



The World's leading plant growth regulator (PGR) for turf

Primo Maxx is a highly effective turf growth regulator. It works by blocking the production of gibberellic acid within the plant, which effectively limits cell elongation and vertical growth. The effect is to shorten the distance between the shoot nodes, resulting in a more compact growth habit. Whilst vertical growth is slowed, energy in the plant is diverted to boost both root and lateral foliar growth – creating, stronger, healthier, denser and more consistent turf, which requires less mowing.

Furthermore, Primo Maxx programs will enhance turf quality and season-long playability of all turf surfaces.

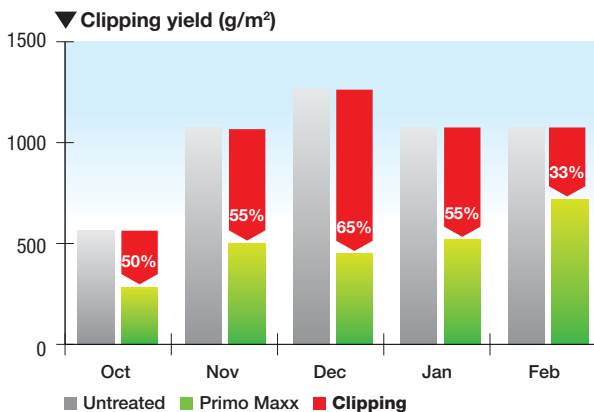
Mowing reduction

Primo Maxx will usually slow vertical grass growth within three to five days of initial application. With slower leaf growth, playing surface speed and quality will remain consistent for longer, potentially enabling the frequency of mowing to be reduced, by allowing mowing and rolling to be alternated on a day to day basis, for example. Mowing is faster where there is fewer clippings to box off or, where mulching mowers are used. There is also a reduced potential for organic matter or thatch build up as fewer clippings left on the playing surface.

On fairways and first-cut rough or sports playing surfaces, turf mowing intervals may be extended as the cumulative benefits of the Primo Maxx program take full effect:

- Up to 50% less mowing over the season
- Significant increase in mowing speed
- Reduced costs and wear and tear on equipment
- Reduced volume of clippings for composting or disposal

Slower grass growth will provide greater flexibility in cutting intervals, aide the use of mulching mowers and mitigate the effects of disruptions to the cutting schedule. Primo Maxx treated turf also retains visually appealing cutting patterns for longer.



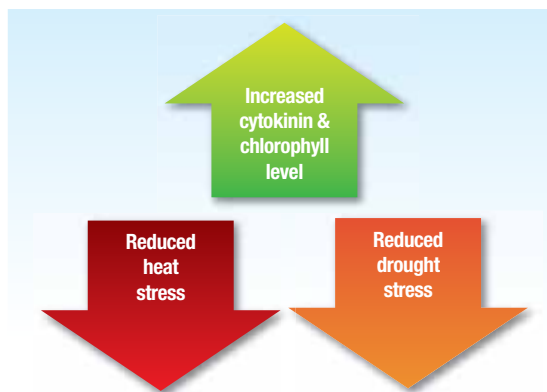
Coping with stress

Research trials and turf managers' experience on golf courses and sport pitches globally have consistently demonstrated the ability of a Primo Maxx program to help turf withstand the effects of stress more effectively, and to recover faster.

Under drought conditions Primo Maxx has been shown to increase leaf chlorophyll content by up to 60%*, maintaining visual appearance and playing quality for longer.

Research has shown that Primo Maxx applications increase the level of bioactive cytokinins within the plant – improving the tolerance of turf to heat and drought induced stress.

*Source – Rutgers University, USA



More efficient use of water

Research at Rutgers University, USA, has shown that Primo Maxx improves the turf plant's water use efficiency by reducing respiration rates and stomatal evapotranspiration. In trials under drought conditions, the relative water content of the grass leaves remained a healthy 20% higher than untreated 28 days after treatment. Healthier plants, with deeper rooting, are also better able to seek out available soil moisture and nutrients, as well as recovering faster from drought effects or traffic and wear stress from heavy play.

Benefits and application rates

Primo Maxx for golf

Primo Maxx is approved for use on all areas of golf courses. Its use will enhance turf quality and reduce management costs.

BENEFITS OF PRIMO MAXX PROGRAMS INCLUDE:

Greens & Tees

- Higher quality playing surface
- More consistent ball roll throughout the day
- Better wear tolerance
- Faster cutting and less clippings to box off
- Improved sward condition in shade
- Healthier turf = improved stress tolerance

Fairways

- Reduced mowing frequency
- Lower maintenance costs
- Superior ball lie
- Better drought resistance
- Quicker recovery from stress
- Improved wear tolerance
- Reduced risk of scalping when mowing
- Cut costs and carbon footprint of turf management

APPLICATION RATES

Primo Maxx application rates should be tailored to turf growing conditions and grass species present. During periods of intense growth, Primo Maxx rates should be increased up to the maximum permitted rate for specific grass species, in order to optimise growth regulator performance. Application rates may be lower when conditions are less favourable to turf growth.

CUTTING HEIGHT

In practice, managers of fine turf surfaces, have found the denser sward of Primo Maxx treated turf enables cutting height to be raised by 1 mm, whilst retaining equally fast and more consistent ball roll. Raising the cutting height will reduce stress on plants and can help to contribute to a healthier sward. Experience has shown this can mitigate the effects of some stress induced diseases, such as Anthracnose, and play a significant role in Integrated Turf Management programs.

CUT GOLF COURSE COSTS AND CARBON EMISSIONS

Calculations by international researchers at Cranfield University in the UK have shown Primo Maxx programs could effectively halve the carbon footprint on a typical 18-hole golf course, potentially reducing emissions from 3570 kg per year to 1862 kg. Along with the improvements in turf quality and playing surface consistency, the report calculates the cost of maintenance would be cut from an average of over US\$55,000 to less than US\$48,000 – a saving of around 15% per year.

The Maxx formulation advantage

The unique Syngenta Maxx formulation has been specifically designed for turf applications. The advantages of the Maxx formulation include:

- *Outstanding turf safety*
- *Increased and enhanced product uptake*
- *Very stable in the sprayer tank*
- *An easy to use liquid formulation*
- *Compatible and easily mixable with other products*

Manufactured exclusively by Syngenta, the precision manufactured sub-micron particles of active ingredient in the Maxx formulation ensure fast uptake and quick effects.

The fine particle formulation is very turf-safe and causes minimal stress to the plant as the active gets into the leaf and starts to work.

- The active ingredient (ai) of Primo Maxx is trinexapac-ethyl which is a plant growth regulator (PGR)
- It inhibits the formulation of gibberellic acid which is responsible for cell elongation
- Application of Primo Maxx can reduce the frequency of mowing and the amount of clippings by reducing the vertical growth of turfgrasses
- Other benefits like increased turf density, increased colour, increased turf quality, improved playability, consistency of ball roll are frequently observed after application
- Primo Maxx can be used to manage difficult-to-mow areas and can be used to minimise edging of turfgrasses along side-walks, curbs, drive ways, cart paths and parking lots
- It is predominantly taken up by foliage and is rain fast within 1 hour after application
- Tank mixing with foliar nutrients like iron or nitrogen may reduce any yellowing observed during the first application
- This formulation also brings many of the benefits found in the Maxx formulations from Syngenta, including transparency, low odor, improved turf safety and ease of mixing

	Target	Product Rate	Carrier Volume	Useful Tips
PRIMO MAXX	Golf Green Hybrid Bermudagrass Seashore Paspalum	0.15-0.6 l/ha 0.2-0.6 l/ha	350-600 l/ha	Use lower rates and more frequent applications for best results. Application can be every 3 to 5 days at temps over 30°C.
	Fairways, Tees & High Quality Sports Field Common Bermudagrass Hybrid Bermudagrass, Seashore Paspalum, Zoysiagrass Cowgrass (Axonopus spp.)	0.8 – 1.6 l/ha 0.4 – 0.8 l/ha 1 -2 l/ha		Use half rates at 2 week intervals to aid with mowing reduction and turf quality enhancement
	Roughs, Bunkers and General Turf Surfaces Zoysiagrass, Bermudagrass, Seashore Paspalum, Cowgrass (Axonopus spp.)	1 – 2 l/ha		

