sup> See **Resistance** statement under **General Use Directions**.

<sup>3</sup> Suppression only.

**Application Instructions for GRASS FORAGE, FODDER AND HAY:**

- 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 gal. total solution per acre. When applying by ground, a minimum of 7 gal. 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.
- For chinch bug control, **A115.02** 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. **A115.02** may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.
- 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. per acre 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 AND PEAS):**

**Edible Podded (Only) including:** *Canavalia ensiformis* – jackbean; *Canavalia gladiata* - sword bean; *Glycine max* – soybean (immature seed); **Edible Podded Succulent Shelled or Dried Shelled including:-** *Cajanus cajan* - Pigeon pea; *Phaseolus* species - includes: field, kidney, lima, navy, pinto, runner, snap, tepary and wax beans; *Pisum* species including: dwarf, edible-pod, English, field, garden, green, snow and sugar snap peas; *Vigna* species - includes: adzuki, asparagus, moth, mung, rice, urd and yard long beans, black- eye pea, catjang, Chinese longbean, cowpea, Crowder pea, and Southern pea; **Succulent Shelled or Dried Shelled including:** *Vicia faba*. - broadbean (favabean); **Dried Shelled (Only) including:** *Cicer arietinum* - chickpea (garbanzo bean), *Cyamopsis tetragonoloba* – guar, *Lablab purpureus* - Lablab bean (hyacinth bean), *Lupinus* species - includes: grain, sweet, white and sweet white lupines, *Lens esculata* - Lentils

Target Pests	Rate	
	lb. a.i./A	fl. oz /A
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 <sup>4</sup> Armyworm <sup>2</sup> Bean Leaf Beetle Bean Leafskeletonizer Blister Beetle species Corn Earworm Corn Rootworm Beetle species (Adult)	0.02 - 0.03	2.56 - 3.84



Cucumber Beetle species (Adult) Curculio and Weevil species <sup>1</sup> (foliage and pod feeding adults and larvae) European Corn Borer Fall Armyworm <sup>2</sup> Flea Beetle species (Adult) Flea Hopper species Grasshopper species Japanese Beetle (Adult) Leafhopper species Leaftier species Looper Species Meadow Spittlebug Painted Lady Butterfly (larvae) Plant Bug species Including Lygus species <sup>4</sup> Stalk Borer <sup>1</sup> Stink Bug species Threecornered Alfalfa Hopper Thrips species <sup>4,5</sup> Tobacco Budworm Webworm species Western Bean Cutworm <sup>2</sup> Western Yellowstriped Armyworm Yellowstriped Armyworm <sup>2</sup>		
Beet Armyworm <sup>3,4</sup> Leafminer species <sup>3,4</sup> Lesser Cornstalk Borer <sup>3</sup> Soybean Looper <sup>3,4</sup> Spider Mite species <sup>3</sup> Whitefly species <sup>3,4</sup>	0.03	3.84

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

<sup>2</sup> Use higher rates for large larvae.

<sup>3</sup> For suppression only.

<sup>4</sup> See **Resistance** statement under **General Use Directions**.

<sup>5</sup> Does not include Western Flower Thrips.

**Application Instructions for LEGUME VEGETABLES (BEANS AND PEAS):**

- 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 gals. of water per acre.
- 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 pt. 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)

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
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 Aphid <sup>4</sup> Threecornered Alfalfa Hopper Thrips species <sup>5</sup> Velvetbean Caterpillar Woollybear Caterpillar	0.015 - 0.025	1.92 - 3.20
Armyworm <sup>1</sup> Blister Beetle species European Corn Borer Fall Armyworm <sup>1</sup> Grasshopper species Japanese Beetle (Adult) Plant Bug species Silverspotted Skipper Stink Bug species Tobacco Budworm <sup>3</sup> Webworm species Yellowstriped Armyworm <sup>1</sup>	0.025 - 0.03	3.20 - 3.84
Beet Armyworm <sup>2,3</sup> Lesser Cornstalk Borer <sup>2</sup> Soybean Looper <sup>2,3</sup> Spider Mite species <sup>2</sup>	0.03	3.84

<sup>1</sup> Use higher rates for large larvae.

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

<sup>4</sup> Use lower rates for early season applications and/or lighter populations.

<sup>5</sup> Does not include Western Flower Thrips.

### Application Instructions for LEGUME VEGETABLES (SOYBEANS):

- 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.

- Do not graze or harvest treated soybean forage, straw or hay for livestock feed.
- 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 gal. of water per acre.
- For control of adult corn rootworm beetles (*Diabrotica* species) as part of an aerial applied corn rootworm control program use a minimum of 0.02 lb. a.i. (2.56 fl. oz. of product) per acre.
- 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 AND LEAF)

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Alfalfa Looper Cabbage Looper Cutworm species Green Cloverworm Imported Cabbageworm Saltmarsh Caterpillar	0.015 - 0.025	1.92 - 3.20
Aphid species <sup>2,3</sup> Armyworm Beet Armyworm <sup>1,3</sup> Corn Earworm Diamondback Moth <sup>3</sup> European Corn Borer Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leafhopper species Meadow Spittlebug Plant Bug species including <i>Lygus</i> species <sup>3</sup> Southern Armyworm Spider Mite species <sup>2</sup> Stink Bug species Tobacco Budworm <sup>3</sup> Vegetable Weevil (Adult) Whitefly species <sup>2,3</sup>	0.02 - 0.03	2.56 - 3.84

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

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

#### Application Instructions for LETTUCE (HEAD AND LEAF):

- 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 gal. of water per acre.
- 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

Target Pests	Rate	
	lb. a.i./A	fl. oz. /A
Cutworm species Leafminer species (Adult) Onion Maggot (Adult) Seedcorn Maggot (Adult)	0.015 - 0.025	1.92 - 3.20
Aphid species <sup>2</sup> Armyworm species <sup>1</sup> Flower Thrips <sup>2,3</sup> Onion Thrips <sup>3</sup> Plant Bug species Stink Bug species Tobacco Thrips <sup>3</sup> Western Flower Thrips <sup>3</sup>	0.02 - 0.03	2.56 - 3.84

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

<sup>2</sup> Suppression only.

<sup>3</sup> See Resistance statement under General Use Directions.

### Application Instructions for ONION (BULB) AND GARLIC:

- 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 gal. of water per acre.
- For thrips control by aerial application, the addition of 1% COC v/v, 1/4% NIS v/v or a silicone adjuvant (follow manufacturers use directions) may enhance the deposition of the spray and increase plant coverage.
- 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

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Cutworm species Green Cloverworm Potato Leafhopper Red-necked Peanut Worm Threecornered Alfalfa Hopper Velvetbean Caterpillar	0.015 - 0.025	1.92 - 3.20
Bean Leaf Beetle Corn Earworm Fall Armyworm <sup>1</sup> 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 <sup>2</sup>	0.03	3.84
Beet Armyworm <sup>2,3</sup>		
Lesser Cornstalk Borer <sup>2</sup>		
Soybean Looper <sup>2,3</sup>		
Spider Mite species <sup>2</sup>		

<sup>1</sup> Use higher rates for large larvae.

<sup>2</sup> Suppression only.

<sup>3</sup> See Resistance statement under General Use Directions.

**Application Instructions for PEANUTS:**

- 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 gal. of water per acre.
- 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**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Apple Aphid	0.02 - 0.04	2.56 - 5.12
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 <sup>1</sup>		
Pear Sawfly		
Periodical Cicada		
Plant Bug species		
Plum Curculio		
Rosy Apple Aphid		
San Jose Scale (fruit infestations only)		
Spirea Aphid <sup>1</sup>		
Stink Bug species		
Tent Caterpillar species		
Tentiform Leaf Miner species		
Tree Borer species		
Tufted Apple Budworm		
Webworm species		

<sup>1</sup> Suppression only

**Application Instructions for POME FRUITS:**

- 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 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 gal. of water per acre, but use higher volumes as appropriate for thorough coverage.
- 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.

**STONE FRUITS:**

**Apricot, Chickasaw Plum, Damson Plum, Japanese Plum, Nectarine, Peach, Plum, Plumcot, Prune, Sweet and Tart Cherry**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
American Plum Borer	0.02 - 0.04	2.56 - 5.12
Apple Maggot (Adult)		
Black Cherry Aphid		
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		

**Application Instructions for STONE FRUITS:**

- 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 a minimum of 5 gals. of water per acre, but use higher volumes as appropriate for thorough coverage.
- 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

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Mexican Rice Borer <sup>1</sup> Pygmy Mole Cricket Rice Stalk Borer <sup>1</sup> Sugarcane Aphid <sup>3</sup> Sugarcane Beetle (Adult) <sup>2</sup> Sugarcane Borer <sup>1</sup> West Indian Crane fly Yellow Sugarcane Aphid <sup>3</sup>	0.025 - 0.04	3.20 - 5.12

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

<sup>2</sup> Suppression only of beetles active above ground.

<sup>3</sup> See Resistance statement under General Use Directions.

### Application Instructions for SUGARCANE:

- 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.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply a minimum of 2 gal. of water per acre.
- 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

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Cutworm species Sunflower Beetle	0.015 - 0.025	1.92 - 3.20
Banded Sunflower Moth Fall Armyworm <sup>1</sup> 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 <sup>2,3</sup> Spider Mite species <sup>2</sup>	0.03	3.84

<sup>1</sup> Use higher rates for large larvae.

<sup>2</sup> Suppression only.

<sup>3</sup> See Resistance statement under General Use Directions.

**Application Instructions for SUNFLOWERS:**

- 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 sunflower heads and/or foliage. When applying by air, apply in a minimum of 2 gal. of water per acre.
- 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. (0.72 pt.) /A per season after bloom initiation.
- Do not apply as an ultra-low volume (ULV) spray.

**TOBACCO**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Armyworm species <sup>1</sup>	0.015 - 0.03	1.92 - 3.84
Blister Beetle species		
Cabbage Looper		
Corn Earworm		
Cucumber Beetle species (Adult)		
Cutworm species		
Grasshopper species		
Japanese Beetle (Adult)		
Katydid species		
Plant Bug species <sup>3</sup>		
Potato Tuberworm		
Salt Marsh Caterpillar		
Stinkbug species		
Tobacco Aphid species <sup>2,3</sup>		
Tobacco Budworm <sup>3</sup>		
Tobacco Flea Beetle (Adult)		
Tobacco Hornworm		
Tobacco Thrips species <sup>2</sup>		
Tomato Hornworm		
Tree Cricket species		
Vegetable Weevil (Adult)		
Webworm species		

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

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **General Use Directions**.

**Application Instructions for TOBACCO:**

- 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.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage. When applying by air, apply in a minimum of 2 gal. of water per acre.
- 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 (Hazelnut), Hickory Nut, Macadamia Nut (Bush Nut), Pistachio, Walnut, Black Walnut, English (Persian)**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Ants	0.02 - 0.04	2.56 - 5.12
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)		

**Pecans**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Hickory Shuckworm	0.02 - 0.04	2.56 - 5.12
Pecan Aphid species		
Pecan Casebearer species		
Pecan Phylloxera species		
Pecan Spittlebug		
Pecan Weevil		
Stink Bug species		

**Application Instructions for TREE NUTS:**

- 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 gal. of water per acre, but use higher rates as appropriate for thorough coverage.
- 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 (Potato, Sweet Potato, Yams and Related):**

**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)**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Cutworm species	0.015 - 0.025	1.92 - 3.20
Leafhopper species		
Saltmarsh Caterpillar		
Sweet Potato Hornworm		
Woollybear Caterpillar species		

Aphid species <sup>1</sup>	0.02 - 0.03	2.56 - 3.84
Armyworm species <sup>1</sup>		
Blister Beetle species		
Colorado Potato Beetle <sup>1</sup>		
Corn Earworm		
Cricket species		
Cucumber Beetle species (adults)		
European Corn Borer		
Flea Beetle species (adults)		
Grasshopper species		
Looper species <sup>1</sup>		
Lygus Bug species <sup>1</sup>		
Plant Bug species		
Potato Psyllid		
Potato Tuberworm		
Stink Bug species		
Sweet Potato Leaf Beetle (adults)		
Sweet Potato Vine Borer		
Thrips species <sup>1,2</sup>		
Tortoise Beetle species		
Webworm species		
Weevil species (adults)		
Leafminer species <sup>1,3</sup>	0.03	3.84
Whitefly species <sup>1,3</sup>		
Spider Mite species <sup>3</sup>		

<sup>1</sup> See Resistance statement under General Use Directions.

<sup>2</sup> Does not include Western Flower Thrips.

<sup>3</sup> Suppression only.

**Application Instructions for TUBEROUS AND CORM VEGETABLES:**

- 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 and application methods to obtain full coverage of all above ground plant parts. When applying by air, apply in a minimum of 2 gal. total solution per acre. When applying by ground, a minimum of 10 gal. 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.
- 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 **A115.02**.
- 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 within 7 days of harvest.

## NON-AGRICULTURAL USES

### CONIFER AND DECIDUOUS TREES:

#### Plantations and Nurseries

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
Bagworm	0.02 - 0.04	2.56 - 5.12
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 species <sup>1</sup>		
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		

<sup>1</sup> Suppression only.

#### Application Instructions for CONIFER AND DECIDUOUS TREES:

- 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.
- Apply with ground equipment using sufficient water to obtain full coverage of target site. When applying by air, apply a minimum of 2 gal. of water per acre.
- 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**

Target Pests	Rate
Coneworm species Seed Bug species Thrips species	<ul style="list-style-type: none"> <li>• For high volume sprayers, dilute 5.12 fl. oz. per 100 gal. of water and apply 5-10 gal. of finished spray per tree.</li> <li>• For low volume sprayers, dilute 20 fl. oz. per 100 gal. of water and apply 100 gal. of finished spray per acre.</li> <li>• For aerial applications, apply 15 fl. oz. per acre in a minimum of 10 gal. finish spray per acre.</li> </ul>

**Application Restriction for CONIFER AND DECIDUOUS TREES: Seed Orchards:**

- Do not apply more than 0.5 lb. a.i. (64 fl. oz. or 4 pt. of product) per acre per year.

**NON-CROPLAND (Crop Outlets, including turn rows, wind rows, hedge rows, field borders and buffer zones)(EXCLUDING PUBLIC LAND)**

Target Pests	Rate	
	lb. a.i./A	fl. oz./A
See Crop Outlets on this <b>A115.02</b> label for target pest and rates.	See Crop Outlets	See Crop Outlets

**Application Instructions for NON-CROPLAND (EXCLUDING PUBLIC LAND):**

- 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 in this label for the adjacent crop outlet and target pests.
- Use highest labeled rates for dense/large foliage, high insect populations and larger larval stages.
- Repeat as necessary to maintain control.
- Do not exceed 0.2 lb. a.i. (25.6 fl. oz. or 1.6 pt. of product) per acre per year.
- Do not graze livestock in treated areas.

**Rate Conversion Chart**

Lb. A.I. Per Acre	Fl. Oz. Per Acre	Pints Per Acre	Treated Acres Per Gallon
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

## STORAGE AND DISPOSAL

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

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

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

### CONTAINER HANDLING:

**Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**For packages up to 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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. 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 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.

**For packages greater than 5 gallons and less than 56 gallons:** 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 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.

**For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For refillable containers:** Refill this container with this product 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 mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Container Disposal – Returnable/Refillable Sealed Container:** Do not rinse container. Do not break seals. Replace the dust cover/cap and return container, intact to point of purchase.

#### **LIMITATION OF WARRANTY AND LIABILITY**

**IMPORTANT: READ BEFORE USE.** Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

[A115.02] is a trademark of Atticus, LLC

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**{LANGUAGE ON LABEL AFFIXED TO CONTAINER}**

**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.**

**A115.02™**

[Alternate Brand Name: Serpent 1 EC]

**Active Ingredient:**

Lambda-cyhalothrin<sup>1</sup>  
[1α(S\*),3α(Z)]-(±)-cyano-(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-

dimethylcyclopropanecarboxylate.....13.1%

**Other Ingredients** .....86.9%

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

<sup>1</sup> Synthetic pyrethroid

Contains petroleum distillates.

Contains 1 pound of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**DANGER/PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for treatment</li> </ul>

**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. For emergency medical assistance, call SafetyCall: **1-844-685-9173**. For chemical emergency: spill, leak, fire, exposure or accident, call CHEMTREC: **1-800-424-9300**.

**Applicator must read the label booklet for application instructions, restrictions, and precautions.**

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
DANGER/PELIGRO**

Corrosive. Causes skin burns. May be fatal if swallowed or inhaled. Causes substantial but temporary eye injury. Do not get in eyes on skin or clothing. Do not breathe vapor or spray mist. Harmful if absorbed through skin. Wear protective clothing, gloves, eyewear (goggles, face shield, or safety glasses) and respirator as indicated under **Personal Protective Equipment**. Wash 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 a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2 to 30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

**ENVIRONMENTAL HAZARDS:** This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife. For terrestrial use: do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment

**STORAGE AND DISPOSAL**

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

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

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

**CONTAINER HANDLING:**

**Nonrefillable Container:** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Container Disposal – Returnable/Refillable Sealed Container:** Do not rinse container. Do not break seals. Replace the dust cover/cap and return container, intact to point of purchase.

area.

**Manufactured for:**

Atticus, LLC  
501 Cascade Pointe Lane, Suite 102  
Cary, NC 27513  
[0118] [20180104a]

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