DIRECTIONS FOR USE

1. Remove clothing immediately if pesticide gets inside. Do not apply ReTain if rain is expected within 8 hours of application.

2. On tree crops and cucumbers, apply ReTain in a sufficient volume of water, approximately 100 gallons per acre, to give good coverage of the foliage. Apply ReTain to prevent the entrance of fruit set, fruit maturation, fruit ripening, and fruit abscission.

3. Do not apply ReTain during high temperature (in excess of 86°F) weather conditions prevailing or anticipated, to avoid run off.

4. For apple, pear, stone fruit, walnut, pecan, and cucumber, do not apply ReTain to plants or fruits under stress (e.g., heat, water stress due to stress, injuries, or damaged plants). If applied to plants under stress, the benefits of ReTain may not be realized.

5. For the Double Application of ReTain, do not apply ReTain if the previous application is less than 7 days before harvest.

AGRICULTURAL USE REQUIREMENTS

1. 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, vineyards, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exemptions pertaining to the statements in this labeling about Personal Protective Equipment (PPE), and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

2. Do not enter or add worker entry to treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

   - Coveralls
   - Waterproof gloves
   - Shoes plus socks

GENERAL INFORMATION FOR USE

1. Before application, read all use directions thoroughly. Use ReTain only as directed. For specific information on the best use practices for your location, consult your local Agricultural Specialist (1-800-6-VALENT).

   - ReTain contains 15% (w/v) [S]-trans-2-amino-4-(2-aminoethoxy)-3-butenoic acid hydrochloride, commonly known as 2-1/8” or 2-1/8” incompatibility jar test.

   - Single Pick Harvest: Apply one pouch of ReTain per acre 21 to 28 days prior to the anticipated beginning of the normal harvest period of untreated fruit. ReTain applied 21 to 28 days 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.

   - Multiple Pick Harvest: To improve the quality and storability potential of late picked apples (3rd, 5th, 4th picks) apply one pouch of ReTain per acre, 7 to 14 days prior to the anticipated beginning of the normal harvest period of untreated fruit. ReTain applied 7 to 14 days before harvest typically will not delay the start of the harvest (1st pick), but will help control the maturation rate of the later picks.

   - For the First Application: Apply one pouch of ReTain per acre 38 days prior to the anticipated beginning of the normal harvest period of untreated fruit.

   - For the Second Application: Apply one pouch of ReTain per acre 14 to 21 days prior to the first application but no less than 7 days before harvest.

   - For apple, pear, stone fruit, walnut, pecan, and cucumber, do not apply ReTain to plants or fruits under stress (e.g., heat, water stress due to stress, injuries, or damaged plants). If applied to plants under stress, the benefits of ReTain may not be realized.

   - For the Double Application of ReTain, do not apply ReTain if the previous application is less than 7 days before harvest.

   - For the Single Pick Harvest: Apply one pouch of ReTain per acre 21 to 28 days prior to the anticipated beginning of the normal harvest period of untreated fruit.

   - For the Multiple Pick Harvest: Apply one pouch of ReTain per acre 7 to 14 days prior to the anticipated beginning of the normal harvest period of untreated fruit.

   - To improve the fruit quality and storability potential of late picked apples (3rd, 5th, 4th picks) apply one pouch of ReTain per acre, 7 to 14 days prior to the anticipated beginning of the normal harvest period of untreated fruit. ReTain applied 7 to 14 days before harvest typically will not delay the start of the harvest (1st pick), but will help control the maturation rate of the later picks.

   - For the First Application: Apply one pouch of ReTain per acre 38 days prior to the anticipated beginning of the normal harvest period of untreated fruit.

   - For the Second Application: Apply one pouch of ReTain per acre 14 to 21 days prior to the first application but no less than 7 days before harvest.

   - Incompatibility, separation, gelling, or generation of heat are all signs of incompatibility.

   - For optimal response, use ReTain with a 100% organosilicone 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 86°F) weather conditions prevail or are anticipated. To reduce foaming, add the adjacent text and minimize agitation.

   - 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 sprayers). Excessive spray application volumes that result in spray runoff will reduce product performance. In most cases, 100 gallons per acre has been shown to be effective.

   - Adjuvants: For optimal response, use ReTain with a 100% organosilicone 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 86°F) weather conditions prevail or are anticipated. Do not use a surfactant concentration greater than 0.1% (v/v). To reduce foaming, add the adjacent text and minimize agitation.

   - Additional Notes:
     - 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 and Pear.
     - 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.

   - Do not tank mix ReTain with other products unless compatibility has been verified. If considering tank mixing ReTain with other products, use the compatibility jar test before mixing a whole tank.

   - Add water from the same water source to a clear glass or plastic jar. Add the pesticides in correct proportions. Mix thoroughly and let stand for a minimum 15 minutes. Separation, gelling, or generation of heat are all signs of incompatibility.

   - Even if a mix passes the test for compatibility, it is imperative to test it on a designated area to evaluate for phytotoxicity or ineffectiveness.

   - Always read and follow all label directions and precautions of each product. When using combinations of products, the most restrictive of label limitations and precautions must be followed. Do not mix with any pesticide that has a prohibition against tank mixing. For further information consult your Valen Agricultural Specialist (1-800-6-VALENT).

   - 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 sprayers). Excessive spray application volumes that result in spray runoff will reduce product performance. In most cases, 100 gallons per acre has been shown to be effective.

   - Adjuvants: For optimal response, use ReTain with a 100% organosilicone 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 86°F) weather conditions prevail or are anticipated. Do not use a surfactant concentration greater than 0.1% (v/v). To reduce foaming, add the adjacent text and minimize agitation.

   - Harvest: The normal harvest period for a particular orchard block refers to that time when fruits treated with ReTain would be harvested for long term storage. To help determine the beginning of the normal harvest period, refer to historical trends for harvest dates and the “days from full bloom to harvest” interval for each cultivar in your area.

   - Additional Notes:
     - 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 and Pear.
     - 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.

   - Do not tank mix ReTain with other products unless compatibility has been verified. If considering tank mixing ReTain with other products, use the compatibility jar test before mixing a whole tank.

   - Add water from the same water source to a clear glass or plastic jar. Add the pesticides in correct proportions. Mix thoroughly and let stand for a minimum 15 minutes. Separation, gelling, or generation of heat are all signs of incompatibility.

   - Even if a mix passes the test for compatibility, it is imperative to test it on a designated area to evaluate for phytotoxicity or ineffectiveness.

   - Always read and follow all label directions and precautions of each product. When using combinations of products, the most restrictive of label limitations and precautions must be followed. Do not mix with any pesticide that has a prohibition against tank mixing. For further information consult your Valen Agricultural Specialist (1-800-6-VALENT).
STONE FRUIT (EXCEPT CHERRY) – FOR HARVEST MANAGEMENT AND IMPROVEMENT OF FRUIT QUALITY

**CROP** | **OBJECTIVE / BENEFIT** | **APPLICATION TIMING / USE INSTRUCTIONS**
--- | --- | ---
Apricot | Depending on cultivar, orchard conditions, and grower objectives, one or more of the following benefits will be associated with ReTain: | Apply one pouch of ReTain per acre one to two weeks prior to the anticipated beginning of the normal harvest period of untreated fruit.
Nectarine | Improved harvest management | 1
Peach | Additional time for increase in fruit size | 1
Plum | Maintenance of fruit firmness | 2-1/4”
Prune | Reduced preharvest fruit drop | 1
(Apricot and Plum) | Improved fruit quality | Grams AVG HCl
Additional Notes for Stone Fruit: | Improved storage potential | 1000

**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, 100 gallons per acre has been shown to be effective.

**Use of Adjuvants:** For optimal response, use ReTain with a 100% organosilicone surfactant. A final surfactant concentration of 0.05 to 0.1% (v/v) in the spray tank. To reduce foaming, add the adjuvant last and minimize agitation.

**Harvest:** The normal harvest period for a particular orchard block refers to that time when fruits not treated with ReTain would be harvested. To help determine the beginning of the normal harvest period, refer to historical trends for harvest dates and the “days from full bloom to harvest” interval for each cultivar in your area, and closely monitor the fruit maturity development for the current season.

**Additional Notes:** Pre Harvest Interval (PHI): ReTain has a 7 day (PHI) for labeled Stone Fruit.

NUT, POME AND STONE FRUIT CROPS – FOR INCREASING FRUIT AND NUT SET

**CROP** | **OBJECTIVE / BENEFIT** | **APPLICATION TIMING / USE INSTRUCTIONS**
--- | --- | ---
Apple | To increase fruit set. | Apply one pouch of ReTain per acre, as a single application from pink stage to full bloom. Applications made prior to pink stage or after full bloom will significantly reduce efficacy of the treatment. Do not apply after petal fall.
Cherry | To increase fruit set. | Apply one to two pouches of ReTain per acre during bloom. ReTain may be applied as a single application of up to two pouches, or as sequential applications of one pouch per application. Applications between popcorn stage (balloon stage) to first bloom are more effective than earlier or later applications. Do not apply after petal fall.
European | To increase fruit set. | Apply one pouch of ReTain per acre, as a single application from white bud stage to full bloom. Applications made prior to white bud stage or after full bloom will significantly reduce efficacy of the treatment. Do not apply after petal fall.
Pear cultivars | To reduce June drop. | Apply one pouch of ReTain at 10 mm fruit size.
Pecan | To increase nut set in cultivars that experience low set. | Apply one to two pouches of ReTain per acre during bloom. ReTain may be applied as a single application of up to two pouches, or as sequential applications of one pouch per application. Applications made either too early (pre-bloom) or too late (after full bloom) will reduce the efficacy of the treatment. Use higher rates on cultivars/stocks that have experienced lower nut set.
Walnut | Increased nut set in cultivars affected by pistillate flower abortion (PFA). | Application timing one to two pouches of ReTain per acre, when most pistillate (female) flowers are receptive to pollination. ReTain may be applied as a single application of up to two pouches, or as sequential applications of one pouch per application. One application of ReTain at 5-30% pistillate flower bloom has been shown to be effective for a short pistillate flower bloom period. Sequential applications at 5-30% and 45-60% bloom are effective and cover a broader window of pistillate flower bloom. Applications made either too early (pre-bloom) or too late (full bloom or later) will significantly reduce efficacy of the treatment. Use higher rates on cultivars/stocks that have experienced high incidences of poor nut set due to PFA.

**IMPORTANT:**
- For apple and pear, do not apply more than one pouch for increasing fruit set (apples and pears) and June drop (pears). Do not use more than two pouches for harvest management and improvement of fruit quality. Do not apply more than two pouches of ReTain per acre per year.
- For sweet cherry, do not apply more than one to two pouches for increasing fruit set. Do not apply ReTain to cherry trees when fruit is present.
- For pear and walnut, do not apply more than two pouches of ReTain per acre per year.

**Water Volume:** ReTain 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 100 to 200 gallons per acre has been shown to be effective.

**Use of Adjuvants:** Use of adjuvants with ReTain for bloom applications has not been fully researched. Some adjuvants will cause a bloom thinning effect and will reduce the benefits of ReTain.

CUCUMBER – FOR SEED PRODUCTION ONLY

**CROP** | **OBJECTIVE / BENEFIT** | **APPLICATION TIMING / USE INSTRUCTIONS**
--- | --- | ---
Cucumber | Gynoecious inbred breeding lines. | Promotion of staminate (male) flowers in gynoecious (female flowering) cucumber-breeding lines for the purpose of producing inbred and hybrid cucumber seed.

**Water Volume:** Apply ReTain in a sufficient amount of water to ensure good thorough coverage. In most cases, 26 to 52 gallons per treated acre will be sufficient. The application rate and frequency of application will depend on the sensitivity of the individual inbred line to ReTain. Leaf yellowing can occur at high rates. If unacceptable leaf yellowing is noted, use lower concentrations in subsequent applications.

**Dilution Table:** Parts Per Million (ppm) AVG HCl with varying Gallons (gal) of spray solution and pouches of ReTain for cucumber use.

<table>
<thead>
<tr>
<th>Gal Spray Solution</th>
<th>Pouches of ReTain</th>
<th>Grams AVG HCl</th>
<th>PPM AVG HCl</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>1</td>
<td>50</td>
<td>1000</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>50</td>
<td>500</td>
</tr>
<tr>
<td>52</td>
<td>1</td>
<td>50</td>
<td>250</td>
</tr>
</tbody>
</table>

**Use of Adjuvants:** Addition of an adjuvant to ReTain increases the likelihood of leaf yellowing in young cucumber plants.

**Additional Note:** Do not reapply ReTain within 24-hours of application. Use of ReTain on cucumber is for gynoecious breeding line and hybrid seed production only. Do not apply directly to, or allow spray to drift to cucumber crops grown for fresh or processed markets. Fruit from plants treated with ReTain is not to be used for human or animal consumption.

STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store product in a cool and dry place. Avoid extended storage conditions at temperatures above 25°C (77°F).

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not re-use or refill this container. Offer for recycling, if available. Completely empty container into applicable equipment. If recycling is not available dispose of empty container in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO USER

Warranty and Disclaimer Statement:
To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

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KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

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 center or doctor for further treatment advice.

If on skin or clothing

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

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

This label is in accordance with 40 CFR Part 158. This label does not indicate a hazard to the environment.

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