

Product Name: SUREFIRE KULT PLANT GROWTH REGULATOR
APVMA Approval No: 80149/133847



Label Name:	SUREFIRE KULT PLANT GROWTH REGULATOR
Signal Headings:	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	250 g/L PACLOBUTRAZOL
Mode of Action:	
Statement of Claims:	To reduce vegetative growth in Mango, Stone fruit, and Apple Trees; for the suppression of Winter Grass (<i>Poa annua</i>) in turf, and to control growth in hedging plants as specified in the DIRECTIONS FOR USE TABLE
Net Contents:	1 L - 1000 L
Restrains:	<p>Restrains</p> <p>DO NOT apply when daytime temperatures are consistently above 32°C or when grasses are stressed from heat, cold or lack of moisture.</p> <p>DO NOT apply when soils are saturated (waterlogged) as fixing onto the soil will not occur and the product may move away from treated areas especially if heavy rainfall or irrigation follows application.</p> <p>DO NOT apply when turf has been thinned from disease or insect infestation or damaged from aeration or scarifying – wait until recovery has occurred.</p> <p>DO NOT apply to over-seeded areas until after establishment and then only use the lower rates until recovery has occurred.</p> <p>DO NOT scarify and top-dress greens whilst <i>Poa annua</i> is undergoing growth regulation.</p> <p>DO NOT use on trees of low vigour or under stress (see General Instructions).</p> <p>DO NOT use in orchards under-planted with any other crops.</p> <p>DO NOT apply to young trees which have recently been inter-planted in orchards and which are required to make vigorous growth.</p> <p>DO NOT apply to newly planted or recently transplanted hedging species, allow hedge to establish and consolidate before applying for the first time.</p> <p>DO NOT apply by aircraft.</p>

Directions for Use:	
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Other Limitations:	
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Withholding Periods:	<p>WITHHOLDING PERIODS: APPLES - DO NOT APPLY LATER THAN 21 DAYS BEFORE HARVEST ALL OTHER TREE CROPS: NOT REQUIRED WHEN USED AS DIRECTED</p> <p>TURF - DO NOT graze treated turf of lawn; or feed turf or lawn clippings from any treated area to poultry or livestock.</p>
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Trade Advice:	
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General Instructions:	<p>GENERAL INSTRUCTIONS</p> <p>Surefire Kult Plant Growth Regulator is a systemic growth regulator that reduces internode lengths of new shoots and causes earlier formation of terminal buds. Use of Surefire Kult should begin only when plants are nearing their optimum size.</p> <p>Orchards: It is most suited to intensively managed orchards where trees are near to filling their allocated space and growth control is a prime requirement. It is not suitable for old or unhealthy trees.</p> <p>Hedges: For hedges this is once the desired shape (height, width and foliar density) has already been achieved and the hedge requires only maintenance thereafter.</p> <p>Responsiveness to this product can vary from site to site. It is strongly recommended 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.</p> <p>If a plant is under stress Surefire Kult should NOT be used.</p> <p>Stress can be caused by:</p> <ul style="list-style-type: none"> • 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. <p>Tree Management</p> <p>Treated trees may produce heavier crops and require a higher level of fertilizer application. Ensure that treated trees are not over-watered or subjected to drought stress. In some instances, treated trees may set excess fruit and careful attention should be given to thinning operations. When replanting a treated orchard, at least 3 years should elapse since the last application for Surefire Kult. In orchards, which have been treated with collar drenches of Surefire Kult, fresh soil should be provided to allow tree establishment and growth. Remove treated soil. An alternative is to avoid original tree-holes, and place young trees as far as practicable from the treated soil (minimum 1.5 m). Where young trees are required to be planted in an established orchard which has been treated with collar drenches of Surefire Kult remove treated soil and replace with fresh soil.</p> <p>Hedge Management</p> <p>Treated hedges should be kept well watered with adequate nutrition. Plants should not have nutrition limited due to a lesser growth rate. When replanting a hedge at least 2 years should have elapsed since the last application of Surefire Kult. Alternatively, if planting into an area that historically has been treated, fresh soil should be provided to allow plant</p>
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establishment and growth. A further alternative is to avoid original planting holes and place young hedging species as far as practicable from the treated soil (minimum 1.5 m).

Turfgrass

Surefire Kult is a suspension concentrate formulation for spray application after dilution with water. Apply to dry or wet turf and water in immediately with 4-6 mm of sprinkler irrigation. The degree of *Poa annua* control will be influenced by application rate as well as the turf management practices, climate, soil type, grass variety, and *Poa annua* biotype. Growth of *Poa annua* will be reduced 1-2 weeks after application. Higher application rates will cause *Poa annua* to discolour (yellow to brown) and stop or slow its growth allowing desirable turf species to dominate. Application 1-2 weeks prior to *Poa annua* seed-head emergence will reduce seed-head visibility, but not formation. Repeat application 4-8 weeks apart (depending on rate) are required where *Poa annua* content is high (See Critical Comments for Restrictions).

Use in areas containing greater than 70% *Poa annua* will result in widespread discolouration of the fairway and green and may not appear acceptable to the user. Use of other cultural techniques is encouraged to lower the percentage of *Poa annua* below the 70% level. Over-seeding is recommended to hasten the conversion from *Poa annua* to more desirable grasses. To avoid stunting the growth of desirable seedlings, allow at least 14 days after treatment before overseeding and in newly over-seeded areas. Make treatments at least 6 weeks after over-seeding. On new grass plantings delay application until after establishment. Delay planting grass seed until after heavy rain or watering and not sooner than 1 month after application.

MIXING

Foliar Sprays: To a clean bucket of water add the required amount of Surefire Kult and stir to make a smooth mix. Add slurry to half filled spray tank of clean water. Add the required amount of non-ionic wetter (1000 g/L) and agitate during the completion of filling. Frequent or constant agitation of the spray mixture is recommended. Wash out spray tank after use. Collar and Root Drench: Mix required volume of Surefire Kult with recommended volume of water. Periodic agitation may be necessary to prevent settling.

Turfgrass: Add the required quantity of Surefire Kult to water in the spray tank and mix thoroughly.

APPLICATION

Foliar Sprays: Apply in a sufficient volume of water to ensure penetration of the spray and good coverage of target tissue, new green stem tissue in the case of apples. Apply in minimum volume of 1000 L of water per ha. Non-ionic wetter (1000 g/L) at 18 mL/100 L of water must be added to the final spray volume. It is not normally necessary to reapply the spray if rain follows soon after application.

Collar Drench: Uptake of Surefire Kult 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 Surefire Kult in 0.5 to 2 L of water per tree on to the soil/trunk crack line evenly around the base of the trunk. Where specific rates per tree are not given, the application rate per tree is determined by dividing the application rate per ha by the number of trees per ha. The volume of diluted drench required for even application without runoff will vary with the size of the tree and with soil type and moisture content. Use the higher volume on large trees. Ensure that trees are adequately irrigated following treatment under dry conditions. Individual trees, which are smaller than average should be left untreated or given a proportionally smaller dose of Surefire Kult.

Root Drench: Uptake of Surefire Kult is most efficient when it is applied to soil which receives adequate water and where there is a high density of feeder roots. For hedging species apply required amount of Surefire Kult in 1 L water per plant. Ensure all treated plants are lightly irrigated following treatment under dry conditions. Individual trees or plants that are smaller than average should be left untreated or given a proportionally smaller dose of Surefire Kult.

Trickle Point: Apply in 200-300 mL water per tree beneath each trickle or dripper point or through the trickle irrigation system. Follow application with a short period of irrigation. Alternatively, the required amount of Surefire Kult can be applied through the trickle

irrigation system. Equal distribution of water between trees is essential for this method to give a uniform effect.

Turfgrass: Apply Surefire Kult by boom sprayer fitted with flat fan nozzles and calibrated to apply sufficient spray mixture per hectare to cover the foliage well without causing run-off. Volumes between 400-800 L/ ha are suitable. Even application is essential. Avoid double application at boom edges to maintain uniformity in turfgrass response. High pressures are not required and should not be used. Avoid drift onto non-target plants such as garden beds, shrubs and trees. Spray pressures of 150-200 kPa are sufficient.

RETREATMENT

In some cases, control of growth may persist for more than one year. Retreat plants only when normal growth resumes. For hedging plants, 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.

COMPATIBILITY

This product is compatible with any of the following products: Nimrod®, Omite® 300 W, Pirimor® or Dithane® M-45. However, mixing this with more than any one of these products may give unpredictable results or may in crop damage. If carbaryl is used as a thinning spray on apples, allow 21 days before application of Surefire Kult.

Resistance Warning:

Precautions:

RE-ENTRY PERIOD

DO NOT allow re-entry into treated areas until spray has dried.

Protections:

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND THE ENVIRONMENT

Do not contaminate streams, rivers or watercourses with the chemical or used containers.

Storage and Disposal:

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Triple rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

Refillable containers: Empty contents fully into application equipment. Close all valves and return to designated collection point for refill or storage.

Safety Directions:

Avoid contact with the eyes and skin. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

First Aid Instructions:

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre.
Phone Australia 13 11 26, New Zealand 0800 764 766.

First Aid Warnings:

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DIRECTIONS FOR USE

1. Tree Crops

Crop & Situation	State	Application method	Rate	Critical Comments
Mango	Qld, NT & NSW only	Collar, Drench: <u>Trees 3-6 years old:</u> Light sands Clay, red volcanics <u>Trees over 6 years:</u> Light sands Clay, red volcanics	Per tree: 8-12 mL 12-16 mL 16-20 mL 20 mL	Apply within 4 weeks after harvest or no later than mid-February. Adjust rate within range according to tree age. Use high rate for older trees. Ensure trees are well watered before and after application. CAUTION: Do not treat young trees with a canopy of less than 3 m diameter. CAUTION: Excessive compaction of flower panicles may result from application at times later than recommended or from delayed uptake caused by dry soil conditions. Care should be taken to ensure correct insecticide application to control webworm in compact flower panicles. RETREATMENT: The effects of Surefire Kult on flowering and growth may persist for more than one season. Sandy Soils: Postpone retreatment until after the harvest following resumption of normal growth. Use the interval between the first treatment and resumption of normal growth as a guide to retreatment frequency in subsequent years. Clays & Red Volcanic soils: Retreat each season. If reduction of growth increases progressively from season to season postpone treatment until after the harvest following the resumption of normal growth.
Apples: Red Delicious & Granny Smith	All States	Spray	500 mL to 1 L/ha Add 18 mL 600 g/L non-ionic wetter per 100 L water in final spray volume	Apply in a sequential spray program commencing 28 days after full bloom on Red Delicious or 35 days after full bloom on Granny Smith. Use lower rate on less vigorous trees. Apply subsequent sprays at the lower rate at intervals of 21 days for as long as growth control is required. Activity results from uptake of chemical by young green stem tissue. Do not apply more than 4 L/ha per season. CAUTION: If using carbaryl as a chemical thinning agent, plan to allow 21 days between application of carbaryl and Surefire Kult.
Peaches, Nectarines	All States	Trickle Irrigation Collar drench	2 L/ha 2 to 4 L/ha	Apply in early Autumn or in Spring between 14 days prior to bud burst and full bloom. Late Summer or early Autumn application is recommended for early maturing cultivars. Divide rate per ha by the number of trees per ha to determine the rate per tree. Use high rate on medium and heavy soil types. RETREATMENT: Retreat trees with 2 L/ha (trickle) or with 2-3 L/ha (collar drench) in subsequent season. Rates of application for retreatment may be reduced if a lesser degree of growth control is desired. On light soils, retreat when normal growth resumes. Use the low rate for retreatment of low vigorous varieties in cool districts.

Crop & Situation	State	Application method	Rate	Critical Comments
Apricots, Plums	All States	Trickle Irrigation	2 L/ha	Apply in early Autumn or in Spring between 14 days prior to bud burst and full bloom. Bloom dates may be advanced. In plums, ensure that pollinator trees are treated at the same time to synchronise flowering. Divide rate per ha by the number of trees per ha to determine the rate per tree. Use high rate on medium and heavy soil types. RETREATMENT: Do not retreat until the season in which normal growth resumes.
		Collar drench	2 to 4 L/ha	
Cherries		Trickle irrigation	1 L/ha	Apply in early Autumn or in Spring between 14 days prior to bud burst and full bloom. Use high rate on medium and heavy soil types. Bloom dates may be advanced. Ensure that pollinator trees are treated at the same time to synchronise flowering. Divide rate per ha by the number of trees per ha to determine the rate per tree. Use high rate on medium and heavy soil types. RETREATMENT: Do not retreat until the season in which normal growth resumes.
		Collar drench	1 to 2 L/ha	

2. Turfgrass

Situation	Weeds controlled	Rate	Critical Comments
Bentgrass (<i>Agrostis stolonifera</i>) Perennial Ryegrass (<i>Lolium perenne</i>) Kentucky Bluegrass (<i>Poa pratensis</i>) Green Couch* (<i>Cynodon dactylon</i>) * Excludes hybrid cultivars	<i>Poa annua</i> suppression and long term control	1.6-2.24 L/ha (16-22 mL/100 square metres)	Use the lower rate when the percentage of <i>Poa annua</i> in the turf is so high that the resultant yellowing and retardation would be too extensive to be acceptable. Otherwise use the higher rate. DO NOT apply more than 2 spring or 1 autumn applications. Continue normal cultural practices after application.
Bentgrass (<i>Agrostis stolonifera</i>) Perennial Ryegrass (<i>Lolium perenne</i>) Kentucky Bluegrass (<i>Poa pratensis</i>) Green Couch (<i>Cynodon dactylon</i>) <i>Poa annua</i> turfgrass	Growth regulation – decrease in vertical height, enhanced greening and quality	0.4 L-1.6 L/ha (4-16 mL/100 square metres)	Apply the 0.4 L/ha rate at 2-4 week intervals or the 800 mL-1.6 L/ha rate at 4-8 week intervals. Use only the low rate (0.4 L/ha) on <i>Poa annua</i> . Continue normal cultural practices after application.

3. Hedging plants (All States)

Situation	Application	Rate	Critical Comments
Hedging species Golden Duranta <i>(Duranta repens)</i> , Small leaf Photinia <i>(Photinia glabra)</i> , Syzygium (<i>Syzygium australe</i> , <i>Syzygium smithii</i>)	Root drench	1.5 to 2.5 mL in 1 L water/plant	Make applications to the hedging plants 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.
Hedging species Mock Orange <i>(Murraya paniculata)</i>		0.5 to 1.5 mL in 1 L water/plant	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 the hedging plant 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 hedging species. It is strongly recommended the lower label rates be used when applying for the first time. The higher rate can be used in following years when the responsiveness of the hedge is established.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION