

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



Astro 120 ME

Growth Regulator

ACTIVE CONSTITUENT: 120 g/L TRINEXAPAC-ETHYL

**For the Regulation of Leaf and Stem Growth of Grass
Species and as an Aid in Turf Management**

IMPORTANT: READ THIS LEAFLET BEFORE USING THIS PRODUCT

APVMA Approval No.: 64368/114803



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DIRECTIONS FOR USE**Restrictions**

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 with 1 hour, and **DO NOT** irrigate for at least 1 hour after application.

DO NOT apply to Kentucky Bluegrass as damage may occur.

Turf Growth Management (Growth Regulation)

Situation	Grasses	Rate		Critical Comments
		Low Volume Spray /ha	Knapsack Application /100m ²	
Golf course greens	Bent Grass	1.05 to 2.1 L	10 to 21 mL	Apply Astro 120 ME Growth Regulator at least 6 hours before or after mowing and when turf is actively growing.
	Hybrid Couch	150 to 600 mL	1.5 to 6 mL	
Golf course fairways	Carpet grass, Kikuyu	1.65 to 4.15 L	17 to 42 mL	Use the lower rates on turf with moderate growth rates where a lower level of growth reduction is required or when used in a program. Apply rates towards the higher end of the rate range when growth is vigorous or when longer periods of 4 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. Refer to Application section for detailed information. Well-maintained lawns and turf surfaces are those that receive at least weekly mowing and good levels of water and fertility are maintained.
	Common couch	830 mL to 1.65 L	8 to 17 mL	
	Couch varieties: Greenlees Park, Santa ana, Wintergreen	625 mL to 1.25 L	6 to 13 mL	
	Fescue, Perennial Ryegrass	1.65 to 3.1 L	17 to 31 mL	
Golf course short roughs, well-maintained lawns and turf surfaces	Bent Grass, Fescue, Perennial Ryegrass	2.1 to 4.15 L	21 to 42 mL	Refer to Application section for detailed information.
	Buffalo grass	1.05 to 2.1 L	10 to 21 mL	
	Common Couch, Hybrid couch			
	Kikuyu	1.65 to 6.25 L	17 to 63 mL	
Golf course long roughs, parks, ovals, lawns, general grassed areas	Bent Grass, Fescue, Perennial Ryegrass	2.1 to 6.25 L	21 to 63 mL	
	Buffalo grass	1.05 to 4.15 L	10 to 42 mL	
	Common Couch, Hybrid couch			
	Kikuyu	2.1 to 8.35 L	21 to 83 mL	

Turf Growth Management (Growth Regulation) *continued*

Situation	Grasses	Rate		Critical Comments
		Low Volume Spray /ha	Knapsack Application /100m ²	
Bunker facing, path and garden edging, footpath and kerbside edging, fencelines, around trees	Bent Grass, Common Couch, Perennial Ryegrass	4.15 to 6.25 L	42 to 63 mL	Apply Astro 120 ME Growth Regulator at least 6 hours before or after mowing and when turf is actively growing. On difficult to mow areas apply Astro 120 ME Growth Regulator to actively growing turf and mow 3 to 4 days after application. Apply in a strip about 25 to 50 cm wide. Use the lowest rate of Astro 120 ME Growth Regulator 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	4.15 L	42 mL	
	Couch varieties: Greenlees Park, Wintergreen, Santa ana			
	Kikuyu	6.25 to 8.35 L	63 to 83 mL	

Winter Grass (*Poa annua*) Management

Situation	Grasses	Rate		Critical Comments
		Low Volume Spray /ha	Knapsack Application /100m ²	
Golf course fairways or Bent grass golf greens	Winter Grass (<i>Poa annua</i>)	420 mL to 1.05 L	4 to 10 mL	See Winter Grass (<i>Poa annua</i>) Management in GENERAL INSTRUCTIONS regarding information for reduction of Winter Grass swards in Bent Grass golf greens. See Critical Comments aligned with Golf course greens situation/use for application recommendations.

**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

Astro 120 ME Growth Regulator 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 Astro 120 ME Growth Regulator.

Turf Growth Management (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 Astro 120 ME Growth Regulator begins about 3 to 5 days after application. In practise, the amount of growth reduction 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 practises 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 Astro 120 ME Growth Regulator should continue to receive regular maintenance practises, including irrigation, fertilisation, and weed, disease and insect control where necessary, as recommended for quality turf.

Winter Grass (*Poa annua*) Management

Different grasses vary in their sensitivity to Astro 120 ME Growth Regulator. Since Winter Grass is more sensitive to Astro 120 ME Growth Regulator than Bent grass, Astro 120 ME Growth Regulator can be used to reduce the competitiveness of Winter Grass in Bent grass golf greens. Astro 120 ME Growth Regulator can be integrated into existing Winter Grass control programs. Low rates of Astro 120 ME Growth Regulator (that provide growth suppression of Winter Grass, but not Bent grass) applied during peak growth periods may enable slow transition in the golf green sward composition away from Winter Grass and towards a higher percentage of Bent grass.

Couch Overseeding

An application of Astro 120 ME Growth Regulator to couch will enhance the establishment of cool season turf grasses. Astro 120 ME Growth Regulator is foliar absorbed, so germination and seedling growth is not affected. Apply Astro 120 ME Growth Regulator before verticutting, scalping, spiking or other similar operations to the couch. Apply Astro 120 ME Growth Regulator 1 to 5 days before seeding.

Mixing

Astro 120 ME Growth Regulator is a micro-emulsion concentrate (ME) with minimal odour as the product does not contain petroleum solvents. Astro 120 ME Growth Regulator mixes completely with water and may be tank mixed with many commonly used fungicides and liquid fertilisers. Add the required quantity of Astro 120 ME Growth Regulator directly to a spray tank containing 2/3 (two thirds) of the required spray volume. Add the rest of the water and ensure the mix is thoroughly agitated before application.

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 cm) 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 Astro 120 ME Growth Regulator to a known area of turf. The water volume used is not as important providing good coverage is achieved. Apply between 2 and 10 L of water / 100 m² of turf. Preferably use flat fan nozzles and ensure even coverage is achieved.

Golf Course 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/hr 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 11005)] to coarse [Turbo Teejet* or AIXR Teejet* (11004 or 11005)] nozzles, at 8 km/hr and 3 bar pressure. Boom height should not exceed 50 cm above the ground.

Application Near and Around Monuments and Hardscape Materials

Astro 120 ME Growth Regulator, at normal dilution rates, will not stain brass, bronze, concrete, granite, marble or other types of stone. Before using Astro 120 ME Growth Regulator around other materials, test on a small-scale basis first.

Compatibility

Astro 120 ME Growth Regulator is compatible with Azoxy 95 Fungicide and Thumper Insecticide.
For Common Couch, Hybrid Couch, and Kikuyu turf grasses only:

Astro 120 ME Growth Regulator is compatible with some formulations of products containing the following chemicals:

2,4-D amine, bromoxynil, MCPA/bromoxynil/dicamba, MCPA ester, 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 Astro 120 ME Growth Regulator and the broadleaf weed herbicides separately, allowing at least 10 days between an application of Astro 120 ME Growth Regulator and the broadleaf weed herbicides.

PRECAUTIONS**Re-entry Period**

DO NOT enter treated areas until spray has dried. If prior entry is necessary, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

DO NOT allow the public to enter treated areas until spray has dried.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Dangerous to fish larvae and oysters. DO NOT contaminate dams, rivers, streams or storm water drains with concentrate or used container. Wash out spraying equipment, 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. 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.

SAFETY DIRECTIONS

Will damage the eyes. Avoid contact with eyes. If product or spray in eyes, wash it out immediately with water. When opening the container, preparing spray and using prepared spray, wear cotton overalls buttoned to the neck and wrist, and a washable hat, elbow-length chemical resistant gloves and goggles. Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.

FIRST AID INSTRUCTIONS

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

SAFETY DATA SHEET

For further information refer to the Safety Data Sheet (SDS), which is available from the supplier or from the manufacturer's website: www.turfculture.com.au

CONDITIONS OF SALE

The use of Astro 120 ME Growth Regulator being beyond the control of the manufacturer, no warranty expressed or implied is given by Turf Culture Pty Ltd regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Turf Culture Pty Ltd accepts with no responsibility for any consequences whatsoever resulting from the use of this product.

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In a Transport Emergency Dial 000 Police or Fire Brigade