

**Embark 2S at 1pt/ac
Treated July 9th
Last mowed July 13**

July 23rd, 2007

Growth Regulator Programs and Products

Floritam St. Augustine

**Untreated
Mowed July 21**

Embark® can be used to control St. Augustinegrass growth. Photo supplied by Andy Jorgensen, CGCS.

Welcome to another Hands On Q & A session. In this issue we will be exploring one of the newer trends in golf course maintenance: the popular use of growth regulators to reduce clippings yield, improve turf density and manage green speeds.

Old Florida Golf Club, Naples

Andrew Polzin, Assistant Superintendent

At Olde Florida Golf Club (OFGC), a very beneficial maintenance practice is the use of plant growth regulators. Primo® is our product of choice for all applications. In order to manage desired green speeds at OFGC, we apply Primo® on a weekly schedule.

We apply Primo® at rates between 1 and 6 oz/A on the greens, depending on the time of year. Many factors are taken into consideration before applying Primo®. These include weather pattern, overall plant health, plant growth, and the current green speed. The PelzMeter® is used to measure green speeds daily at OFGC. We test two greens a day on a rotation, which allows us to determine if any changes should be made. In conjunction with applying Primo®, we also lightly vertical mow and topdress greens during the golfing season, allowing us to provide optimal putting surfaces. At OFGC we like to keep our green speeds in the range of 11.0 to 13.0 feet, which is the green speed preferred by the membership. During October through February, our Primo® rates stay in the range of 1oz/A to 3oz/A, in combination with the use of nutrients

and wetting agents. This allows us to provide the turf with proper nutrients that may be needed during this time of year.

As the weather breaks in the spring, we start to increase our rates of Primo®. For example, in March we applied Primo® at a rate of 4oz/A on Monday, as the week continued we recorded green speeds in the range of 12.5 to 13.0 feet. A week of excellent weather optimal for growing warm-season turfgrass, with temperatures in the 60s at night and 80s during the day created those speeds. During the weekend, we noticed the green speeds were dropping into the 11.0 – 11.5-foot range. We knew by looking at the upcoming weather pattern and the dip in green speeds it may be time to increase our rate of Primo® for the next application. Measuring green speeds is a major factor in determining what we do with our Primo® applications.

During the spring and fall, applications of Primo® may also be made to tees, fairways and approaches. With OFGC having a wide variety of bermudagrasses spread throughout the golf course, Primo® assists in providing a more consistent turf stand. Some of the grass types can grow slightly faster than others, giving an uneven

appearance. Primo® has helped when managing this issue. The fairway, tee and approach rates will range from 3oz/A to 6oz/A., starting with the lower rate and slowing increasing if appropriate.

In general, we know we need to apply Primo® at least once a week to the greens. We know if we skip a week we may notice a boost in growth, potentially prohibiting us from providing desired green speeds. When applying Primo® to tees, fairways, approaches and rough, it is on an as-needed basis. Given all the imperfections Mother Nature can provide for us, we also know that it is important not to follow a schedule. The most important thing we can do is make all the right observations before making our applications. Plant growth regulators can be a great resource if used to your advantage.

Copperleaf Golf Club, Naples

David Dore-Smith, Director of Golf Course and Grounds Maintenance

What is your program in general?

Copperleaf utilizes a growth regulator (Primo®) program year round on all greens.

On fairways, tees and approaches, Primo® is applied once the grass clippings begin to be an issue; typically

in late April or May, and continue through to the end of September.

What parts of the course do you treat and what rates do you apply to each? What is your application frequency schedule?

Typically on greens during the non-growing months, a rate of 1 to 2 oz/A is used weekly at a 50 GPA rate. During the summer months, rates range from 2 to 4 oz/A weekly at a 50 GPA application rate.

Fairways, tees and approaches receive 4 to 6 oz/A at a 35 GPA application rate and are treated every 4 weeks or adjusted according to golfing events aerification schedules.

What benefits have you seen since implementing a regular growth regulator program in terms of turf density, clippings yield, ball-roll, and playability and irrigation management?

The biggest gain received from applying Primo® at Copperleaf is reduced clippings, ultimately improving consistency throughout the day. This is obviously critical on the putting greens with regard

to green speed from the morning to the afternoon. The turf density has always been rated extremely well at Copperleaf during the summer months. A weekly program of circle-cutting all tees, fairways and approaches begins in June, which also helps greatly in producing 'tight' turf.

We know Primo® is the primary product of choice these days, but do you use any other products that you can share with us?

One of the biggest advances in recent times is the use of additives that compliment the Primo® program. Two years ago I was using rates as high as 16 ounces of Primo® per acre and the effects of the application lasting 3 weeks. After researching various products, I began using Raider® from Floratine at a rate of 22 oz/A. The addition of the Raider® has reduced my rate of Primo® down to 4 to 6 oz/A and I am extending the interval of applications an additional week. Raider® allows for the Primo®, or any foliar product, to enter the plant more effectively. The cost savings in both labor and products are significant.

Also, after discussions with Kevin Wasilewski, from Syngenta, he recommended the application rate of 35 GPA, which has also helped to provide a more concentrated solution being applied to the leaf blade.

Overall, I am very satisfied with the use of Primo®, and any type of growth-regulating product, on and around the course. It is a great tool to have in controlling growth habits and providing quality conditions year round.

Candler Hills Golf Club, Ocala

By Andrew Jorgensen, CGCS

Program in general: Applying Primo Maxx® beginning around June 1 to all tees, fairways and approaches. First application is at 10 oz/A, and we increase to 12 oz/A and 14 oz/A with subsequent applications. We apply roughly every 28-30 days during the season. All applications are applied using a full minor nutrient package consisting of Iron (Fe), Manganese (Mn) and Magnesium (Mg) along with some Nitrogen and Potassium from a controlled release liquid source. Depending on

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weather, we may or may not include a wetting agent in the mix.

On putting greens we begin Primo Maxx® once we feel comfortable that the overseeding has begun to slow down. We start with low rates, 1 oz/A per week and will slowly increase rates to 4 oz/A per week in foliar fertilizer sprays.

Where and when do we use growth regulators: Along with the typical Primo® applications to Bermudagrass playing areas, we have also had good success with applying growth regulator products to out-of-play areas of the golf course.

Glyphosate Pro™ 41% (active ingredient) applied at a rate of 5 oz/A to bahiagrass areas located on the golf course will provide significant growth control and some minor weed eradication. The bahiagrass will go slightly off color and will have a stunted seedhead, but will also reduce the amount of time needed for mowing or excess clippings removal. We have found that applications starting in mid-June will last roughly one month and

provide a bi-weekly mowing schedule.

Embark 2S® applied at a rate of 1 pint/A to Floratam St. Augustinegrass will provide great growth regulation for a period of about 28 days. This application will reduce the time needed for mowing and excess clipping removal and allow a bi-weekly mowing schedule to be performed. Due to the slow-down in growth though, other stresses (i.e. chinch bugs) will need to be taken care of, as damage recovery will be slowed during this time. *See photo on page 16.*

We typically begin these applications once the summer rains have set in and hindered the amount of available time to keep up with mowing the turf. We will continue these applications until we are caught back up or the turf growth has slowed with drier weather.

Vanderbilt C.C., Naples

Stuart Bothe, Superintendent

Where do you use growth regulators?

Greens: Primo® year round at 2-8 oz/A per week. Tees, fairways and approaches:

Primo® from April - October at 4-7 oz/A mixed with Raider® at 20 oz. /A, and roughs: June-September at 6 oz/A mixed with Raider®.

What is your application frequency schedule?

Greens are treated weekly. Fairways, tees and approaches treated at five-week intervals. Roughs treated at six-week intervals.

What benefits have you seen since implementing a regular growth regulator program?

Greens- definitely increased ball roll and grain control, clipping yield reduction; leaf blades are much finer texture.

We know Primo® is the primary product of choice these days, but do you use any other products that you can share with us?

Raider® works very well when combined with Primo®. It makes the Primo® last 2 weeks longer and the rates per acre of Primo® can be reduced by approximately one half and still get the same effect. ■



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Carmen Magro MBA CGCS has extensive experience working with facilities around the world. He has served as golf course superintendent, professional consultant, advisor, university instructor and researcher.

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