

Changing Times in Ultradwarf Bermudagrass Putting Green Management

At a growing number of courses, consistent and fast putting speeds are being provided at a higher height of cut.

BY TODD LOWE

Golf course superintendents are tasked with providing good playing conditions. For putting greens, “good” playing conditions generally correlates to desired putting speed, smoothness, and firmness, with speed being especially important for some golfers. Putting speed has increased significantly over the years and is continually trending upward.

There are a variety of techniques and tools for increasing putting speed, but the most common has been to simply decrease mowing height. Over the past several decades, equipment manufacturers have improved technology to produce sophisticated mowers that can cut at less than 0.1 inch. Likewise, turf breeders have developed varieties that can tolerate lower heights of cut. Yet, the envelope has been continually pushed and turf is stressed when maintained constantly at a low height of cut.

Continual low mowing takes a toll on general turfgrass health and reduces root depth. Turf with shallow roots recovers slowly from stress and is more prone to thinning and disease. While it may be possible to lower mowing heights for a short period, maintaining greens with short roots leaves little margin for error. It can be especially catastrophic when the “perfect storm” of poor weather hits. As a USGA agronomist, I have visited many golf courses in the past decade that have simply pushed putting greens too hard, for too long, or at the wrong time of year, and they have suffered the consequences.

A significant shift in techniques for providing fast putting green speeds



Low mowing can create fast putting speeds but can be detrimental to turf health.



Frequent and intensive verticutting is needed to help produce fast putting speeds under more traditional fertilizer programs that involve higher annual nitrogen rates, but this can be detrimental to turf health. Reducing annual nitrogen inputs on bermudagrass greens is proving successful in maintaining desired green speeds with less verticutting on an increasing number of Florida golf courses.



Higher heights of cut allow more topdressing sand to remain in the turf canopy and improve smoothness, firmness, and speed.

has been occurring over the past several years in the Florida Region. This new way of providing optimum playing conditions is radically different from traditional techniques. Whereas conventional conditioning through low mowing stresses turf health, this newer technique does not because it does not utilize low mowing. Instead, fertility (particularly nitrogen) is reduced to create a leaner stand of turf. With this, mowing heights can be increased, thus improving root growth and turf health. This program was discussed in the article entitled “[Roots, Speed and... Sleep,](#)” and it highlights the success stories of several southwest Florida golf course managers. We continue to visit other superintendents who implement these strategies and realize similar benefits in playability and plant health.

The principles of this new program include significantly reduced nitrogen

and only granular sources. The traditional approach in Florida has been to apply 8 to 12 lb N/1000 ft² annually, using both granular and liquid sources (1), but proponents of this new program apply only 4 to 6 lb N/1000 ft² — a 50% reduction. Golf course superintendents feel that the switch from liquid nitrogen to granular nitrogen is just as important as reducing overall nitrogen and that it creates a more hardened or less succulent leaf. Liquid micronutrients are applied on a weekly basis to maintain good color, and potassium is regularly applied as well. Like traditional programs, a plant growth regulator is applied weekly and light sand topdressings are administered every 7 to 14 days.

Increasing mowing height not only improves health but also allows more sand to remain within the turf canopy following topdressing applications. Similar sand topdressing programs are

conducted with conventional putting green programs, but a high percentage of sand is picked up when greens are mowed at lower height of cut. Increasing sand incorporation within the turf canopy provides a smoother, faster ball roll. Putting green firmness also should improve as sand concentration increases within the upper rootzone.

David Dore-Smith has been golf course superintendent at Copperleaf Golf Club in Naples, Fla., for ten years, and he has been applying these principles for the past few years. One of the benefits he has observed is the ability to not only increase mowing height but to reduce mowing frequency from seven days per week to four. For the past 18 months, Mr. Dore-Smith has alternated mowing and rolling while maintaining excellent putting speed. Another benefit has been the ability to cultivate (core aerate, verticut) less aggressively. This not only reduces

maintenance but also reduces golfer complaints during the summer play season. Thatch and organic matter accumulation are encouraged by excess nitrogen and, because nitrogen is applied only sparingly with this program, less core cultivation is necessary to manage annual accumulation.

Mark Black, golf course superintendent at Quail West Country Club in Naples, Fla., switched to the program over the past year. Mr. Black has been a golf course superintendent for more than 30 years and has provided championship conditions for several high-end golf clubs.

Traditional programs on older Tifdwarf bermudagrass included more than 20 lbs N/1000 ft² each year. The annual nitrogen rate for the Champion

bermudagrass putting greens at Quail West has been nearly half that amount over the past decade. However, this recent switch has decreased nitrogen by another 50%. Mr. Black has been surprised and extremely pleased with the relative ease of maintaining faster speeds and excellent turf quality. In a normal winter, the previous goal was to achieve mowing heights as low as 0.1 inch to maintain green speed. With the new program, Mr. Black admits, "We are maintaining faster speeds while actually raising mowing height." Currently, the greens are maintained at 0.15 inch, with plans to mow even higher as conditions allow.

Changing the putting green management program after many successful years was probably the greatest challenge for Mr. Black. But, as he says, "If I can consistently provide healthy greens at a pace that meets the desires of our membership, why would I not want to learn how? These new techniques have been very exciting." Mr. Black credits Chuck Eberle, golf course superintendent at Windstar at Naples Bay, with developing many of the principles of the new program (3) and appreciates his assistance and sharing his program.

Jim Schilling, golf course superintendent at Fiddlesticks Country Club in Ft. Myers, Fla., has also provided excellent conditioning on ultradwarf bermudagrass putting greens for more than a decade. He was successful with



More sand is picked up by mowers the lower the greens are mowed.

traditional putting green conditioning and low mowing at previous courses, but he noted that the turf response to weather is more challenging with traditional programs. The turf was more susceptible to decline during periods of unfavorable weather (high heat/humidity, low sunlight), whereas growth surges occurred when weather improved. Decreased putting speed would occur as the turf grew rapidly, and the result was the need to reduce mowing height to improve speeds. This cycle of inconsistent growth patterns and maintaining appropriate health and playability can be quite difficult and cause sleepless nights for superintendents. Mr. Schilling has kept the greens at Fiddlesticks lean for more than five years and appreciates the ease with which the desired condition is achieved and the consistency of the greens throughout the year.

It must be understood that while speed, smoothness, and firmness are desirable, color is generally a less important quality. Golf courses that implement this newer program often experience a change in color to a less vibrant shade of green. A lower fertility program is somewhat analogous to being on a diet, and a leaner appear-

ance should be expected on these new greens. It also stands to reason that encroachment of surrounding bermudagrass may occur at a faster pace on putting greens managed at higher mowing heights. However, this

observation is merely speculative and has not been an issue observed by most golf course superintendents.

When it comes to commercial products, USGA agronomists have long supported the saying "If it sounds too good to be true, it probably is." There might be skeptics as to whether this change is truly possible, but I have seen it be successful in recent years on many different Florida golf courses. If you are stressed with keeping your greens on the edge and

have experienced sleepless nights, then you might want to consider a different approach.

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