Promalin®
PLANT GROWTH REGULATOR

ADVANCED QUALITY MANAGEMENT FOR APPLES AND PEARS
Plant Growth Regulator:

ADVANCED POME FRUIT MANAGEMENT FOR MAXIMUM FRUIT QUALITY

Promalin® is a mixture of two naturally occurring plant growth regulators: gibberellic acid 4 and 7 (GA4+7), which cause cell enlargement and elongation, and 6-benzyladenine (6-BA) which promotes cell division.

Promalin has a number of effects in apples, depending on when it is applied. During bloom it improves fruit shape, making apples elongated or “typy”, a desired quality in a number of varieties such as Red Delicious. When applied from late bloom to 40 days after bloom, Promalin improves fruit size in many varieties including Gala and Golden Delicious and fruit finish (russet control). When used after frost events, Promalin can set fruit that would otherwise fall off.
Promalin® is a plant growth regulator (PGR) used on apples to improve fruit size and shape (typiness) through elongation of fruit and development of more prominent calyx lobes. Promalin reduces fruit russet and increases fruit value. Promalin will also increase fruit set of apples after frost and help to set fruit in pear varieties that have low natural set.

**PROMALIN BENEFITS**

**Apples**
- Improves fruit shape
- Increase size
- Increase set after frost
- Reduces russet

**Pears**
- Improves fruit set
YOU CAN’T CONTROL EVERYTHING,
BUT YOU CAN CONTROL RUSSETING

By reducing russetting, the fruit looks more appealing and marketable. The application of Promalin also helps to increase fruit size resulting in a greater ROI.

Promalin treated apples have a smooth fruit finish (no russet) whereas untreated apples are severely russeted. The electron micrograph pictures show that the fruit skin of untreated apples has severely ruptured cuticle exposing the epidermal cells to the air. The cuticle remains intact in Promalin treated fruit.

FRUIT SIZE RESULTS:
PROMALIN TREATED vs. Untreated Control

YIELD RESULTS:
PROMALIN TREATED vs. Untreated Control

RUSSET CONTROL
EU Central (NL, BE, AT, DE, North FR)

Promalin® EFFECT

France, Fuji 4 applications from full bloom at 4 to 6 day intervals

Austria, Mean of 4 studies on Arlet (1x) & Golden Delicious (3x) conducted 4 applications from petal fall at 7 to 13 day intervals

Mean values from 13 studies in EU Central Austria (5x), Belgium (2x), France North (3x) & Germany (3x) Arlet (1x), Cox’s Orange (1x), Golden (9x) & Wellaant (1x)
FRUIT SET INCREASE
IT’S ALL IN THE TIMING

Optimum Timings for Promalin® Applications

<table>
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<tr>
<th>Objective</th>
<th>20% Bloom</th>
<th>50% Bloom</th>
<th>80% Bloom</th>
<th>Full Bloom</th>
<th>Petal Fall</th>
<th>7 DAFR</th>
<th>14 DAFR</th>
<th>21 DAFR</th>
<th>40 DAFR</th>
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Note: DAFB = days after full bloom
Optimum timings based on 20 years’ trials and commercial experience

The timing of Promalin applications will be determined by the desired objective according to the chart above.

For Example: during bloom, start a Promalin program to enhance fruit set, size and shape. For russet control, start the Promalin program at petal fall.

Application of Promalin after a frost results in increased set of marketable fruit.
Apply Promalin within 24 hours following a frost. Make additional applications of Promalin after each additional frost event.

Promalin and MaxCel Fruit Size and Quality Program

To achieve larger, higher quality fruit, apply Promalin starting at full bloom or petal fall and make 2-3 additional applications, 7-12 days apart. Apply MaxCel between 7-12mm fruit size.
Valent BioSciences Corporation is an ISO 9001:2008 Certified Company

Promalin® use Recommendations
Refer to the approved Promalin label for each specific country for the exact use recommendation (rate, timing, water volume, number of applications, etc.).

Read and follow the label instructions before using.
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