



# Regulate

## Plant Growth Regulator



### *Hedge and Ground Cover growth management tool*

#### Product Overview

ProForce Regulate is a plant growth regulator containing 200g/L of the active ingredient Paclobutrazol.

ProForce Regulate is registered for the regulation of growth in ornamental plant Hedge and Ground cover species including Golden Duranta, Small Leaf Photinia, Syzygium (Lilly Pilly), Box (Buxus), Viburnum, Star Jasmine & Mock Orange.

ProForce Regulate is a Suspension Concentrate formulation.

#### Key Features

- > Limits labour costs. Reduces the need for pruning for up to 12 months.
- > Reduced green waste disposal costs.
- > Reduced OH&S risks – reduced use of ladders and pruning equipment.
- > Prevents pruning injury to the Hedge – limits infection points for plant pathogen or insect attack.
- > Improves plant appearance – can result in darker green more robust leaves (less leaf scorch) and improves flower production.
- > Improves overall uniformity of the Hedge, with denser foliage.
- > Multi-purpose label: ProForce Regulate can be used for turf and ornamental plant applications.
- > Formulated and developed in Australia

## ProForce Regulate PGR – Use Rates & Label Recommendations

SITUATION	APPLICATION	RATE	CRITICAL COMMENTS
<b>Hedging species</b> Golden Duranta ( <i>Duranta repens</i> ), Small Leaf Photinia ( <i>Photinia glabra</i> ), Syzygium ( <i>Syzygium australe</i> , <i>Syzygium smithii</i> ), Box ( <i>Buxus microphylla</i> ), Viburnum ( <i>Viburnum</i> spp.)	Root drench	1.9 mL to 3.1 mL in 1 L water/plant	Make applications in late winter to early spring, ideally at the commencement of a new season flush of growth. Applications must cover the root system adjacent to the stem at ground level. Remove mulch to ensure application reaches soil. Light post application irrigation is recommended.  DO NOT apply to hedges less than 0.3 m or greater than 2 m in height. It is critical the apical growing points of the hedging plant be intact to act as sinks drawing the product into the plant at the time of application. Therefore, DO NOT prune until 4 to 6 weeks after application. DO NOT allow plants to experience drought stress just prior to or just after application.  DO NOT make a repeat treatment within the following 12 months. DO NOT apply to newly planted or recently transplanted plants. It is strongly recommended the lower label rates be used when applying for the first time.
<b>Ground cover species</b> Star Jasmine ( <i>Trachelospermum jasminoides</i> )		0.6 mL to 1.9 mL in 1 L water/plant	The higher rate can be used in following years when the responsiveness is established.

## Mode of Action

ProForce Regulate PGR is a systemic growth regulator.

Paclobutrazol, the active ingredient in ProForce Regulate PGR's mode of action is primarily through inhibition of gibberellin biosynthesis. Paclobutrazol inhibits the enzyme ent-kaurene oxidase, which is part of the gibberellin (GA) biosynthetic pathway. This inhibition reduces the production of active gibberellins (especially GA1 and GA3), which are hormones that promote cell elongation and stem growth. Plants exhibit reduced internode elongation, leading to more compact (denser), shorter, and sturdier growth.

With reduced shoot elongation, more energy is allocated to root development. Paclobutrazol can increase chlorophyll content, resulting in greener leaves. It may promote earlier or more synchronized flowering and increased flower longevity, depending on the species. Flower size might decrease in some cases, but overall quality and uniformity can improve.

Use of ProForce Regulate PGR should begin only when plants are nearing their optimum size, that is once the desired shape (height, width and foliar density) has already been achieved and the plant requires only maintenance thereafter.

## Maximising performance

- > Don't use on plants of low vigour or under stress. Stress can be caused by moisture shortage due to lack of rain or inadequate irrigation, high temperature, salinity, moisture excess due to water table, flooding or inappropriate irrigation, severe or successive frosts, poor fertility caused by imbalance of major or minor nutrients, diseases, insects, inappropriate herbicide use, mechanical damage.
- > Don't apply to newly planted or recently transplanted hedging species or ground cover species, allow to establish and consolidate before applying for the first time.
- > Avoid application to hedges less than 0.3 m or greater than 2 m in height.
- > Don't prune until 4 to 6 weeks after application.
- > Responsiveness to this product can vary from site to site. It is strongly recommended that the lower rate be used when applying for the first time. If increased regulation is required then step up to the higher rate in the second year.
- > The compatibility of Regulate PGR with other products has not been established. Always conduct a physical compatibility test and check for plant safety on a sample plant before making broader applications of mixes to hedging species.
- > Retreatment: In some cases, control of growth may persist for more than 1 year. Retreat plants only when normal growth resumes. Only retreat in the late winter or spring that follows resumption of normal growth. Use the interval between the first treatment and the resumption of normal growth as a guide for retreatment in subsequent seasons.
- > Root Drench: Uptake of Regulate PGR is most efficient when it is applied to soil which receives adequate water and where there is a high density of feeder roots. Apply required amount of Regulate in 1 L water per plant. Ensure all treated plants are lightly irrigated following treatment under dry conditions. Individual trees or plants which are smaller than average should be left untreated or given a proportionally smaller dose of Regulate.
- > Regulate contains a surfactant and additional surfactant is not recommended.