



[www.valentbiosciences.com](http://www.valentbiosciences.com)

## ReTain®

*Some commonly asked questions on the use of ReTain on apples:*

**1. What's the ingredient in ReTain?**

The ingredient in ReTain is aminoethoxyvinylglycine (AVG), a naturally occurring substance produced by the natural process of fermentation.

**2. How does ReTain work?**

AVG, the active ingredient in ReTain, blocks the production of ethylene in the plant tissue. This is a process unique to plants. Ethylene affects several aspects of plant development, including fruit maturation, ripening and abscission (drop) from the tree.

**3. Why do growers use ReTain?**

Harvest is an extremely critical time in the apple production process, and it's often difficult to harvest the entire crop at the right time for optimum quality and storage. ReTain helps growers manage fruit maturation so they can schedule harvest more efficiently and harvest more of their apple crop at a higher quality.

**4. How does ReTain benefit the consumer?**

ReTain helps ensure a more abundant supply of fresh, firm apples for consumers to enjoy throughout the entire year. Without ReTain, some apples will be harvested too early or too late and those fruits will not arrive to the grocery store in optimum eating condition.

**5. How is ReTain used?**

ReTain is applied as a single spray 4 weeks before the beginning of the harvest period, using standard orchard equipment. ReTain must be applied in sufficient volume of water to achieve a thorough coverage of the canopy and fruits. A pure organo-silicone type surfactant must be used.

**6. What are the ideal spraying conditions for ReTain applications?**

At the time of ReTain spraying (late summer) temperatures can be hot. Avoid spraying at temperatures over 90°F. ReTain must be absorbed by the plant tissue. Conditions favoring slow drying of the spray material on the plant surfaces (high relative humidity, low wind) will increase product absorption and performance. Early mornings and late evenings and nights are usually desirable spraying times as long as the temperature is adequate.



**7. What is the effect of ReTain on fruit quality, i.e., color, flesh firmness, storageability and flavor?**

ReTain improves fruit eating quality by maintaining fruit firmness (crunchy versus soft texture). Fruit flesh of ReTain-treated apples is juicy and develops all the natural flavors.

ReTain indirectly improves red color in red apples by allowing the harvest to be done at a later time without loss of firmness. ReTain-treated fruit also stores better since it goes into storage with higher flesh firmness. Additionally, ReTain reduces the incidence of superficial scald, watercore and internal breakdown.

**8. What are the effects of ReTain on bees and other beneficial insects?**

ReTain shows extremely low toxicity to bees and other beneficial insects, and it does not interfere with standard IPM and IFP programs.

**9. What is the effect of ReTain on future crops and overall tree performance?**

ReTain has no effect on next year's crop size or quality. ReTain has been experimentally and commercially applied to the same orchard blocks for many years with no noticeable side effects.

**10. Is ReTain safe to humans?**

ReTain has the same toxicological classification as table salt and is certified as an organic product. Its active ingredient is a naturally occurring substance that works by affecting a process unique to plants. ReTain was extensively tested and registered under the strict Food Quality Protection Act, a statute regulated by the United States Environmental Protection Agency (EPA). ReTain has also been registered in six other countries.

**11. What is the economic value of ReTain to an apple grower?**

The benefits vary from orchard to orchard and season to season. Further, it depends what specific benefit the grower is interested in. In some cases, reduction in pre-harvest fruit drop alone may financially justify the use of the product. In most cases, several benefits can be realized such as harvest management, improved firmness, larger fruit, increased red color, less watercore, etc. Economic studies have found return to the grower from several hundred to several thousand dollars per acre.