

# Cutting the Burden of Grass

Plant Growth Regulators have been routinely used to manage rough grass areas around the edge of the course. Now new PGR products are being introduced for use on tees, fairways and greens as well.

If you think you spend too much time on the mower and composting clippings, then prospect of reducing the frequency of cutting and the volume of clippings is an attractive proposition. While there have been plant growth regulators (PGRs) available for semi-rough areas and limited use on fairways for some years, there are now products which have been designed for use all round the course, including fine turf tees and greens.



Triple nozzle

Furthermore, the new generation PGRs claim to be able to increase sward density, create a more consistent playing surface and reduce turf susceptibility to drought and stress damage from heavy play. The latest introduction launched at BTME earlier this year, works by blocking the grass plant's production of gibberellic acid, which is responsible for vertical growth.



Cranham untreated



Cranham Primo

The PGR principle is that by imposing the gibberellic acid block late in the growth cycle, it serves to stop cell elongation and keep shoots and stems short. The aim is to divert energy production into more lateral growth - creating a denser, healthier sward - and encouraging more root growth, which makes plants better able to withstand drought, heavy wear and stress.

## RECOMMENDED PROGRAMMES

Although the effects of PGR application should be seen within a couple of weeks of initial application, results tend to be cumulative, so a programme of applications will be required through the season. It is therefore possible for Course Managers to tailor rates and frequency of application to different areas of the turf, sward composition, prevailing growing conditions and the effects required.

As a rule, the shorter the turf is cut, such as greens and tees, then the more frequent applications will have to be made, but at a lower rate of PGR; over the course of the season overall chemical use will be broadly the same across fine turf and rough grass areas.

Greenkeepers using Primo Maxx are advised to apply on tees at four to eight week intervals from mid-April to early September, with tees cut at 10mm receiving rates of 0.8 l/ha, but increasing up to 1.6 l/ha for an 18mm cut height (see Table 1). For greens that are cut tighter, down to 7mm, the application rate is just 0.4 l/ha, but should be applied every three to four weeks through the growing season.

If the repeated treatment sounds onerous, most PGRs can be tank-mixed with liquid fertiliser or trace elements. Mixes with herbicide or fungicide applications could be compatible, but checking with a technical source first is advisable.

## TAILORING APPLICATIONS

Most PGR programmes start with the onset of the grass growing season in April and run through to September or October. But with weather patterns tending to give earlier springs and prolonged growth into the autumn, the season may need to be extended. The flip-side, is that application timing can be extended in dry periods during the summer if growth slows; although irrigated fairways and greens are likely to need repeated use all season.

PGR application rates can also be adjusted for turf composition, with lower rates on fine turf grasses and higher on perennial ryegrass. The liquid formulation of the new generation PGRs are claimed to be safe for repeated use on even the most delicate grass swards. One useful tip when treating a bent/poa mix sward is to add a small amount of nitrogen to the tank mix to pep up the poa, which are generally slower to green up after treatment than the bent grass.



Rob Holland - Birchwood

Safer PGRs, which are gentle on grasses, can also be used on renovated or over-sown patches and re-laid turf to encourage quicker and stronger rooting.

#### CUTTING REGIMES

Reduction in grass growth with the PGR programme should enable cutting intervals to be extended over the course of the season on tees, fairways and rough areas. There is also a significant - up to 50% - reduction clippings to remove, so the operation should prove quicker. But for greens it is recommend to continue to cut as normal; the key difference will be the healthier, denser grass quality, with reduced growth during the day - so greens should putt more consistently.

The reduction in clippings could also help reduce issues with composting under new waste management legislation, and slower grass growth could minimise the impact of rain disrupting the cutting schedule, and provide greater flexibility in the cutting intervals.

#### PRE-STRESS CONDITIONING

In the US, course managers have found PGRs can help with what they term 'pre-stress conditioning'. Their aim is to enhance the health and vigour of grass before periods of stress - such as impending drought or a tournament where grass will be subjected to heavy use and spectator traffic - so that it will stay green and healthy for longer. Equally importantly, they report grass recovers faster and more completely when normal conditions resume.

#### FINANCIAL BENEFITS

With under ever increasing financial constraints, along with the need to provide better and more consistent playing conditions, the routine use of PGRs can tick the boxes to reduce course management time and costs, as well as producing better quality turf.

Area		Application rate	Application frequency
Tees	10 mm cut height	0.8 l/ha	4 - 8 weeks
	18 mm cut height	1.6 l/ha	4 - 8 weeks
Fairways	Fine turf	1.6 l/ha	4 - 8 weeks
	Perennial ryegrass	2.4 l/ha	4 - 8 weeks
Greens	7 mm cut height	0.4 l/ha	3 - 4 weeks
Rough/semi-rough	Fine turf	2.4 l/ha	5 - 8 weeks
	Perennial ryegrass	3.2 l/ha	5 - 8 weeks

Recommended programmes for Primo MAXX application around the golf course

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