

Life in the Southeast: Old Problems, New Grasses

Weather extremes in 2003 caused the recurrence of difficulties from the past, but new cultivars give hope for the future.

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The hot topics for the past year for the Green Section's Florida and Southeast Regions included the ultradwarf bermudagrasses, their "perceived" problems, the growing popularity of seashore paspalum, and, as always, the weather. The following is based on experiences and findings during TAS visits by Patrick O'Brien and Chris Hartwiger, who cover the Southeast, and Todd Lowe and myself working in Florida.

There are always challenges for course managers, but environmental extremes in 2003 made it even more difficult and highlighted old problems. During the first half of the year, winter overseeding problems dominated discussions during TAS visits. At a number of facilities, poor or inconsistent overseeding establishment was experienced due to the early onset and persistence of cool to cold temperatures. Yet, successful results were also achieved at a lot of courses across the Southeast. As always, timing is everything.

On the positive side, at the courses where poor overseeding establishment occurred, there was also an early and relatively painless transition back to the bermuda base. Thus, it was possible to provide good quality conditions through the spring and early summer. On the other side of the coin, at the courses where good overseeding results were experienced, the "transition blues" hit hard and persisted into the summer. The merits and necessity of winter overseeding have and will continue to be debated. As a result of experiences during 2003, discontinuing or at least



Bermudagrass off-types are common on Tifdwarf putting greens and they disrupt surface consistency. Some off-types respond negatively to aggressive verticutting and low mowing, especially during stressful periods.

cutting back on this practice is being allowed at some facilities. Across the upper South, painting in lieu of overseeding putting surfaces continues to gain acceptance.

After several years of below-average rainfall through portions of the Southeast, the entire region was slammed by storms during the summer of 2003. The period from June through August was the fourth to fifth wettest period recorded during the past 109 years. Along with exacerbating overseeding transition problems, frequent and at times heavy rainfall resulted in the persistence of saturated soils and low root-zone oxygen content. This, in turn, resulted in an increased incidence of disease activity, especially fairy rings.

Excessive organic matter accumulation was an interrelated and old problem that was brought to the forefront during this time.

Another old problem that plagued bermudagrass putting greens across the lower South and Florida was summer decline of "off-type" bermudagrass contaminants. Intense environmental stresses of high temperatures, humidity, frequent rain, and reduced sunlight, combined with mechanical stress from low heights of cut or verticutting, often caused a rapid decline in the health and coverage of off-type areas. The adverse weather over the summer of 2003 was ideal for off-type decline problems, and quite a number of "S-O-S" calls came in to the Green Section offices.

When samples from problem areas are sent to diagnostic labs for disease assessment, a variety of pathogens usually are found, especially the fungi associated with bermudagrass decline (BGD). However, in our opinion, a lot of the disease problems are of a secondary nature, a result of the turf being predisposed by environmental and mechanical stresses. Recovery from off-type decline problems does not occur until the stresses are alleviated, regardless of the fungicide treatment regime employed. Off-type decline problems are normally associated with older Tifgreen (328) and Tifdwarf bermudagrass greens. However, at some courses with fairly new or recently renovated bermuda greens, similar problems were encountered. This leads us directly to our next topic: the ultradwarfs.

ULTRADWARF BERMUDAGRASSES

The introduction of Champion bermudagrass, and followed shortly thereafter by Floradwarf, TifEagle, and Mini Verde, marked the first time in almost 40 years that new putting green cultivars were available. These new bermudagrasses have been lumped together and are referred to as ultradwarfs. They are characterized as having a finer leaf blade, greater shoot density, and tolerance to lower heights of cut compared to Tifdwarf. These characteristics make it possible to provide a smoother, truer ball roll and, if desired, fast to very fast putting speeds. The improved putting green conditioning that can be provided with these new cultivars naturally has resulted in their use at practically all new courses and for replanting putting surfaces at existing facilities.

As you might expect, there has been a learning curve with respect to determining the best management practices for the ultradwarfs. During 2003, and no doubt partially as a result of the weather extremes, problems were experienced at some facilities with ultradwarf greens. As the word spread that several high-profile courses had

experienced major problems and even total failure, "What is wrong with the ultradwarfs?" became one of the hot topics during TAS visits. Numerous examples, however, can be cited where ultradwarf putting surfaces are being successfully managed at small-, medium-, and large-budget courses. While there are variations in the basic management programs, there are also common denominators at the courses where

rootzones. At the courses where they have bucked the trend and a properly amended rootzone mix has been used, greater consistency in turf growth and general performance has been enjoyed.

Organic Matter Management.

Similar to the high-density bentgrasses, the ultradwarfs produce organic matter at a faster rate. While having a slight amount of organic matter or a "pad" in the upper rootzone is desired, it is also



Transition from winter overseeding to the base bermudagrass can occur abruptly during periods of high heat and low humidity.

successful results are being experienced. We believe the following are key points to maintaining healthy ultradwarf greens.

Rootzone Construction. Regardless of the turfgrass species or cultivar, an agronomically sound foundation is needed. Yet, the thought that faster is better, as it pertains to water percolation, has dominated rootzone construction for far too long and has resulted in the use of very high sand content or straight sand rootzones for maximum drainage. Besides being very droughty and requiring frequent supplemental irrigation, extremely low nutrient retention is a trade-off with high sand content

essential that a distinct layer of excessive thatch not be allowed to form. Management of organic matter begins during the grow-in and must be an ongoing consideration of putting green management. For a further discussion of this subject, please refer to the article "Aeration and Topdressing for the 21st Century," published in the March-April 2003 issue of the *Green Section Record*.

Grow Grass. In an attempt to prevent excessive organic matter accumulation, very low fertilization regimes have been tried at some courses. Some people thought that low nitrogen fertility and limiting shoot growth was the best approach for producing and

maintaining fast to very fast putting speeds. The ultradwarfs are bermudagrasses and therefore must be adequately fed to support sustained growth and maintain density. The fallacy of very low fertilization combined with a low nutrient retention capacity rootzone quickly became apparent. Trying to have a cookbook recipe for fertilization of the ultradwarfs is ill-advised. Along with site-specific conditions, growth rates must be constantly evaluated when making fertilization decisions.

Realistic Expectations. The ability to tolerate a height of cut (HOC) of 0.125 inch was a primary factor in the selection process for the ultradwarfs. This HOC was considered the magic number to provide conditioning comparable to bentgrass greens. However, because the ultradwarfs also have greater shoot density compared to Tifdwarf, there is increased resistance to ball roll. With the introduction of improved mowers, and in an effort to accommodate incessant demands from some golfers for very fast greens, lower and lower HOCs are being maintained. How low and for how long has been the contest at far too many courses.

The ultradwarfs can indeed tolerate very low HOCs, but this still exerts significant stress on the turf, and when maintained for extended periods of time, a progressive decline in health occurs. Furthermore, when very low HOCs are being maintained, tolerance to various other stress factors such as heat, cold, shade, wear, and diseases is also reduced. Along with the weather and time of year, discretion and common sense must be exercised when it



Organic matter can accumulate to excessive levels on putting greens, resulting in problems during periods of extended rainfall. Maintaining proper thatch quantities is key to managing successful ultradwarf bermudagrass putting greens.

comes to HOC. As is always the case with bermudagrass greens, double cutting and/or rolling is needed to provide fast to very fast putting speeds. The ultradwarfs possess improved performance characteristics, but there is not and never will be a perfect grass that can tolerate environmental and mechanical extremes.

SEASHORE PASPALUM

Like cotton prior to the American Civil War, the bermudagrasses have been the king of golf course turfgrasses in the South. However, seashore paspalum has gained a foothold as an option to bermuda. It is not a new warm-season species, but the introduction of selections with improved turfgrass characteristics has resulted in a dramatic increase in its use over the past four to five years. With ever-increasing concerns about irrigation water availability and quality, there is no doubt that seashore paspalum will be utilized to a greater extent in the future.

Its ability to tolerate poor-quality irrigation water and soil conditions is the primary factor in the increased use

of seashore paspalum. Also, when compared to the bermudagrasses, it requires less nitrogen fertilizer and has exhibited better tolerance to periods of low sunlight intensity. Furthermore, seashore paspalum is rated as having good drought and wear tolerance along with better cool-temperature color retention. As a matter of fact, in South Florida, it maintains a vibrant green color similar to a winter overseeding cover. A very common golfer comment is that it is a really pretty grass.

Seashore paspalum is beyond the point of being a novelty or experimental new grass. However, time is still needed to fully define best management practices for long-term success. Along with requiring intensive management to produce optimum conditioning, insect, nematode, weed, and disease control problems have been encountered.

CONCLUSION

Golf turf maintenance in the Southeast was definitely a challenge during 2003. Weather extremes, old problems, and the new grasses were hot topics of discussion during TAS visits. Perhaps in 2004, the weather and old problems will not dominate conversations as much and we can focus more on the opportunities for success offered by the ultradwarf bermudagrasses and seashore paspalum.

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