

ReTain
Plant Growth Regulator
Soluble Powder

COMMERCIAL

For use in commercial orchards only

READ THE LABEL BEFORE USING



CAUTION POISON

POTENTIAL SKIN SENSITIZER

KEEP OUT OF REACH OF CHILDREN

ACTIVE INGREDIENT:

Aviglycine hydrochloride.....15.0%

Warning, contains the allergen milk

REGISTRATION NO.: 25609 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 333 grams; The water soluble bag must not be sold separately.

Registrant:

Valent BioSciences LLC
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Libertyville, Illinois 60048
USA
1-800-323-9597

Canadian Agent:

Valent Canada, Inc.
201-230 Hanlon Creek Blvd
Guelph, Ontario N1C 0A1

DIRECTIONS FOR USE

General Information

Note: Aviglycine hydrochloride is an extremely potent plant growth regulator. For best results, read all directions for use thoroughly. Consult your local Valent specialist for the spray schedule best suited to your conditions. Use only as directed. The label should be read thoroughly and understood before making applications. Product efficacy requires that all parts of the plant or crop receive uniform spray coverage or else the desired result may not occur. Consult your local Valent specialist for specific information for your region.

ReTain Plant Growth Regulator, which contains 15% Aviglycine hydrochloride, has been shown to be an effective preharvest drop control agent for apples when applied 4 weeks prior to the anticipated beginning of the normal harvest period (the normal harvest period for a particular block refers to that time when fruit not treated with ReTain Plant Growth Regulator would be harvested for long term storage). ReTain Plant Growth Regulator may also delay fruit maturity, help maintain fruit quality (e.g. firmness), and may reduce the incidence and/or severity of watercore. ReTain Plant Growth Regulator has also been shown to improve fruit set in sweet cherries. The active ingredient in ReTain Plant Growth Regulator is a fermentation metabolite that inhibits the endogenous production of ethylene in treated plant tissues.

APPLE – FOR HARVEST MANAGEMENT AND IMPROVEMENT OF FRUIT QUALITY

CROP	OBJECTIVE / BENEFIT:	APPLICATION TIMING/ USE INSTRUCTIONS
<p>Apple</p>	<p>Depending on cultivar, orchard conditions, application timing, and grower objectives, one or more of the following benefits will be associated with ReTain</p> <ul style="list-style-type: none"> • Delayed fruit maturity • Improved harvest management • Reduced preharvest fruit drop • Additional time for increase in fruit size • Additional time for color development • Maintenance of fruit firmness • Improved fruit quality (e.g., reduced incidence and/or severity of watercore and stem bowl cracking) • Enhanced storage potential 	<p>Single Pick Harvest: Apply one pouch of ReTain per 0.4 hectare (1 acre) three to four weeks prior to the anticipated <i>beginning of the normal harvest period of untreated fruit</i> for the current season. ReTain applied three to four weeks before harvest will delay the harvest period up to 7 to 10 days. Applications made either too early or too late will significantly reduce the efficacy of the product.</p> <p>Multiple Pick Harvest: To improve the fruit quality and storage potential of later picked apples (2nd, 3rd, 4th picks) apply one pouch of ReTain per acre, one to two weeks prior to the anticipated <i>beginning of the normal harvest period of untreated fruit</i> for the current season. ReTain applied one to two weeks before harvest typically will not delay the start of the harvest (1st pick), but will help control the maturation rate of the later picks.</p>

<p>Note: Harvest management and fruit quality benefits from ReTain will be greatest when applied at one pouch per 0.4 hectare (1 acre). Under difficult coloring conditions, color development of certain bi-color apple cultivars such as Gala and Honeycrisp™ will be delayed when ReTain is applied at one pouch per 0.4 hectare (1 acre). For specific information on the best use practices for your location, consult with your Valent Agricultural Specialist.</p>
<p>Water Volume: ReTain efficacy requires that fruit and foliage receive thorough spray coverage. To ensure thorough coverage adjust water volumes based on tree size and spacing and use calibrated spray equipment (i.e. orchard air blast sprayer). Excessive spray application volumes that result in spray runoff will reduce product performance. In most cases, 935 liters per hectare has been shown to be effective.</p>
<p>Adjuvants: For optimal response, use ReTain with Xiameter OFX-0309 Fluid (surfactant). Use a final surfactant concentration of 0.05 to 0.1% (v/v) in the spray tank. To prevent possible spotting, use the 0.05% (v/v) concentration when high temperature (in excess of 30° C) weather conditions prevail or are anticipated. Do not use a surfactant concentration greater than 0.1% (v/v). To reduce foaming, add the adjuvant last and minimize agitation.</p>
<p>Harvest: The normal harvest period for a particular orchard block refers to that time when fruits not treated with ReTain would be harvested for long term storage. To help determine the <i>beginning of the normal harvest period</i>, refer to historical trends for harvest dates and the "days from full bloom to harvest" interval for each cultivar in your area.</p>
<p>Additional Notes:</p> <ul style="list-style-type: none">• Apply ReTain before laying reflective film or foil mulch under ReTain treated apple trees. ReTain may be applied either before or after laying fabric groundcovers under ReTain treated apple trees.• ReTain has a 7 day preharvest interval (PHI) for Apple.• Do not tank-mix ReTain with sunburn protection product. If sunburn protection products are used, apply at least 3 days before or after ReTain application.

CHERRY, SWEET:

Do not apply this product through any type of irrigation system. Use one water soluble packet of ReTain Plant Growth Regulator per 0.4 hectare (per acre), as a single application during bloom. ReTain Plant Growth Regulator efficacy requires that flower buds and flowers receive thorough spray coverage. To ensure thorough coverage use calibrated spray equipment (i.e. air blast sprayer) and adjust water volumes based on tree size and spacing. Use sufficient water volume to achieve thorough coverage without excessive runoff. In most cases, a spray volume of 935 to 1870 L/ha has been shown to be effective. Applications between balloon stage to first bloom are more effective than earlier or later applications. Do not apply after petal fall. Do not apply more than one pouch per 0.4 hectare. Do not apply ReTain to sweet cherry trees when fruit are present.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT apply this product through any type of irrigation system. **DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

Airblast application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

DO NOT apply by air

BUFFER ZONE:

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, wetlands) and estuarine/marine habitats.

Method of application	Crop		Buffer Zones (metres) Required for the Protection of:			
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:	
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m
Airblast sprayer	Apples	Late growth stage	3	1	3	1
	Sweet cherry	Early growth stage	5	2	5	2

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator found on the Drift Mitigation page of the Pesticides and Pest Management portion of the Canada.ca web site.

SPECIAL CONSIDERATION:

Apply when drying conditions are slower in order to ensure adequate absorption, such as early in the morning or late in the afternoon. Do not apply when rainfall is forecast within the next 8 hours.

NOTE: Because the proper timing of ReTain Plant Growth Regulator application is particularly important to product performance, consideration should be given, on a block-by-block basis, to any growing condition(s) (e.g., prevailing weather patterns, such as high heat or drought conditions, nutrient levels) or production practice(s) (e.g., pruning severity) that could accelerate or delay fruit maturation during the course of a season.

PRECAUTIONS:

KEEP OUT OF THE REACH OF CHILDREN.

Harmful if inhaled. Avoid breathing spray mist. Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions,

application equipment and sprayer settings. Remove contaminated clothing and wash clothing before reuse. Wear the following personal protective equipment during mixing, loading, application, clean-up, and repair activities: chemical resistant gloves, coveralls over one layer of clothing, shoes and socks. Do not enter or allow worker entry during the restricted entry interval (REI) of 12 hours after application. Do not feed wet or dry apple pomace from ReTain Plant Growth Regulator-treated apples to livestock. The effect of ReTain Plant Growth Regulator on beneficial non-target insects has not been assessed, hence, the potential impact of this product on IPM systems in orchards is unknown.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at www.croplife.ca

Do not apply to trees under stress due to factors such as insects, heat, water, disease, or poor nutrition, as ReTain Plant Growth Regulator benefits may be reduced, injured or stressed plants or fruits may not respond to ReTain Plant Growth Regulator.

FIRST AID:

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled: 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 centre or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Remove from source of exposure and treat symptomatically. No known antidote. Pre-existing eye ailment may be aggravated.

ENVIRONMENTAL HAZARDS:

Toxic to birds and small wild mammals.

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TOXIC to aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE.

Toxic to aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE.

ReTain Plant Growth Regulator may affect flowering in non-target vegetation. Seed, nut and fruit production, and maturation in plants in wildlife habitat may also be affected. Avoid drift to these areas.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

STORAGE:

To prevent contamination store this product away from food or feed.

DISPOSAL:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill and for clean-up of spills.

EXTRA HANDLING AND STORAGE PRECAUTION FOR WATER SOLUBLE BAGS:

Do not puncture outer bag. Do not handle water soluble bags with wet hands or gloves. Avoid freezing the water soluble bags.

NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

ReTain® Plant Growth Regulator is a registered trademark of Valent BioSciences LLC.

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