

34704-923

2/20/2013

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Premjit Halarnkar, Ph. D., MPA
Loveland Products Inc.
P.O. Box 1286
Greely, CO 80632-126

FEB 20 2013

Subject: Label Amendment – adding ornamentals
EPA Registration No. 34704-923
Submission Date: November 8, 2012
Decision #: 471961

Dear Dr. Halarnkar:

The labeling referred to above, submitted under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. Submit two copies of your final printed labeling before you release the product for shipment. A stamped copy is enclosed for your records. If you have any questions, please contact me at (703) 347-0263 or rogala.jessica@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "John Hebert".

John Hebert
Product Manager 07
Insecticide-Rodenticide Branch
Registration Division (7505P)

RESTRICTED USE PESTICIDE

Toxic to fish, mammals, 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 6 INSECTICIDE



REAPER® 0.15EC

ACTIVE INGREDIENT:

Abamectin (CAS No. 65195-56-4 and No. 65195-55-3) 2.0%*

OTHER INGREDIENTS: 98.0%

TOTAL 100.0%

*1 gallon contains 0.15 pound abamectin

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

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

See additional precautionary statements and directions for use in booklet.

FIRST AID

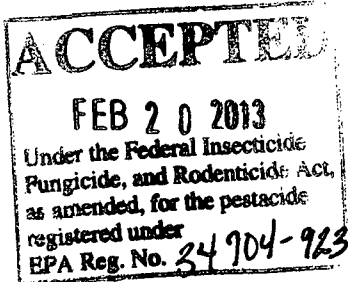
If swallowed:	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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 person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Note to Physician: Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of this product can be minimized by early administration of chemical absorbants (e.g., activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements.

In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1 866-944-8565.



EPA REG. NO. 34704-923
EPA EST. NO. 34704-MS-001
NET CONTENTS 1 GAL (3.78 L)

EXP 10/12 ORNAMENTALS

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REAPER® 0.15 EC
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**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING—AVISO**

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if inhaled or absorbed through the skin. Avoid breathing spray mist. Avoid contact with skin. Prolonged or frequently repeated exposure may cause allergic skin reactions in some individuals.

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 B on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Coveralls worn over short-sleeved shirt and short pants,
- Chemical-resistant gloves - EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber \geq 14 mils),
- Chemical-resistant footwear plus socks,
- Protective eyewear,
- Chemical-resistant headgear for overhead exposure,
- Chemical-resistant apron when cleaning equipment, mixing, or loading.

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash 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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and wildlife. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from target areas. Do not contaminate water when disposing of equipment wash water or rinsate. 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.

Use of this product may pose a risk to threatened and endangered species of fish, amphibians, crustaceans (including fresh water shrimp), and insects. All use of this product in the state of California should comply with the recommendations of the California Endangered Species Project. Before using this product in California, consult with your county agriculture commissioner to determine use limitations that apply to your area.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several weeks to months after application. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of abamectin from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours.

PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame.

ATTENTION

This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

**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.

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AGRICULTURAL USE REQUIREMENTS

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

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

Exception: For grape girdling, cane turning, and tying in grapes, do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 days.

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-sleeved shirt and short pants,
- Chemical-resistant gloves - EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber \geq 14 mils),
- Chemical-resistant footwear plus socks,
- Protective eyewear,
- Chemical-resistant headgear for overhead exposure.

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.

Do not reenter treated areas until sprays have dried.

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

APPLICATION INFORMATION

Reaper® 0.15 EC is an emulsifiable concentrate that will control certain pests on the crops listed on this label when the product is applied according to the **Directions for Use**. Thorough coverage of foliage is essential for good mite and insect control.

NOTE:

- **Phytotoxicity:** Reaper 0.15 EC has been tested for phytotoxicity and has a wide margin of safety on a variety of crops. Reaper 0.15 EC has also been shown to be compatible with many commonly used pesticides, crop oils, and nutritional sprays. However, since it is not possible to test a large number of possible mixtures, the user should pre-test any proposed mixtures with Reaper 0.15 EC to ensure the physical compatibility and lack of phytotoxic effects.
- **New York State Restrictions:** Do not apply Reaper 0.15 EC with aircraft in New York State.

Chemigation

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

SPRAY DRIFT

Responsibility

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions.

NOTE: When states have more stringent regulations, they must be observed.

Spray Drift Precautions for Application with Aircraft or Ground Application Equipment

- Apply Reaper 0.15 EC only when wind velocity favors on target product deposition (approximately 3 to 10 mph).
- Do not apply with ground application equipment within 25 feet of or with aircraft within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes, pot holes, natural ponds, estuaries, or commercial fish farm ponds.
- Do not cultivate within 25 feet of the aquatic area to allow growth of a vegetative filter strip.
- Do not allow this product to drift onto non-target areas. Drift may result in illegal residues or injury to nontarget species. Risk of exposure to sensitive areas can be reduced by applying this product when the wind direction is away from the sensitive area.
- Do not apply when the weather conditions may cause drift.
- Avoid application when the temperature is high and/or the humidity is low. These conditions increase the evaporation of spray droplets and the likelihood of drift to aquatic areas.
- Do not apply when wind speed or wind gusts are greater than 15 mph.
- Do not apply when wind speed is below 2 mph because wind direction will vary and there is a high potential for inversion.

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**REAPER® 0.15 EC
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- Observe the following precautions when using ground application to spray tree crops or hops in the vicinity of aquatic areas such as lakes, reservoirs, permanent streams, marshes, potholes, natural ponds, estuaries, or commercial fish ponds:
 - Do not apply Reaper 0.15 EC when weather conditions favor drift to aquatic areas.
 - Do not apply within 110 feet upwind of aquatic areas or when wind speed is above 8 mph.
 - Spray last 3 rows windward of aquatic areas using nozzles on one side only, with spray directed away from the aquatic areas.
 - Avoid spray going over tops of trees by adjusting or turning off top nozzles. Shut off nozzles on the side away from the grove/orchard when spraying the outside row. Shut off nozzles when turning at ends of row and passing tree gaps in rows.

Spray Drift Precautions for Aerial Application

Drift Management Requirements

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops.

Outermost Nozzle Distance

The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

Nozzle Direction

Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Maximum Wind Speed

Do not apply when wind speed is greater than 15 mph.

Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

For some use patterns, reducing the effective boom length to less than 3/4 of the wing span or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a cross wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind.

Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential.

NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

To compensate for evaporation when applying Reaper 0.15 EC in low relative humidity, set up equipment to produce larger droplets. Evaporation of droplets is most severe when conditions are both hot and dry.

Temperature Inversions

Reaper 0.15 EC must not be applied during a temperature inversion because the potential for drift is high. Temperature inversions restrict vertical air mixing, and this causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds that are common during inversions. Temperature inversions are characterized by temperatures that increase with altitude and are common on nights with limited cloud cover and light to no wind. Inversions begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates, indicates good vertical air mixing.

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Resistance Management

Reaper 0.15 EC is a Group 6 insecticide (contains the active ingredient abamectin). Because of the inherent risks of pests developing resistance to any product, it is strongly advised that Reaper 0.15 EC be used in a sound resistance management program. Treatment may not be effective against labeled pests if insect or mite-tolerant strains develop. When applying Reaper 0.15 EC to plants that are hosts of labeled pests with multiple generations per crop per year, use resistance management practices.

Resistance management practices may include, but are not limited to:

- rotating Reaper 0.15 EC with other products with different modes of action,
- avoiding treatment of successive generations with Reaper 0.15 EC,
- using labeled rates of the specified spray intervals,
- using non-chemical alternatives such as beneficial anthropods,
- rotating susceptible to non-susceptible plants, and
- using various cultural practices.

For additional information regarding the implementation of these or other resistance management practices, consult your local agricultural advisor or company representative.

CROP USE DIRECTIONS

APPLES

For control of European red mite, McDaniel spider mite, Tentiform leafminer, Twospotted spider mite, and White apple leafhopper

Reaper 0.15 EC may be applied using conventional dilute or concentrate ground application sprayers calibrated to deliver sufficient water for thorough coverage. Gallons of spray will vary with size and number of trees per acre and density of foliage. In any case, thorough coverage is essential for good Spider mite and insect control.

Note:

- For best results, apply in combination with horticultural spray oil (not a dormant oil) as directed. Applications without horticultural spray oil may result in reduced efficacy and/or residual control.
- When used alone or when other products are applied sequentially, Reaper 0.15 EC in combination with horticultural spray oil may injure the fruit of certain apple varieties (e.g. russetting on light-skinned varieties such as Golden delicious).
- When using Reaper 0.15 EC plus horticultural spray oil, carefully follow the **Directions for Use** and **Precautions** on the horticultural spray oil label as well as the precautions in official spray guides or on product labels. For example, applying Reaper 0.15 EC plus horticultural spray oil in less than 14 days before or after applying Captan can result in phytotoxicity and crop loss.

Pest	Dilute Sprays^a Fl Ozs/100 Gals	Concentrate Sprays^b Fl Ozs/A	Instructions
European red mite	2.5 to 5.0	10.0 to 20.0	<ul style="list-style-type: none"> • Apply Reaper 0.15 EC when Spider mite or insect thresholds are reached. • A second application may be made if needed to maintain control. (See Use Restrictions). • Spider mites: For best results, apply before a threshold of 5 Spider mites per leaf is reached. Residual Spider mite control with Reaper 0.15 EC in combination with horticultural spray oil (not a dormant oil) is greater from spray deposits on newer leaves compared to older. Applications of Reaper 0.15 EC for Spider mite control should be limited to a period extending from petal fall through 6 weeks following petal fall. • Tentiform leafminer: For best results, apply against egg (to control new hatch) and early sap-feeder stages of first and second generation Tentiform leafminers when locally established thresholds have been reached. Do not apply during bloom. • White apple leafhopper (Not for use west of the Rocky Mountains): Application of Reaper 0.15 EC is limited only to first generation White apple leafhoppers. Apply soon after petal fall in combination with horticultural spray oil (not a dormant oil).
McDaniel spider mite			
Tentiform leafminer			
Twospotted spider mite			
White apple leafhopper			
Horticultural Spray Oil (not a dormant oil)	0.25% or 1.0 gal/A	Minimum of 1.0 gal/A	

^a The rate of Reaper 0.15 EC per 100 gallons is based on a volume of 400 gallons per acre dilute spray.

^b To determine the amount of product per acre for concentrate sprays, first determine the amount that would be required in a full cover dilute spray. Use the same amount of product per acre in concentrate sprays as would be required for the dilute sprays to the same orchard/grove. This may result in use of less than 10.0 fluid ounces per acre on small trees.

Use Restrictions:

PHI: Do not apply within **28** days of harvest.

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Apples cont'd.:

Application Method: Ground application only. Do not apply with aircraft.

Amount of Water: Do not apply in less than 40.0 gallons of water per acre.

Maximum Amount per Application: Do not apply more than 20.0 fluid ounces per acre (or 0.023 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: If a second application is necessary, wait at least 21 days before repeating application.

Number of Applications: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product per growing season.

Maximum Amount per Season: Do not apply more than 40.0 fluid ounces per acre (or 0.047 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Grazing: Do not allow livestock to graze in treated orchards.

AVOCADOS

For control of Avocado thrips

Note: Reaper 0.15 EC may be applied using ground application equipment or aircraft. Aerial application is permitted because of its importance to the avocado growing industry. However, aerial application is not the preferred method of application for the best control of Thrips. With aerial application, spray coverage and the resulting control of Thrips is less than with ground application. For this reason, the user accepts all liability for the level and duration of control of Thrips when Reaper 0.15 EC is aerially applied.

Gallons of spray will vary with size and number of trees per acre and density of foliage. In any case, thorough coverage is essential for good Mite and Insect control.

Pest	Fl Ozs/A	Instructions
Avocado thrips (<i>Scirtothrips perseae</i>)	10.0 to 20.0 Do not use less than 10.0 fl ozs of product/A	<ul style="list-style-type: none"> • For best results, apply when immature Thrips are first observed but before numbers exceed 5 immature Thrips per leaf/fruit. • Use 10.0 to 15.0 fl ozs of product/A for low* to moderate* infestations and 15.0 to 20.0 fl ozs of product/A for severe* infestations. Add 1.0 to 4.0% of a horticultural spray oil (not a dormant oil) approved for use on avocados.
Horticultural Oil (not a dormant oil)	Minimum 1.0 to 4.0% v/v	<ul style="list-style-type: none"> • Make a second application, if needed, to maintain control, but wait at least 30 days after the first application to retreat. (See Use Restrictions) • For Ground Application: If spray volume is greater than 400 gals/A apply Reaper 0.15 EC at a rate of 2.5 fl ozs/100 gals of water plus 1.0 to 4.0% of a horticultural spray oil (not a dormant oil) approved for use on avocados. • Note: To prevent crop injury, observe all precautions and restrictions on the oil label. When using oil concentrations above 2.0% treat a small test area before making a large-scale application.

*Thrips Infestation Level	Number of immature Thrips per leaf/fruit
Low	1 to 2
Moderate	3 to 4
Severe	More than 5

Use Restrictions:

PHI: Do not apply within 14 days of harvest.

Application Method: Ground and aerial application permitted.

Amount of Water: Do not apply in less than 100 gallons of water with ground equipment or 50.0 gallons of water with aircraft.

Application Interval: Wait at least 30 days before repeating application.

Number of Applications: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin-containing product per season.

Maximum Amount per Season: Do not apply more than 40.0 fluid ounces per acre (or 0.047 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per season.

Maximum Amount per Application: Do not apply more than 20.0 fluid ounces per acre (or 0.023 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Grazing: Do not allow livestock to graze in treated orchards.

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CELERIAC (*Apium graveolens*)

For control of Twospotted spider mite

Reaper 0.15 EC may be applied using conventional dilute or concentrate sprayers. Thorough coverage of the crop canopy is essential for optimum results. Inadequate crop coverage may result in reduced control. Calibrate sprayer to deliver sufficient water for thorough coverage of the foliage.

Pest	Fl Ozs/A	Instructions
Twospotted spider mite	16.0	<ul style="list-style-type: none"> • For best results, use in combination with a non-ionic surfactant. • Apply when mites first appear and repeat as necessary to maintain control. (See Use Restrictions)

Use Restrictions:

PHI: Do not apply within 7 days of harvest.

Application Method: Apply with ground application equipment only.

Amount of Water: Do not apply in less than 20.0 gallons of water per acre.

Application Interval: Wait at least 7 days before repeating application.

Number of Applications: Do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product.

Maximum Amount per Season: After transplanting the celeriac, do not apply more than 48.0 fluid ounces per acre (or 0.056 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per season.

CITRUS FRUIT CROP GROUP 10

Crops in this group are: Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Sour orange, Sweet orange, Pummelo, and Satsuma mandarin.

For control of Asian citrus psyllid, Broad mite, Citrus bud mite, Citrus leafminer, Citrus rust mite, Citrus thrips, and Twospotted spider mite.

Thorough spray coverage is essential for good Mite and Insect control. Spray gallonage may vary depending on size and number of trees per acre as well as density of foliage.

Ground Application

Apply using conventional dilute or concentrate ground application sprayers calibrated to deliver sufficient water for thorough coverage (or outside coverage for Asian citrus psyllid, citrus leafminer, or citrus thrips).

Aerial Application

Aerial application is permitted only for control of Citrus leafminer. Aerial application to citrus is not approved in California.

Pest	Dilute Sprays ^a	Concentrate Sprays ^b	Instructions
	Fl Ozs/100 Gals	Fl Ozs/A	
Asian citrus psylla	--	10.0 to 20.0 ^c	<ul style="list-style-type: none"> • Applications should be made with a minimum of 0.20% horticultural spray oil (not a dormant oil) in the spray mixture or not less than 1.0 gal of oil/A (except when specified differently below). • Asian citrus psylla: Apply to protect newly expanding foliage flush during the spring, summer or fall. Reaper 0.15 EC will only control adults and nymphs present at the time of application. • Mites: Apply when mites first appear during spring, summer, and/or fall. • Citrus bud mite: For best results, time the spray at "bud swell". • Citrus leafminer: Apply to protect new growth during spring, summer, or fall. (See Use Restrictions) • Citrus thrips: Application targeted for citrus thrips will only control the current generation and must be correctly timed. Apply when economic thresholds have been reached (after egg hatch has begun - preferably early to mid-hatch). (See Use Restrictions)
Broad mite	1.0 to 2.0	10.0 to 20.0 ^c	
Citrus bud mite	1.0 to 2.0	10.0 to 20.0 ^d	
Citrus leafminer	--	5.0 to 20.0 ^c	
Citrus rust mite	0.5 to 2.0	5.0 to 20.0 ^c	
Citrus thrips	--	10.0 to 20.0 ^e	
Twospotted spider mite	1.0 to 2.0	10.0 to 20.0	

^a The rate of Reaper 0.15 EC per 100 gallons is based on a volume of 1000 gallons per acre dilute spray.

^b For concentrate sprays, adjust the dosage to apply an amount per acre equal to that used in full cover dilute spray.

^c Ground application: For best results, use 150 to 300 gallons per acre of spray mix with a minimum of 3.0 gallons per acre of horticultural oil (not a dormant oil) and apply at a ground speed of 1.0 to 1.5 mph.

^d For best results, use a minimum of 500 gallons per acre of spray mix with a minimum of 0.5% horticultural spray oil (not a dormant oil).

^e For best results, use 100 to 250 gallons per acre of spray mix applied to achieve outside coverage.

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Citrus Fruit Crop Group cont'd.:

Use Restrictions:

PHI: Do not apply within 7 days of harvest.

Application Method:

To control Citrus leafminer - Ground or aerial application is permitted; however, do not apply with aircraft to citrus in California. For aerial application use a minimum of 10.0 gallons of finished spray volume per acre. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures) use a greater volume of water to insure adequate coverage.

All other pests - Ground application only. Do not apply with aircraft.

Prohibited Use: To manage resistance, do not use in Citrus nurseries.

Application Interval: Do not apply Reaper 0.15 EC, or any other abamectin containing product, within 30 days of the last treatment. To manage insect resistance, see the "**Resistance Management**" heading under the "**GENERAL INFORMATION**" section of this label.

Maximum Amount per Season: Do not apply more than 40.0 fluid ounces per acre (0.047 pound active ingredient per acre) of Reaper 0.15 EC, or any other foliarly applied abamectin containing product, in any growing season. Do not make more than 3 applications of Reaper 0.15 EC, or any other abamectin containing product, in any growing season.

Grazing: Do not allow livestock to graze in treated grove/orchards.

COTTON

For the control of Spider mites

Mix with water as indicated below. Thorough coverage of the crop is essential for optimum results. Inadequate coverage may result in reduced control. For best coverage and control apply Reaper 0.15 EC with ground application equipment.

Pest	Fl Ozs/A	Instructions
Spider mites (Twospotted, Carmine, Pacific and Strawberry)	Lower rate: 4.0 to 6.0 (For early season cotton See Instructions) Higher rate: 8.0 to 16.0	Apply when Mites first appear. The use rate depends on the size of the plant and density of the foliage. Repeat application if needed to maintain control. (See Use Restrictions) The lower use rates of 4.0 to 6.0 fl ozs/A are only recommended if cotton is early season and under 10 inches in height. Do not use less than 4.0 fl ozs/A. West of the Rocky Mountains – the lower use rates may only be used on cotton less than 10 inches in height and applied only with ground equipment. Note: Reaper 0.15 EC may be used without a wetting agent. Spreading and penetrating surfactants can improve mite control. When necessary to improve the wetting of foliage and to smooth out spray deposits, a nonionic surfactant is recommended. Do not use binder or sticker-type surfactants.

Use Restrictions:

PHI: Do not apply within 20 days of harvest.

Application Method: Ground or aerial application is permitted.

Minimum Amount of Water: Do not apply in fewer than 5.0 gallons of water per acre. Use sufficient volume to insure thorough coverage.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application interval: Wait at least 21 days before repeating application.

Maximum Amount per Season: Do not apply more than 32.0 fluid ounces per acre (or 0.038 active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per season.

Grazing Restriction: Do not feed or allow livestock to graze treated cotton.

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REAPER® 0.15 EC
EPA REG. NO. 34704-923

CUCURBITS CROP GROUP 9

Crops in this group are: Chayote, Chinese waxgourd, Citron melon, Cucumbers, Gherkin, Edible gourds (includes Hyotan, Cucuzza, Hechima, Chinese okra), *Momordica* spp. (includes Balsam apple, Balsam pear, Bittermelon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo* includes True cantaloupe, Cantaloupe, Casaba, Crenshaw melon, Golden pershaw melon, Honeydew melon, Honey balls, Mango melon, Persian melon, Pineapple melon, Santa Claus melon and Snake melon), Pumpkin, Summer squash (includes Crookneck squash, Scallop squash, Straightneck squash, Vegetable marrow, zucchini), Winter squash, (includes Butternut squash, Calabaza, Hubbard squash, Acorn squash, Spaghetti squash); Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

For control of Spider mites and Leafminers

Mix with water as indicated below. Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage may result in reduced control.

NOTE: Reaper 0.15 EC may be applied with ground application equipment or aircraft. For best control of mites, apply Reaper 0.15 EC with ground equipment. With aerial application, spray coverage and the resulting control of mites is less than with ground application. For this reason, the user accepts all liability for the level and duration of control of mites when Reaper 0.15 EC is aerially applied.

Pest	Fl Ozs/A	Instructions
Leafminers	8.0 to 16.0	<ul style="list-style-type: none"> • Use 8.0 to 12.0 fl ozs/A for low to moderate infestations and 16.0 fl ozs/A for severe infestations. • Apply when Adult leafminer flies or Spider mites are first observed and repeat application, as needed, to maintain control within constraints of a sound resistance management program. (See Use Restrictions)
Spider mites		

Use Restrictions:

PHI: Do not apply within 7 days of harvest.

Application Method: Ground or aerial application is permitted; however do not apply with aircraft in New York State.

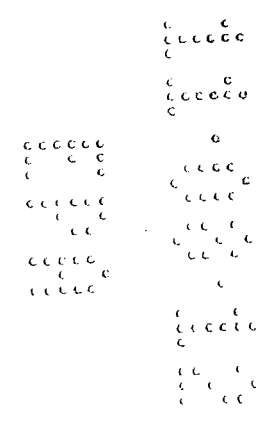
Amount of Water: Do not apply in less than 20.0 gallons of water per acre with ground application equipment. Do not apply in less than 5.0 gallons of water per acre with aircraft. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures) use a greater volume of water to insure adequate coverage.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: Wait at least 7 days before repeating application.

Number of Applications: Do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product.

Maximum Amount per Season: Do not apply more than 48.0 fluid ounces per acre (or 0.056 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.



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REAPER® 0.15 EC
EPA REG. NO. 34704-923

FRUITING VEGETABLE CROP GROUP 8

Crops in this group are: Eggplant, Groundcherry, Pepino, Peppers (includes Bell pepper, Chili pepper, Cooking pepper, Pimento, Sweet pepper), Tomatillo, Tomato

For control of Broad mite, Colorado potato beetle, *Liriomyza* leafminers, Potato psyllid, Spider mites, *Thrips palmi*, Tomato pinworm, and Tomato russet mite

Mix with water as indicated below. Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage may result in reduced control.

NOTE: Reaper 0.15 EC may be applied with ground application equipment or aircraft. For best control of mites, apply Reaper 0.15 EC with ground application equipment. With aerial application, spray coverage and the resulting control of mites is less than with ground application. For this reason, the user accepts all liability for the level and duration of control of mites when Reaper 0.15 EC is aerially applied.

Pest	Fl Ozs/A	Instructions
Broad mite	8.0 to 16.0	<ul style="list-style-type: none"> • Broad, russet, and Spider mite: Apply when mites first appear. • <i>Thrips palmi</i>: Apply when thrips are first observed. • Tomato pinworm: Application may be made from the time moth activity is detected up to, but no later than, the time when newly emerged larvae are present. • Mites, Leafminers, <i>Thrips palmi</i>, and Colorado potato beetle: Use 8.0 fl ozs/A for low to moderate infestations and 16.0 fl ozs/A for severe infestations. • Repeat application as necessary to maintain control. (See Use Restrictions) • Note: Reaper 0.15 EC may be used without a wetting agent. Spreading and penetrating surfactants can improve insect control when necessary to improve the wetting of foliage and to smooth out spray deposits, a non-ionic surfactant is recommended. Do not use binder or sticker-type surfactants.
Colorado potato beetle		
<i>Liriomyza</i> leafminers		
Potato psyllid		
Spider mites		
<i>Thrips palmi</i>		
Tomato russet mite	16.0	
Tomato pinworm		

Use Restrictions:

PHI: Do not apply within 7 days of harvest.

Application Method: Ground or aerial application permitted; however do not apply with aircraft in New York State.

Prohibited Use: For resistance management, do not use on fruiting vegetables grown for transplanting.

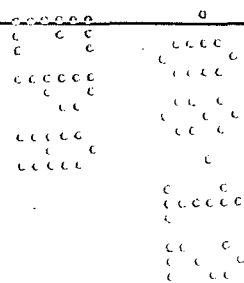
Amount of Water: Do not apply in less than 20.0 gallons of water per acre with ground application equipment. Do not apply in less than 5.0 gallons of water per acre with aircraft. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures) use a greater volume of water to insure adequate coverage.

Application Interval: Wait at least 7 days before repeating application, but do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product.

Number of Applications: Do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product.

Maximum Amount per Season: Do not apply more than 48.0 fluid ounces per acre in a growing season (or 0.056 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (of 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.



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REAPER® 0.15 EC
EPA REG. NO. 34704-923

GRAPES

For control of Pacific spider mite, Twospotted spider mite, Variegated leafhopper, Western grape leafhopper, Western grapeleaf skeletonizer, and Willamette spider mite

Reaper 0.15 EC may be applied using conventional ground sprayers calibrated to deliver sufficient water for thorough coverage. Thorough coverage is essential for good spider mite and insect control. Do not spray alternate rows. Reaper 0.15 EC must be applied to both sides of each row for maximum coverage.

Pest	Fl Ozs/A	Instructions
Pacific spider mite	8.0 to 16.0	<ul style="list-style-type: none"> • Use 8.0 to 12.0 fl ozs/A for low to moderate infestations and 16.0 fl ozs for severe infestations. • Repeat application, if needed. (See Use Restrictions) • Note: Reaper 0.15 EC must be applied in combination with a nonionic surfactant to improve wetting of foliage and to smooth out spray deposits. Spreading and penetrating surfactants can improve insect control. Do not use binder or sticker-type surfactants. Although Reaper 0.15 EC has been tested in combination with a nonionic surfactant for safety to grapes, it is impossible to test on all grape varieties under the variety of conditions that may cause crop injury. Therefore, when using Reaper 0.15 EC in combination with a non-ionic surfactant, carefully follow the Directions for Use and Precautions on the nonionic surfactant label and in official spray guides. • Spider mites: Apply when mites first appear but before motiles exceed 5 per leaf. • Western grapeleaf skeletonizer: Apply Reaper 0.15 EC plus a nonionic surfactant when larvae are first observed. For optimum control, apply shortly after egg hatch. • Leafhoppers: Apply Reaper 0.15 EC plus a nonionic surfactant using thorough spray coverage for contact knock-down only.
Twospotted spider mite	plus a nonionic	
Variegated leafhopper	surfactant	
Western grape leafhopper		
Western grapeleaf skeletonizer		
Willamette spider mite		

Use Restrictions:

PHI: Do not apply within 28 days of harvest.

Application Method: Ground application only.

Amount of Water: Do not apply in less than 50.0 gallons of water per acre with conventional ground application equipment. When using an electro-static sprayer, less than 50.0 gallons of water per acre may be used, however do not use less than 5.0 gallons of water per acre.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: If a second application is necessary, wait at least 21 days before repeating application.

Number of Applications: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product per growing season.

Maximum Amount per Season: Do not apply more than 32.0 fluid ounces per acre (or 0.038 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Grazing: Do not allow livestock to graze in treated vineyards.

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REAPER® 0.15 EC
EPA REG. NO. 34704-923

HERB CROP SUBGROUP 19A (Except Chives)

Crops in this subgroup are: Angelica, Balm, Basil, Borage, Burnet, Catnip, Chamomile, Chervil (dried), Cilantro (leaf), Clary, Coriander (leaf), Costmary, Culantro (leaf), Curry (leaf), Dill weed, Horehound, Hyssop, Lavender, Lemongrass, Lovage (leaf), Marigold, Marjoram (*Origanum* species), Nasturtium, Parsley (dried), Penneyroyal, Rosemary, Rue, Sage, Summer and Winter Savory, Sweet bay, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, and Wormwood.

For control of *Liriomyza* leafminers

Mix with water as indicated below. Apply thoroughly with ground application equipment as a foliar spray and insure good upper and lower leaf coverage.

Pest	Fl Ozs/A	Instructions
<i>Liriomyza</i> leafminers	8.0 to 16.0	<ul style="list-style-type: none"> • Use 8.0 fl ozs/A for low to moderate infestations and 16.0 fl ozs/A for severe infestations. • Apply when adult flies are first observed and repeat application, as necessary to maintain control. (See Use Restrictions) • Reaper 0.15 EC may be used without a wetting agent. When necessary to improve the wetting of foliage and to smooth out spray deposits, a nonionic surfactant is recommended. • Note: Although Reaper 0.15 EC has been tested in combination with a nonionic surfactant for safety to herbs, it is impossible to test on all herb types and varieties under the variety of conditions that may cause crop injury. Therefore, when using Reaper 0.15 EC in combination with a nonionic surfactant, carefully follow the Directions for Use and Precautions on the nonionic surfactant label and in official spray guides.

Use Restrictions:

PHI: Do not apply within 14 days of harvest.

Application Method: Apply with ground application equipment.

Amount of Water: Use a minimum of 20.0 gallons of water per acre.

Application Interval: Wait at least 7 days before repeating application.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Number of Applications: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product/single cutting (harvest).

Maximum Amount per Season: Do not apply more than 48.0 fluid ounces per acre (or 0.056 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per cropping season.

HOPS (Not approved for use in California)

For control of Twospotted spider mite

Mix with water as indicated below. Apply with ground application equipment as a foliar spray and ensure good upper and lower leaf coverage. Gallons of spray may vary with the size of plants and density of foliage. In any case, thorough coverage is essential for good control of Twospotted spider mite. When using concentrate sprays, the amount of water is reduced, but the amount of Reaper 0.15 EC per acre should remain the same as for dilute sprays.

Pest	Fl Ozs/A	Instructions
Twospotted spider mite	8.0 to 16.0	<ul style="list-style-type: none"> • Apply Reaper 0.15 EC when Twospotted spider mites reach treatment thresholds. • For applications at 1/2 trellis growth (6.0 to 8.0 ft height) apply 8.0 to 16.0 fl ozs/A in a minimum of 40.0 gals of water/A. • For applications beyond 1/2 trellis growth, do not use less than 16.0 fl ozs/A in a minimum of 100 gals of water/A. • Note: Reaper 0.15 EC may be used without a wetting agent. When necessary to improve the wetting of foliage and to smooth out spray deposits, a nonionic surfactant is recommended.

Use Restrictions:

PHI: Do not apply within 28 days of harvest.

Application Method: Ground application only. Do not apply with aircraft.

Application Interval: If a second application is necessary to maintain control, wait at least 21 days before repeating application and repeat application only after alternative miticide with a different mode of action has been used.

Hops cont'd.:

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Maximum Number of Applications: Do not make more than 2 applications (32.0 fluid ounces per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per growing season.

Grazing: Do not allow livestock to graze in treated hops yards.

LEAFY VEGETABLE (Except Brassica Vegetables) CROP GROUP 4

Crops in this group are: Amaranth (leafy Amaranth, Chinese spinach, tampala), Arugula (Roquette), Cardoon, Celery, Celtuce, Chervil, Chinese celery, Chrysanthemum edible leaved and garland, Corn salad, Cress garden and upland (Yellow rocket and Winter cress), Dandelion, Dock (Sorrel), Endive (escarole), Fennel, Florence fennel, Garden cress, Lettuce head and leaf, New Zealand Spinach, Orach, Parsley, Purslane garden and winter, Radicchio (Red chicory), Rhubarb, Spinach, Vine spinach, and Swiss chard and Upland cress.

For Control of Carmine spider mite, *Liriomyza* leafminers, and Twospotted spider mite.

Mix with water as indicated below. Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage may result in reduced control.

Note: Reaper 0.15 EC may be applied with ground application equipment or aircraft. For best control of mites, apply Reaper 0.15 EC with ground application equipment. With aerial application, spray coverage and the resulting control of mites is less than with ground application. For this reason, the user accepts all liability for the level and duration of control of mites when Reaper 0.15 EC is aerially applied.

Pest	Fl Ozs/A	Instructions
Carmine spider mite	8.0 to 16.0	<ul style="list-style-type: none"> • Use 8.0 to 12.0 fl ozs/A for low to moderate infestations and 16.0 fl ozs/A for severe infestation. • Spider mites: Apply when mites first appear, and repeat as needed to maintain control. (See Use Restrictions) • Leafminers: Apply when adult flies are first observed and repeat applications as needed to maintain control. (See Use Restrictions) • Note: Reaper 0.15 EC may be used without a wetting agent. Spreading and penetrating surfactants can improve insect control. When necessary to improve the wetting of foliage and to smooth out spray deposits, a nonionic surfactant is recommended. Do not use binder or sticker-type surfactants.
<i>Liriomyza</i> leafminers	plus a nonionic	
Twospotted spider mite	surfactant	

Use Restrictions:

PHI: Do not apply within 7 days of harvest.

Application Method: Ground or aerial application permitted; however do not apply with aircraft in New York State.

Prohibited Use: For resistance management, do not use on leafy vegetables grown for transplanting.

Amount of Water: Do not apply in less than 20.0 gallons of water per acre with ground application equipment. Do not apply in less than 5.0 gallons of water per acre with aircraft. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures) use a greater volume of water to insure adequate coverage.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: Wait at least 7 days before repeating application.

Number of Applications: Do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product.

Maximum Amount per Season: Do not apply more than 48.0 fluid ounces per acre (or 0.056 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per growing season.

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EPA REG. NO. 34704-923

MINT (Peppermint and Spearmint)
For control of Twospotted spider mite

Mix with water as indicated below. Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage may result in reduced control.

Pest	Fl Ozs/A	Instructions
Twospotted spider mite	8.0 to 12.0	<ul style="list-style-type: none"> • Treat when mites first appear. • For optimum control, a nonionic surfactant or organosilicone-based surfactant should be used at the manufacturer's recommended rate.

Use Restrictions:

PHI: Do not apply within **28** days of harvest.

Application Method: Ground or aerial application permitted; however do not apply with aircraft in New York State.

Amount of Water: Do not apply in less than 20.0 gallons of water per acre with ground application equipment. Do not apply in less than 5.0 gallons of water per acre with aircraft. Under conditions such as high pest populations, dense foliage, or adverse application conditions such as high temperatures, use a greater volume of water to insure adequate coverage.

Maximum Amount per Application: Do not apply more than 12.0 fluid ounces per acre (or 0.014 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: Wait at least 7 days before repeating application.

Number of Applications: Do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product and do not apply more than 3 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product per season.

Maximum Amount per Season: Do not apply more than 36.0 fluid ounces per acre (or 0.042 pound active ingredient per acre) of Reaper 0.15 EC or any other abamectin containing product per crop per season.

Grazing: Do not allow livestock to graze or feed treated foliage to livestock.

PEARS (Including Oriental Pear Trees)

For control of European red mite, McDaniel spider mite, Pear psylla, Pear rust mite, Twospotted spider mite, and Yellow mite

Reaper 0.15 EC may be applied using conventional dilute or concentrate ground application sprayers calibrated to deliver sufficient water for thorough coverage. Gallons of spray will vary with size and number of trees per acre and density of foliage. In any case, thorough coverage is essential for good spider mite and insect control.

Note: For best results, apply in combination with horticultural spray oil (not a dormant oil) as directed. Applications without horticultural spray oil may result in reduced efficacy and/or residual control. When using Reaper 0.15 EC plus horticultural spray oil, carefully follow the **Directions for Use** and **Precautions** on the horticultural spray oil label as well as the precautions in official spray guides or on product labels. For example, applying Reaper 0.15 EC plus horticultural spray oil in less than 14 days before or after applying Captan can result in phytotoxicity and crop loss.

Pest	Dilute Sprays ^a	Concentrate Sprays ^b	Instructions
	Fl Ozs/100 Gals	Fl Ozs/A	
European red mite	2.5 to 5.0	10.0 to 20.0	<ul style="list-style-type: none"> • Apply Reaper 0.15 EC when spider mite or insect thresholds are reached. • A second application may be made, if needed to maintain control. (See Use Restrictions)
McDaniel spider mite			
Pear psylla			
Pear rust mite			
Twospotted spider mite			
Yellow mite			
Horticultural Spray Oil (not a dormant oil)	0.25% or 1.0 gal/A	Minimum of 1.0 gal/A	

^a The rate of Reaper 0.15 EC per 100 gallons is based on a volume of 400 gallons per acre dilute spray.

^b To determine the amount of product per acre for concentrate sprays, first determine the amount that would be required in a full cover dilute spray. Use the same amount of product per acre in concentrate sprays as would be required for the dilute sprays to the same orchard/grove. This may result in use of less than 10.0 fluid ounces per acre on small trees.

Use Restrictions:

PHI: Do not apply within **28** days of harvest.

Application Method: Ground application only. Do not apply with aircraft.

Amount of Water: Do not apply in less than 40.0 gallons of water per acre.

Maximum Amount per Application: Do not apply more than 20.0 fluid ounces per acre (or 0.023 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: If a second application is necessary, wait at least 21 days before repeating application.

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EPA REG. NO. 34704-923

Pears cont'd.:

Number of Applications: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product per growing season.

Maximum Amount per Season: Do not apply more than 40.0 fluid ounces per acre (or 0.047 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Grazing: Do not allow livestock to graze in treated orchards.

STONE FRUIT CROP GROUP 12

Crops in this group are: Apricot, Cherry (sweet and tart), Nectarine, Peach, Plum, Plum (chickasaw, damson, and Japanese), Plumcot and Prune (fresh)

For control of European spider mite, Pacific spider mite, and Twospotted spider mite

Reaper 0.15 EC may be applied using conventional dilute or concentrate sprayers calibrated to deliver sufficient water for thorough coverage. Gallons of spray will vary with size and number of trees per acre and density of foliage. In any case, thorough coverage is essential for good spider mite control.

Pest	Dilute Sprays ^a Fl Ozs/100 Gals	Concentrate Sprays ^b Fl Ozs/A	Instructions
European red mite	2.5 to 5.0	10.0 to 20.0	<ul style="list-style-type: none"> • Apply when mites first appear. • A second application may be made, if needed, to maintain control. (See Use Restrictions)
Pacific spider mite			
Twospotted spider mite			
Horticultural Spray Oil (not a dormant oil)	0.25% or 1.0 gal/A	Minimum of 1.0 gal/A	<ul style="list-style-type: none"> • Always apply Reaper 0.15 EC in combination with a non-ionic surfactant that spreads on and/or penetrates the leaf cuticle, or apply with horticultural spray oil (not a dormant oil). • NOTE: 1) A nonionic surfactant that spreads on and/or penetrates the leaf cuticle can improve insect control. Although Reaper 0.15 EC has been tested in combination with nonionic surfactants for safety to stone fruit, it is impossible to test on all stone fruit varieties under the variety of conditions that may cause crop injury. Therefore, when using Reaper 0.15 EC in combination with a nonionic surfactant, carefully follow the Directions for Use and Precautions on the surfactant label and in official spray guides. 2) A horticultural oil (not a dormant oil) may improve efficacy and can be used but it may increase the possibility of phytotoxicity to foliage and fruit. • Use nonionic surfactants at the manufacturer's recommended rate. • Use a minimum of 0.25% horticultural spray oil (not a dormant oil) in the dilute spray mixture and not less than 1.0 gal of horticultural spray oil/A in the final finished spray.
OR	Labeled Rate		
Nonionic Surfactant			

^a The rate of Reaper 0.15 EC per 100 gallons is based on the volume of 400 gallons per acre dilute spray.

^b To determine the amount of product per acre for concentrate sprays, first determine the amount that would be required in a full cover dilute spray. Use the same amount of product/A in concentrate spray as would be required for the dilute sprays to the same orchard/grove. This may result in use of less than 10.0 fluid ounces per acre on small trees.

Use Restrictions:

PHI: Do not apply within 21 days of harvest.

Application Method: Ground application only. Do not apply with aircraft.

Amount of Water: Do not apply in less than 40.0 gallons of water per acre.

Maximum Amount per Application: Do not apply more than 20.0 fluid ounces per acre (or 0.023 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per acre per application.

Application Interval: If a second application is needed, wait at least 21 days before repeating application.

Number of Applications: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Maximum Amount per Season: Do not apply more than 40.0 fluid ounces per acre (or 0.047 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Grazing: Do not allow livestock to graze in treated orchards.

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STRAWBERRIES

For control of Strawberry spider mite and Twospotted spider mite

Mix with water as indicated below. Apply with ground application equipment as a foliar spray and insure thorough coverage on upper and lower leaf surfaces. Adjust spray volume and nozzle placement to insure maximum coverage of tops and undersides of leaves.

Pest	Fl Ozs/A	Instructions
Strawberry spider mite Twospotted spider mite	16.0	<ul style="list-style-type: none"> • Make 2 applications 7 to 10 days apart when mites first appear. Repeat this application sequence, if needed, to maintain control. (See Use Restrictions) • Note: Reaper 0.15 EC may be used without a wetting agent. When necessary to improve the wetting of foliage and to smooth out spray deposits, a nonionic surfactant is recommended.

Use Restrictions:

PHI: Do not apply within 3 days of harvest.

Application Method: Ground application only. Do not apply with aircraft.

Prohibited Use: For resistance management purposes, do not use in strawberry nurseries.

Amount of Water: Do not apply in less than 50.0 gallons of water per acre with conventional ground application equipment. When using electro-static sprayers do not apply in less than 10.0 gallons of water per acre.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Application Interval: Wait at least 21 days after the second application before repeating application.

Maximum Amount per Season: Do not apply more than 64.0 fluid ounces per acre (or 0.075 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

TREE NUTS CROP GROUP 14 AND PISTACHIO

Crops in this group are: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut, Pecan, and Walnuts (black and English)

For control of European red mite, Pacific spider mite, Strawberry spider mite, and Twospotted spider mite.

Reaper 0.15 EC may be applied using conventional dilute or concentrate sprayers calibrated to deliver sufficient water for thorough coverage. Gallons of spray will vary with size and number of trees per acre and density of foliage. In any case, thorough coverage is essential for good spider mite and insect control.

Pest	Dilute Sprays ^a	Concentrate Sprays ^b	Instructions
	Fl Ozs/100 Gals	Fl Ozs/A	
European red mite Pacific spider mite Strawberry spider mite Twospotted spider mite	2.5 to 5.0	10.0 to 20.0	<ul style="list-style-type: none"> • Always use Reaper 0.15 EC in combination with a horticultural spray oil (not a dormant oil) approved for use on tree nuts. • Apply Reaper 0.15 EC when spider mites first appear. Residual spider mite control is greater from spray deposits on newer leaves compared to older leaves. • A second application may be made, if needed, to maintain control. (See Use Restrictions.)
Horticultural Spray Oil (not a dormant oil)	0.25% or 1.0 gal/A	Minimum of 1.0 gal/A	

^a The rate of Reaper 0.15 EC per 100 gallons based on a volume of 400 gallons per acre dilute spray.

^b To determine the amount of product per acre for concentrate sprays, first determine the amount that would be required in a full cover dilute spray. Use the same amount of product per acre in concentrate sprays that would be required for the dilute sprays to the same orchard/grove. This may result in use of less than 10.0 fluid ounces per acre on small trees.

Use Restrictions:

PHI: Do not apply within 21 days of harvest.

Application Method: Ground application only. Do not apply with aircraft.

Amount of Water: Do not apply in less than 40.0 gallons of water per acre.

Application Interval: If a second application is necessary, wait at least 21 days before repeating application.

Maximum Amount per Application: Do not apply more than 20.0 fluid ounces per acre (or 0.023 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per application.

Applications per Season: Do not make more than 2 applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product per growing season.

Maximum Amount per Season: Do not apply more than 40.0 fluid ounces per acre (or 0.047 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product in a growing season.

Grazing: Do not allow livestock to graze in treated groves/orchards.

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TUBEROUS AND CORM VEGETABLES CROP SUBGROUP 1C

Crops in this subgroup are: Arracacha, Arrowroot, Artichoke (Chinese), Artichoke Jerusalem, Canna edible, Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen, Ginger, Leren, Potato, Sweet Potato, Tanier, Tumeric, Yam bean, and Yam (true)
For control of Colorado potato beetle, *Liriomyza* leafminers, Potato psyllid, and Spider mites

Mix with water as indicated below. Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage may result in reduced control.

Note: Reaper 0.15 EC may be applied using ground application equipment or aircraft. For best control of mites, apply Reaper 0.15 EC with ground application equipment. With aerial application, spray coverage and the resulting control of mites is less than with ground application. For this reason, the user accepts all liability for the level and duration of control of mites when Reaper 0.15 EC is aerially applied.

Pest	Fl Ozs/A	Instructions
Colorado potato beetle <i>Liriomyza</i> leafminers Potato psyllid Spider mites	8.0 to 16.0	<ul style="list-style-type: none"> • Use 8.0 to 12.0 fl ozs/A for low to moderate infestations and 16.0 fl ozs/A for severe infestations. • The addition of a nonionic surfactant or organosilicone-based surfactant, at the manufacturer's recommended rate, is suggested for optimum spider mite and insect control. • Insect and spider mite control may be reduced if Reaper 0.15 EC is used in combination with a sticker or binder type product such as Initiate® 720 Flowable Fungicide. • Colorado potato beetle: Make the first application after approximately 50% of the egg masses have hatched and larvae are present. If 2 applications are needed, limit them to a single Colorado potato beetle generation per crop. Do not make more than 2 applications per crop. (See Use Restrictions) • <i>Liriomyza</i> leafminers: Make the first application when adult flies are first observed. Repeat applications as needed to maintain control. (See Use Restrictions) • Spider mites: Make the first application when mites first appear. Repeat application as needed to maintain control. (See Use Restrictions)

Use Restrictions:

PHI: Do not apply within 14 days of harvest.

Application Method: Ground or aerial application permitted; however do not apply with aircraft in New York State.

Amount of Water: Do not apply in less than 20.0 gallons of water per acre with ground application equipment. Do not apply in less than 5.0 gallons of water per acre with aircraft. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures) use a greater volume of water to insure adequate coverage.

Maximum Amount per Application: Do not apply more than 16.0 fluid ounces per acre (or 0.019 pound active ingredient per acre) per application.

Application Interval: Wait at least 7 days before repeating application.

Number of Applications: Do not make more than 2 sequential applications of Reaper 0.15 EC or any other foliarly applied abamectin containing product.

Maximum Amount per Crop: Do not apply more than 32.0 fluid ounces per acre (0.038 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per crop for spider mite or Colorado potato beetle control. Do not apply more than 48.0 fluid ounces per acre (or 0.056 pound active ingredient per acre) of Reaper 0.15 EC or any other foliarly applied abamectin containing product per crop for leafminer control.

Grazing: Do not allow livestock to graze or feed treated foliage to livestock.

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ORNAMENTALS

Shadehouse, Greenhouse, Field-grown ornamentals, Foliage plants, Christmas trees, and Other woody ornamentals

Pest	Fl Oz/100 Gal	Instructions
Mites ¹ :	4.0	³ For Tarsonemid mites, repeat applications to newly developing tissue may be necessary to maintain control.
Carmine spider mite		
Eriophyid mites:		
Bud mites		
Rust		
European red mite		
Southern red mite		
Spruce spider mite		
Tarsonemid mites ³ :		
Cyclamen		
Broad mites		
Twospotted spider mite		
Liriomyza leafminers ²	8.0	Repeat at 7-day intervals or as necessary to maintain control.
Boxwood leafminer	8.0	For control of Mining larvae, make the application when adults are beginning to lay eggs in the new foliage.
Aphids	8.0	For suppression of pest populations, young immatures must be contacted by the spray.
Thrips		
Whiteflies		

General Information: Residual control of pests may be enhanced with the addition of a horticultural spray oil at 0.5 to 1.0% of the spray volume on field-grown Woody ornamentals, landscape plants, and Christmas trees. Repeat application as necessary, but no sooner than 7 days to maintain control. Some plants are sensitive to oils and so without prior experience, the user should spray a small number of plants and observe plants for 2 weeks before spraying the remaining plants. Excessive cold or warm temperatures may increase the chance of plant damage following application with oils. Carefully read and follow directions on the oil label and do not exceed maximum rates listed on either label.

General Information Per Application: Do not apply less than 8.0 fluid ounces or more than 16.0 fluid ounces per acre. Use sufficient water to obtain uniform plant coverage. Refer to the **Resistance Management** section and the **Use Restrictions** section for additional information.

¹Apply, for example, in 200 to 400 gallons of water per acre. In volumes of water below 200 gallons, use a minimum of 8.0 fluid ounces per acre. If more than 400 gallons of water per acre are required for good plant coverage, apply a maximum rate of 16.0 fluid ounces per acre. For example, if 650 gallons of water are required, use 2.5 fluid ounces per 100 gallons.

²Apply, for example, in 100 to 200 gallons of water per acre. In volumes of water below 100 gallons, use a minimum of 8.0 fluid ounces per acre. If more than 200 gallons of water per acre are required for good plant coverage, apply a maximum rate of 16.0 fluid ounces per acre. For example, if 400 gallons of water are required, use 4.0 fluid ounces per 100 gallons.

Use Restrictions on Ornamentals:

- Do not use Reaper 0.15 EC for suppression of Aphids, Whiteflies, and Thrips on Roses, Chrysanthemums, and Gerbera. These ornamentals are primary hosts of Mites and *Liriomyza* leafminers for which Reaper 0.15 EC applications should be targeted. Additional applications of Reaper 0.15 EC to suppress Aphids, Thrips, and Whiteflies on these plants will increase the selection pressure on Mites and *Liriomyza* leafminers which may result in greater tolerance to Reaper 0.15 EC among these pests.
- Do not apply Reaper 0.15 EC through any type of irrigation system.
- Not for aerial use.
- Do not use in Citrus nurseries.
- Reaper 0.15 EC has been evaluated for phytotoxicity on a wide range of Ornamental plants. However, since all combinations or sequences of pesticide sprays including surfactants and adjuvants have not been tested, it is recommended that a small area be sprayed first to make certain that no phytotoxicity occurs. Phytotoxicity has been observed following the use of Reaper 0.15 EC on certain species of ferns (e.g., *Adiantum* spp.) and Shasta daisy (*L. eucantherum* spp.). It is therefore recommended that Reaper 0.15 EC not be used on ferns or Shasta daisy.

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STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

PESTICIDE STORAGE: Store in a tightly closed container in a cool, dry place.

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instruction, contact your State Pesticide or Environmental Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. 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. 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.

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.

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 help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

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LOVELAND PRODUCTS, INC.
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