

CAUTION

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

QUALI-PRO[®]

Marvel-ous[®]

Plant Growth Regulator

ACTIVE CONSTITUENT: **625 g/L TRINEXAPAC-ETHYL**

For the reduction of leaf and stem growth of grass species and as an aid in turf management, as per the Directions for Use.



ADAMA

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CONTENTS: 100 mL to 1000 L

RESTRAINTS

DO NOT apply to turf recovering from wear, renovation or turf affected by disease, waterlogging or other stresses.
DO NOT use where growth regulatory effects are likely following the application of a fungicide or any other material.
DO NOT apply to turf going into or coming out of dormancy.
DO NOT apply if rainfall is expected within 1 hour, and DO NOT irrigate turf for at least 1 hour after application.
DO NOT apply to Kentucky Bluegrass as damage may occur.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at www.apvma.gov.au/spraydrift

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

**DIRECTIONS FOR USE
TURF GROWTH MANAGEMENT**

SITUATION	GRASSES	RATE		CRITICAL COMMENTS
		Per ha	Per 100 m ²	
Golf courses and bowling greens	Bent Grass, Bent Grass/ Winter grass (<i>Poa annua</i>) mixed sward	40 - 190 mL	0.4 to 2 mL	Apply QUALI-PRO® MARVEL-OUS® at least 6 hours before or after mowing and when turf is actively growing. Use the lower rates on turf with moderate growth rates where a lower level of growth regulation is required, or when used in a program. Apply rates towards the highest end of the rate range when growth is vigorous or when longer periods of up to 6 weeks regulation are required. Application made to turf growing under cool conditions or to turf with low nutrient levels or where growth rates are low may result in discolouration. Well maintained turf surfaces are those which receive at least weekly mowing and good levels of water and fertility are maintained. Refer to Application section for detailed information.
	Hybrid couch	30 to 115 mL	0.3 to 1.15 mL	
Golf course fairways	Carpet Grass, Kikuyu	300 to 800 mL	3 to 8 mL	
	Common Couch	150 to 300 mL	1.5 to 3 mL	
	Couch varieties: Greenlees Park, Santa Ana, Wintergreen	100 to 225 mL	1 to 2.25 mL	
	Fescue, Perennial Ryegrass	300 to 560 mL	3 to 5.6 mL	
Golf course short roughs, Well maintained lawns, General turf surfaces	Bahia grass, Bent Grass, Fescue, Perennial Ryegrass	400 to 800 mL	4 to 8 mL	
	Buffalo Grass, Common Couch, Hybrid Couch	200 to 400 mL	2 to 4 mL	
	Kikuyu	300 mL to 1.12 L	3 to 11 mL	
Golf course long roughs, Parks, Ovals, Lawns, General grassed areas	Bent Grass, Fescue, Perennial Ryegrass	400 mL to 1.12 L	4 to 11 mL	
	Buffalo Grass, Common Couch, Hybrid Couch	200 to 800 mL	2 to 8 mL	
	Kikuyu	400 mL to 1.6 L	4 to 16 mL	
Bunker facing, path and garden edging, Footpath and curbside edging, Fencelines, Around trees	Bent Grass, Common Couch, Perennial Ryegrass	800 mL to 1.12 L	8 to 12 mL	Apply QUALI-PRO® MARVEL-OUS® at least 6 hours before or after mowing and when turf is actively growing. On difficult to mow areas apply QUALI-PRO® MARVEL-OUS® to actively growing turf and mow 3 to 4 days after application. Apply in a strip approximately 25 to 50 cm wide. Use the lower rates of QUALI-PRO® MARVEL-OUS® around bunker edges and the higher rates in the other situations. Application made to turf growing under cool conditions or to turf with low nutrient levels or where growth rates are low may result in discolouration.
	Buffalo Grass, Couch varieties: Greenlees Park, Santa Ana, Wintergreen	800 mL	8 mL	
	Kikuyu	1.12 to 1.6 L	12 to 16 mL	

WINTER GRASS (*Poa Annua*) MANAGEMENT

SITUATION	GRASSES	RATE		CRITICAL COMMENTS
		Per ha	Per 100 m ²	
Golf Course Fairways, Golf Course Greens	Winter Grass (<i>Poa annua</i>)	80 to 200 mL	1 to 2 mL	See instructions under Winter Grass (<i>Poa annua</i>) Management for reduction of <i>Poa annua</i> swards in Bent Grass golf greens. See Golf course greens section above for application recommendations

Bahia grass (*Paspalum notatum*) Suppression and Seedhead Control

SITUATION	GRASSES	RATE Per ha	CRITICAL COMMENTS
Common couch, Durban Grass, Hybrid Couch, Old Blue Couch, Zoysia only In golf courses long roughs, lawns, median strips, ovals, parks, roadsides, general grassed area	Bahia grass (<i>Paspalum notatum</i>) suppression and seedhead control	400 to 800 mL Plus 28 to 55 g/ha Quali-Pro® Negate®	In bahia grass dominant turf areas, where suppression or elimination of bahia grass may leave noticeable bare areas, use the lower rate of Quali-Pro® Negate® and Quali-Pro® MARVEL-OUS®. This will eliminate bahia grass seedheads and suppress growth, while allowing desirable species to re-establish without competition. Where desirable grasses are dominant and the aim is to quickly remove bahia seedheads and vegetative growth, the higher rates may be used.

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

WITHHOLDING PERIODS

DO NOT GRAZE TREATED TURF/LAWN, OR FEED TURF/LAWN CLIPPINGS FROM ANY TREATED AREA TO POULTRY OR LIVESTOCK

GENERAL INSTRUCTIONS

QUALI-PRO® MARVEL-OUS® should be applied to actively growing turf, at least 6 hours before or after mowing. Good mowing management leading up to application is required to achieve a good quality turf surface and to obtain the best results from QUALI-PRO® MARVEL-OUS®.

Growth Regulation

The recommended use rates are designed to give approximately a 20 to 50% reduction in clippings over a 2 to 6 week period. Full growth regulation by QUALI-PRO® MARVEL-OUS® begins about 3 to 5 days after application. In practice the amount of growth regulation achieved will vary between situations due to environmental conditions and management practices. To some extent, therefore, application rates will need to be adjusted to match growing conditions, management practices and the amount of growth regulation required by the turf manager.

Repeat applications can be made as soon as turf resumes growth or more suppression is required. Areas treated with QUALI-PRO® MARVEL-OUS® should continue to receive regular maintenance practices, including irrigation, fertilization, and weed, disease and insect control when necessary, as recommended for quality turf.

Winter Grass (*Poa annua*) Management

Different grasses vary in their sensitivity to QUALI-PRO® MARVEL-OUS®. Since *Poa annua* is more sensitive to QUALI-PRO® MARVEL-OUS® than Bent Grass, QUALI-PRO® MARVEL-OUS® can be used to reduce the competitiveness of *Poa annua* in Bent Grass golf greens. QUALI-PRO® MARVEL-OUS® can be integrated into existing *Poa annua* control programs. Low rates of QUALI-PRO® MARVEL-OUS® (that provide growth suppression of *Poa annua*, but not Bent Grass) applied during peak growth periods may enable a slow transition in the golf green sward composition away from *Poa annua* and towards a higher percentage of Bent Grass.

Bahia Grass (*Paspalum notatum*) Management

Different grasses vary in their sensitivity to QUALI-PRO® MARVEL-OUS® and Quali-Pro® Negate®. Bahia Grass is very sensitive to the combination resulting in control of seedheads as well as vegetative growth suppression. Apply the combination as soon as seedheads start to form or when it becomes a regular mowing intervention issue, normally during October to January. Apply at 4 week intervals after mowing.

Couch Overseeding

An application of QUALI-PRO® MARVEL-OUS® to couch will enhance the establishment of cool season turf grasses. QUALI-PRO® MARVEL-OUS® has foliar uptake, so germination and seedling growth is not affected. Apply QUALI-PRO® MARVEL-OUS® before verticutting, scalping, spiking or other similar operations to the couch. Apply QUALI-PRO® MARVEL-OUS® 1 to 5 days before seeding.

MIXING

QUALI-PRO® MARVEL-OUS® is an emulsifiable concentrate with minimal odour as the product does not contain petroleum solvents. QUALI-PRO® MARVEL-OUS® mixes completely with water and may be tank mixed

with many commonly used fungicides and liquid fertilizers. Add the required quantity of QUALI-PRO® MARVEL-OUS® directly to a spray tank containing 2/3 of the required spray volume. Add the rest of the water and ensure the mix is thoroughly agitated before application. QUALI-PRO® MARVEL-OUS® can be tank mixed with some formulations of azoxystrobin, chlorothalonil and propiconazole fungicides and trifloxysulfuron sodium herbicide.

APPLICATION

Ensure even application in order to achieve even growth reduction. Avoid overlapping sprays.

Application Volume: Apply in 100 to 500 L/ha water, using suitable flat fan nozzles. Application volume should be adequate to ensure thorough and even coverage of the turf leaves and penetration to the crowns. In higher cut turf (≥ 15 mm) a significant spray shielding effect can occur, impacting negatively on spray penetration and even coverage at low application volumes.

Knapsack: It is important to apply the correct quantity of QUALI-PRO® MARVEL-OUS® to a known area of turf. Apply between 2 and 10 L water/100 m² turf. Preferably use flat fan nozzles and ensure even coverage is achieved.

Golf Courses and Bowling Greens: Ensure product placement as uniformly as possible onto leaves and into crowns. Ideal application volume should be 350 to 500 L/ha. For best results use medium [XR Teejet* (11004 or 11005)] to coarse [Turbo Teejet* or AIXR Teejet* (11004 or 11005)] nozzles, at 5 km/h and 3 bar pressure. Boom height should not exceed 50 cm above the ground.

All Other Turf Areas: Ensure product placement as uniformly as possible onto leaves and into crowns. Ideal application volume should be 200 to 500 L/ha. For best results use medium [XR Teejet (11004 to 11008)] to coarse [Turbo Teejet or AIXR Teejet (11004 or 11005)] nozzles, at 8 km/h and 3 bar pressure. Boom height should not exceed 50 cm above the ground.

Bahia Grass Suppression and Seedhead Control: Ensure product placement as uniformly as possible onto leaves and into crowns. Ideal application volume should be 200 to 500 L/ha. For best results use coarse [Turbo Teejet* or AIXR Teejet* (11004 or 11005)] nozzles, at 8 km/h and 3 bar pressure. Boom height should not exceed 50 cm above the ground.

Non-ionic Surfactants: For Bahia Grass suppression and seedhead control when tank mixing with Quali-Pro® Negate®, use surfactants like BS1000 (1000 g ai/L formulations) at 0.25% v/v or 250 mL/100 L spray mix.

Application Near and Around Monuments and Hardscape Materials: QUALI-PRO® MARVEL-OUS®, at normal dilution rates, will not stain brass, bronze, concrete, granite, marble or other types of stone. Before using QUALI-PRO® MARVEL-OUS® around other materials, test on a small-scale basis first.

COMPATIBILITY

For Common Couch, Hybrid Couch and Kikuyu turfgrasses only QUALI-PRO® MARVEL-OUS® is compatible with some formulations of products containing the following chemicals: 2,4-D amine, bromoxynil, MCPA/ bromoxynil/ dicamba, MCPA ester/bromoxynil, MCPA ester/bromoxynil/ dicamba, MCPP/2,4-D amine/dicamba or MCPP/ dicamba. However, some transient discolouration of the treated turf may occur after application of a tank mix. For the treatment of broadleaf weeds in turf with herbicides other than those indicated above, it is recommended to apply QUALI-PRO® MARVEL-OUS® and the broadleaf weed herbicides separately, allowing at least 10 days between an application of QUALI-PRO® MARVEL-OUS® and the broadleaf weed herbicides.

PRECAUTIONS

Re-entry

General public:

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

Occupational users:

DO NOT enter treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves.

Clothing must be laundered after each day's use.

PROTECTION OF WILDLIFE FISH, CRUSTACEANS AND ENVIRONMENT

- Toxic to aquatic life.
- DO NOT contaminate wetlands or watercourses with this product or used containers. Wash out spraying equipment and mixing and measuring utensils with water onto grass.

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. This container can be recycled if it is clean, dry, free of visible residues and has the *drumMUSTER* logo visible. Triple-rinse container for disposal. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any *drumMUSTER* collection or similar container management program site. The cap should not be replaced but may be taken separately.

If not recycling, break, crush, or puncture and deliver empty packaging 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.

SAFETY DIRECTIONS

May irritate the skin. Will irritate the eyes. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When opening the container and preparing spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length chemical resistant gloves and face shield or goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbowlength chemical resistant gloves. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

SDS

A Safety Data Sheet (SDS) for this product is available at adama.com or from Adama Australia on request. Call Customer Service on 1800 423 262.

CONDITIONS OF SALE: The use of QUALI-PRO® MARVEL-OUS® PLANT GROWTH REGULATOR being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia regarding its suitability, fitness or efficiency for any purposes for which it is used by the buyer, whether in accordance with the Directions for Use or not. Adama Australia accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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