

Shades of Green

A few points on the art of managing non-overseeded ultradwarf greens.

BY PAUL VERMEULEN

During the past few years winter golfers in the southern portion of the country have seen a growing number of courses with non-overseeded ultradwarf bermudagrass greens. And, while a few industry analysts have associated this trend with the lingering recession and a means of cutting costs, a stronger motivation for its popularity is that superintendents are producing healthier, more consistent year-round conditions with fewer inputs. If the trend continues over the next few years, overseeded greens will become a rare sight seen mostly at heavily played resorts and prominent tournament sites.

With the birth of any new trend comes the opportunity to share observations on the finer points of golf



The use of colorants or painting of ultradwarf bermudagrass putting greens during the winter has many advantages compared to the old practice of overseeding.



Applying colorant well after the ultradwarfs have lost color can produce an odd shade of turquoise, as opposed to the desired shade of green.



Like a scratch on a clean mirror, the distraction of old hole plugs on non-overseeded greens is hard to ignore.

course management. In this instance, much has already been written on the technical aspects of managing non-overseeded greens. In fact, with access to the Internet one can easily find a wealth of scientific information pertaining to varietal attributes, pest control, nutrient management, etc. In this article, I would like to pass along a few points on the art of managing non-overseeded greens that may help others on the ever-winding road to success.

SURFACE MANAGEMENT

Minus overseeding, superintendents recognize that the challenge of maintaining surface quality on ultradwarf greens involves adaptation or, at a minimum, a subtle adjustment to virtually every maintenance procedure. When superintendents initially began managing non-overseeded ultradwarf greens, they were very conservative and tended to suspend rather than modify topdressing, grooming, and brushing for fear of wearing out the grass before spring. In more northerly

locations, this conservative approach is still spot-on today, as complete dormancy dictates the suspension of all maintenance activities short of intermittent mowing and rolling.

In more southerly locations, the conservative approach has started to soften. With the advent of painting, the ultradwarfs are producing more biomass. As seen in Arizona, the application of dark colorants extends the growing season on either side of winter by increasing canopy temperature, and with more growth comes the need to activate maintenance activities (Whitlark, 2012).

Experience is key and moderation is imperative, as the additional growth is measured in fractions, rather than by whole numbers. Only light topdressing (3 to 6 tons of sand per 18 greens), light grooming (blades adjusted just below the mowing height), and light brushing should be scheduled when the ultradwarfs are semi-dormant. Further, repeated testing on a nursery green is needed to determine timing, as every winter will be different —

some warmer and some cooler. The bottom line is this: In southerly locations, good surface management calls for a more active maintenance program that requires a budget including extra materials and manpower.

Another task that is central to good surface management is raising the mowing height to bulk up the greens during winter. Of course, the challenge is to figure out how high is high enough. As cutting height strongly influences green speed, not going high enough will cause the greens to get too fast after a heavy frost, and going too high will cause the greens to become too slow and inconsistent. After several years of working with top superintendents in the Southeast, I believe USGA Green Section Southeast Region senior agronomist Chris Hartwiger has some very sound advice. He suggests using the Stimpmeter to judge when and how much to raise the mowing height during the fall. In short, the ultradwarf's seasonal change can be monitored with daily use of a Stimpmeter, and the mowing height

should be raised in small increments to sustain the course's ordinary surface conditioning from one season to the next.

THE ART OF PAINTING

Categorized as pigments, dyes, and paints, the number of easy-to-apply, high-quality turf colorants is growing by the month, and rated trials seem outdated before they are published. To help illustrate the wide range of choices, a survey of eight non-overseeded courses hosting professional events showed that seven different colorants were used to paint the greens this past winter. With so many new products on the market claiming to be the best and longest lasting, how does a superintendent make the right choice? My answer is that there is no "right" choice, given that all of the courses in the survey had attractive greens. Rather, there are a lot of good choices.

With the purchase of a good colorant, producing exceptional results is all about the application. When using dyes or pigments, making the first application before the ultradwarfs start losing significant color in the fall is best. When delayed, spraying off-color bermudagrass with green dye or pigment can produce a peculiar shade of

turquoise. Moreover, the benefit of warming the turf canopy and extending the growing season is lost when waiting until after the first frost.

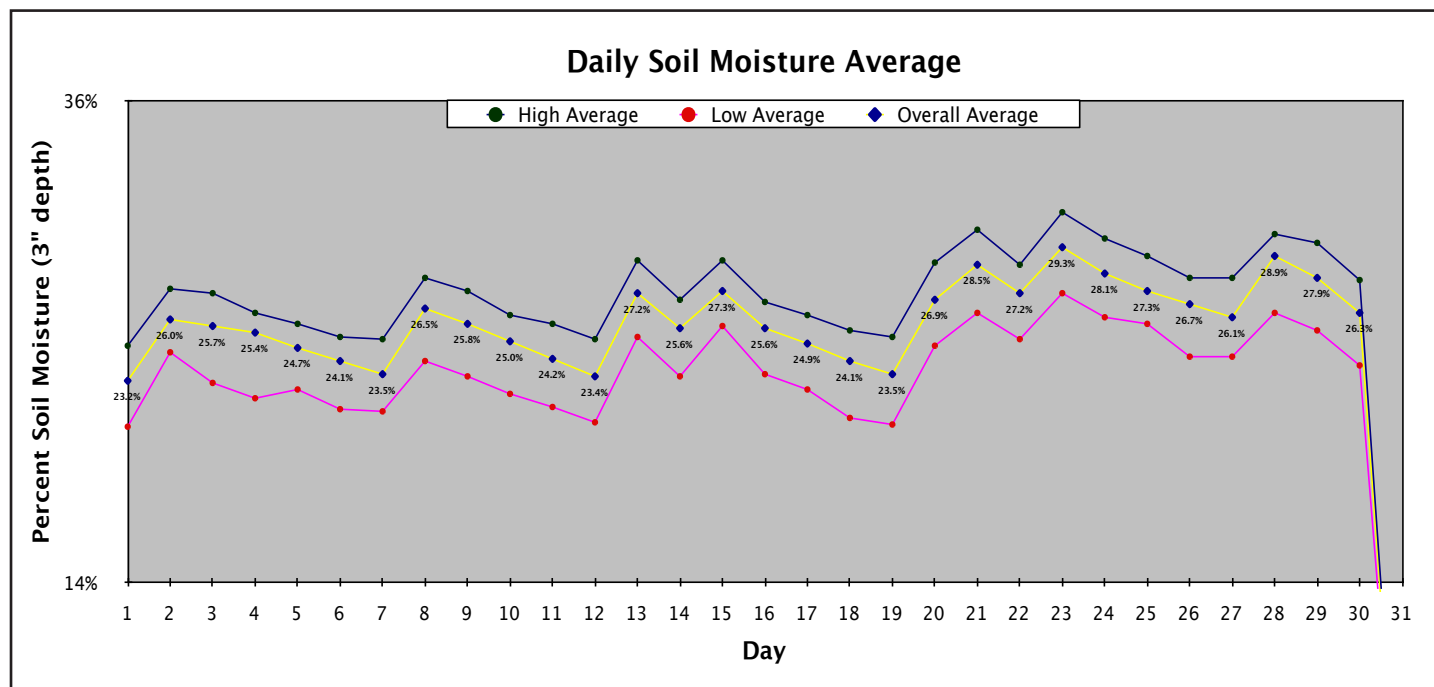
Next, the dyes or pigments should be reapplied in multiple directions and, if needed, at a higher rate. Spraying in multiple directions will yield a more vivid appearance, and increasing the rate of select products will intensify their results and produce a more natural hue. Lastly, the applicator should be instructed to avoid painting across the lines of closely mown areas, as rough-height bermudagrass is a terrible canvas and poor attention to details erodes a sharp, professional image. By giving the sprayer to an artist who can mix colors and paint inside the lines, you can create a holiday photo that will last all winter long.

INSTRUMENT MANAGEMENT

During summer the telltale signs of low soil moisture are readily apparent by wilting foliage. This is not so in winter, especially when the foliage is painted. Typically used during summer to identify wilt before it occurs, the increasingly popular soil moisture meters using Time Domain Reflectometry (TDR) technology can work equally

well during winter. To avoid issues when Mother Nature's warning signs are masked with paint, superintendent Lynn Childress at Westin Savannah Harbor Resort & Spa, in Savannah, Ga., manages by instrument. In short, he divides the surface of each green into 12 sections where a daily reading is taken as part of the routine course inspection or hole changing. The moisture readings are automatically logged into the TDR meters when taken, and they are downloaded at the end of the morning shift. (Note: The TDR meter's logger setting must be turned on while hooked up to a computer.)

Once the meter readings are in the office computer, they are transferred to an Excel spreadsheet, where the average reading for each green and the overall average of all 18 greens are calculated. Lynn focuses on the overall soil moisture average and uses a threshold of 24 percent to schedule needed irrigation. Knowing that his TifEagle bermudagrass is less capable of bouncing back from moisture stress in a semi-dormant condition, the 24-percent threshold was established with a zero tolerance for wilt and is slightly higher than the summer threshold for moisture stress.



Daily soil moisture averages used to determine winter irrigation cycles at Westin Savannah Harbor Golf Resort & Spa, Savannah, Ga.



Hole plugs stored in the TPC Sawgrass maintenance facility should become the key to eliminating the age-old issue of unsightly hole plugs in winter.

A PERFECT FIT EVERY TIME

As old hole plugs multiply during winter, it is hard to ignore the acne of non-overseeded greens. Yes, a vigorous vertical mowing program can blur the appearance of old hole plugs, but vigorous vertical mowing is off the table when the ultradwarfs are semi-dormant. Understandably, most conversations about how to eliminate the scourge of old plugs center around the need for additional staff training. Basically, the prevailing thought is that additional training is needed to help the hole changers identify the grain on a 4-inch plug and align it with that of its new location on the opposite side of the green. Seems logical, but matching the direction of the grain in the early morning light (or is that dark?) while trying to stay ahead of the first group is more difficult than one should assume, or, dare I say, even impossible, given

the prevalence of old hole plugs on television broadcasts.

Working under the assumption that mismatched hole plugs are not an indication of carefree hole changing, superintendent Clay Breazeale implemented a small change to the daily routine that should become the key to addressing this issue on the Stadium at TPC Sawgrass, Ponte Vedra Beach, Fla. Instead of trying to move a plug from one side of the green to the other, the hole changers replace the plug removed from the hole the previous day. More simply, they store 18 plugs in the maintenance facility overnight and replace them in their original holes where the grain is a perfect match. To ensure that the grain is oriented in the right direction, a tee is inserted in each plug as an alignment mark.

In closing, it is a privilege to pass along information that, in some small

way, may help others advance the management of non-overseeded ultradwarf bermudagrass greens. When not required to account for the pressures of heavy winter play or hosting an elite tournament, superintendents across the southern portions of the country are discovering that they can produce new shades of green while maximizing the performance of non-overseeded greens.

REFERENCES

Whitlark, Brian. 2012. [Ultradwarf Bermudagrass Tinting Study](#). USGA Green Section Record. 50(3): p. 1-2.

PAUL VERMEULEN is the director, competitions agronomy, for the PGA Tour. Prior to joining the Tour's agronomy staff, Paul spent nearly 20 years with the USGA Green Section.