

Getting the most out of

# Plant Growth Regulators

## Product information



### How do plant growth regulators work?

Plant growth and development is controlled and initiated by chemicals produced within the plant called plant growth regulators (PGRs). These natural growth regulators are present in very small amounts, and promote, inhibit, or modify physiological processes.

Grochem has a range of products that mimic these naturally occurring PGR's

Natural Plant Hormones	Produced in	Effects	Grochem Product
Cytokinins	Roots, shoots	Stimulation of cell multiplication in roots, shoots and fruit	BAPsol 100, BAGA, Ambitious
Gibberellins	Young tissues, seeds	Influence cell elongation, stem growth, seed germination, fruit set and growth.	Growth, Gib-47
Ethylene	Whole plant	Fruit ripening, stimulates return flowering and in combination with Auxin shoot growth	Ethin
Auxin	Shoot and root tips	Control of cell enlargement, cell division, root initiation, apical dominance, leaf and fruit abscission, ripening, flowering.	NAA100

### Application

Most PGR activity is enhanced when applied in slow drying conditions (early morning) followed by warm (20deg+) temperature on the day of application and the following day.

A specialized non-ionic surfactant such as Spray Aid is recommended with all applications to enhance coverage, and most importantly to extend and maximise.

PGRs work best in slightly acidic solutions (target pH 4.5-5.5). Many of our orchard water supplies have pH levels between 6.5 & 7.5 with some as high as 8.5. Acidification will greatly enhance the effects of PGRs in situations where pH of the spray mix is above 6.2.

Where acidification is required, apply a non-ionic buffering agent such as LoKit.

PGRs have a localised effect, so well setup spray equipment is essential to achieve consistent results. Use low volume, hollow cone nozzles that produce fine droplets in a range of 100-250 microns. Ensure water rates are sufficient to thoroughly cover the target zone but avoid excess run-off and drip points.



Formerly known as Buff-It™

#### Buffering Agent for Acidification of Spray Solution

Crop safe and easy to use

LoKit:

- is a true buffering agent and not an acidifier. Application of LoKit to water for use as a spray solution will reduce an alkaline pH to one suitable for most agrichemicals.
- will reduce spray solution pH to between pH 4.0 and pH 5.0. Increasing the use rate will not generally result in a reduction of pH below 4.0.
- is safe on most sensitive crops and timings. LoKit contains no organosilicone or amino alcohol ingredients and has been independently tested in New Zealand on Fuji apples over russet sensitive timings at high rates with no crop damage.
- is recommended by Grochem for use with PGRs and associated fruit thinning chemistry. This group includes BAPSoL™, NAA 100™, GIB-47™, Growth™ (Gib-3) and BAGA. These products perform at their optimum at an acidic pH between 4.0 and 5.0.
- gives a visible pH indication: When water pH is greater than 5.0 LoKit will produce a faint orange colour. When the pH is below 5.0 LoKit will produce a bright pink/red colour. This may be masked by any products in solution.
- is not a surfactant. It is a buffering agent that contains negligible amount of non-ionic surfactant. If the product being applied also requires the use of a surfactant for optimum results, then a suitable rate of surfactant (i.e. Spray Aid™) should be added to the tank.