ReTain®
PLANT GROWTH REGULATOR FOR CALIFORNIA

WALNUTS

| Walnuts—California |

ReTain® Plant Growth Regulator for California Enhances Nut Set in Walnuts

ReTain® Plant Growth Regulator for California consistently increases nut set in walnut orchards that suffer from low nut set due to Pistillate Flower Abscission (PFA).

PFA occurs when too much pollen resides on the pistillate (female) flower, causing excessive ethylene production and thus flower drop and reduced yields. By temporarily reducing ethylene production in plants, *ReTain* protects walnut flowers from PFA during peak pollen receptivity.

Additionally, research indicates that two applications of *ReTain* can help growers increase yields and profits beyond a single application.

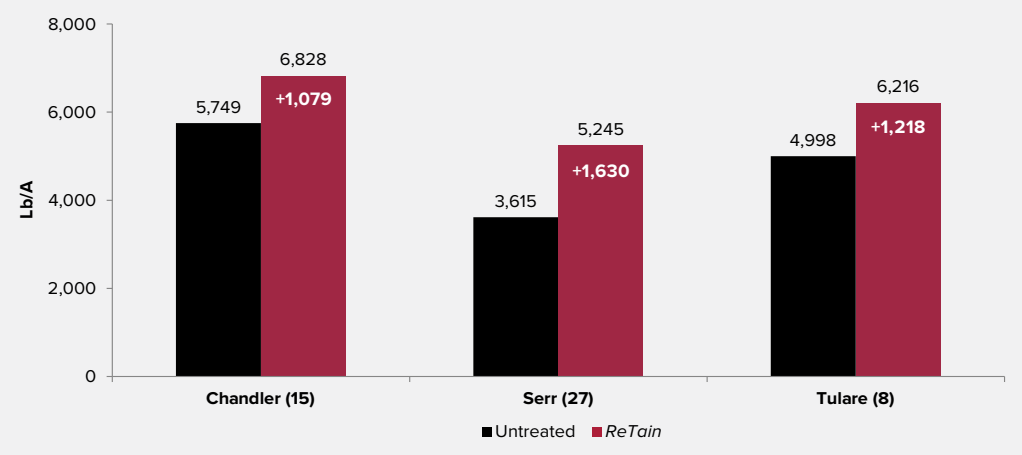
PFA Symptoms

- Strong pistillate (female) flower bloom but poor nut set
- Inconsistent yields in healthy blocks with no cultural changes
- Low yields in seasons with dry springs
- Low yields down wind from pollinator rows

ReTain Increases Yield in Multiple Cultivars

A single application of *ReTain* applied at 5–30% bloom reduces ethylene production in pistillate flowers, the main cause of PFA, increasing nut retention and yield.

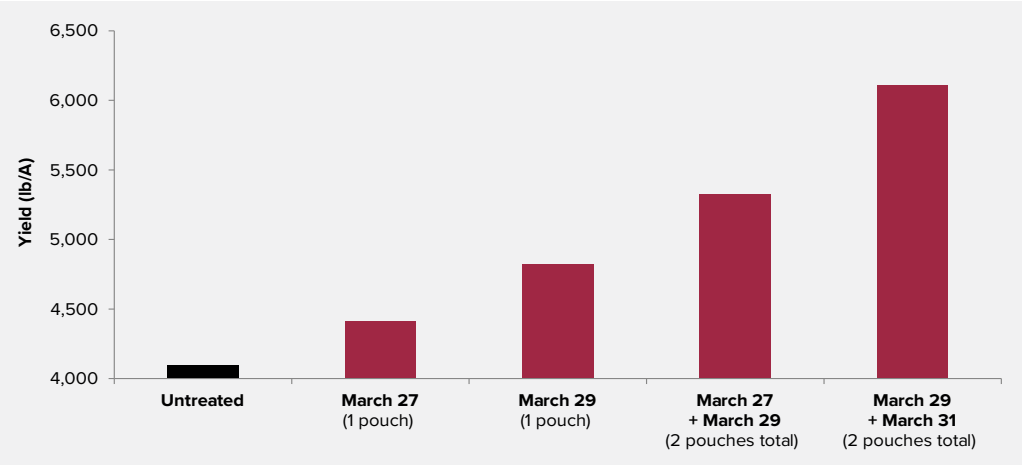
Source: Valent and University cooperators



A Second Application Further Protects Orchards from Severe PFA

Research shows that making a second application at 45–65% bloom (typically 2–4 days after the first application) can significantly increase yields.

Source: Valent



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How To Use

Rate	1–2 pouches per acre (11.7–23.4 oz/A)
Timing	First application at 5–30% pistillate (female) flower bloom. If a second application is required, apply at 45–65% bloom.
Method	Ground or aerial application
Spray Volume	Ground: 100–200 GPA Aerial: minimum 15 GPA
Adjuvant	None
REI	12 hours

Other Important Information

- For best results, apply under slow drying conditions, such as early in the morning or at night, in order to maximize absorption
- Flower coverage is critical. To ensure thorough coverage use calibrated spray equipment and adjust water volumes based on tree size and spacing.
- 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*.
- For best results, apply *ReTain* at least 48 hours before or after applying copper-based products
- Maintain solution pH between 6 and 8
- Signal word: Caution

Before Using *ReTain* for Walnuts

- Be sure your problem is PFA. Signs that point to PFA include:
  - High year-to-year yield variability, yields below county average for your variety, PFA sensitive cultivar (such as Serr, Tulare and Tehama), heavily planted walnut growing region that results in high pollen loads
- Be sure female flowers are at the correct stage of bloom. Applications made either too early (pre-bloom) or too late (full bloom or later) will significantly reduce efficacy of the treatment.

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