

Switching From Traditional Overseeding to 'Liquid Overseeding'

A successful case study may change your golf facility's decision on overseeding.

BY TODD LOWE

Bermudagrass greens, tees, and fairways in the southern U.S. have been overseeded with cool-season grasses for years to improve winter turf quality. Overseeding is expensive because of the price of seed, increased irrigation, and extra mowing, but it can also result in thin turf and ugly course conditions each spring when the overseeded grass dies and bare soil is exposed wherever the base bermudagrass turf has been damaged or weakened (Foy, 2010). As a result, this practice has fallen out of favor with many golf facilities over the past decade, especially those that desire consistent turf quality throughout the year.

Some resort golf facilities or those tied to property developments still feel that overseeding is necessary to attract golfers during the winter peak-play season. Additionally, there are some golf facilities that continue to overseed out of fear that the underlying base stand of bermudagrass turf cannot withstand the abuse from heavy play each winter.

There has been a growing trend in Florida and other areas of the U.S. to substitute traditional overseeding with "liquid overseeding." Liquid overseeding consists of applying low rates of nutrients and pigments throughout the winter months to improve turf color and enhance turf growth (Lowe, 2011; Whitlark and Umeda, 2012). This article shares the success story of a golf facility that switched from traditional overseeding to liquid overseeding and the improvements in turf quality and sustainability that they observed.

CASE STUDY

On Top of the World Communities is a privately owned development in Ocala, Fla., with three golf courses. Candler Hills Golf Club is the newest of the three, with housing sites along the golf course still under construction. Greens, tees, and fairways were overseeded on each golf course for years to improve turf quality during the winter peak-play season. Several common overseeding-related issues occurred at Candler Hills, including increased costs, thin turf during spring transition, weakened turf on greens with greater nematode populations, and more *Poa annua*. Based on the success of several golf facilities in other areas of Florida, the decision was made to discontinue overseeding for at least one season. Instead, playing surfaces would be sprayed with nutrients and pigments on a regular basis to strengthen the bermudagrass turf and provide good color for the winter play season.

CONCERNS

There were several concerns with not overseeding in the cooler northern Florida climate. Will tees and fairways hold up to play and maintain good density? Can acceptable ball roll and speed on greens be achieved? Most important, will golfers find overall quality, presentation, and playability acceptable?

GETTING STARTED

Golf course superintendent Andrew Jorgensen took the leap of faith in October 2011 and began spraying low rates of nutrients and pigments every

two weeks through the winter play season of 2011/2012. Effective herbicide programs for *Poa annua* control, which were impossible on overseeded bermudagrass, were initiated to improve surface quality for the winter play season. Black-dyed sand was also applied on putting greens to increase heat retention and improve turf growth. Treatments were applied every two weeks to maintain consistent turf growth and quality of each playing surface.

RESULTS

Turf Health: Historically, the combined stress of overseeding and plant-parasitic nematodes caused bare areas on several greens, which required re-sodding each spring. This was eliminated once overseeding stopped. Also, a citywide event took place each spring, and mowing heights were reduced to maintain speeds on overseeded greens. Non-overseeded greens were faster and did not require the additional stress of lower mowing. Slight thinning occurred in entry/exit areas and on some putting green perimeters, but this was controlled with traffic diversion and smooth rollers on mowers.

Since there was no spring transition from an overseeded cover turf back to the base stand of bermudagrass, there were no thin areas in tees or fairways in spring and early summer. The liquid overseeding program supplied a light rate of nutrients, which maintained excellent turf health throughout the year. Heavily played par-3 tees and the practice tee were overseeded to



Non-overseeded teeing grounds hold up well in the winter play season with routine applications of fertilizer and pigment.

promote faster divot recovery, but all other teeing surfaces recovered well from divots and held up under the stress of peak season play.

Presentation/Playability: Desired turf color, ball roll, and speed were maintained throughout the season on the Tifdwarf bermudagrass greens. Tees and fairways maintained good color and acceptable ball lie throughout the winter. Pigments were known to improve turf color, but it was surprising to see improved turf density for much of the winter play season as well. It is difficult for warm-season turfgrasses to stand up to continual play and low soil temperatures, even on overseeded turf, but keeping the bermudagrass growing longer into the winter season improved density and ball lie on fairways. Several frosts occurred in the winter play season of 2011/2012, and temporary color loss was the result for several days in January, but the resumption of warmer temperatures

hastened turf growth and color improved within days.

Turf consistency improved considerably at Candler Hills with the elimination of traditional overseeding. More specifically, overseeding with cool-season turf occurs in fall when the base bermudagrass turf is generally at its best. Seeds are applied to the turf and watered repeatedly for several weeks, and mowing heights are raised to encourage good rooting. Increased irrigation and higher cut turf make the golf course wet and “furry” for several weeks. Ideally, the golf course is closed to allow for uniform establishment of overseeded turf. During spring transition back to bermudagrass, additional irrigation is then applied to keep the overseeded turf from dying too fast, and this often takes place during play. Despite best intentions, Mother Nature can remove the overseeded cover turf too quickly, creating thin, ugly turf that takes several weeks to recover.

All of these problems that had plagued Candler Hills in the past were eliminated when they chose not to overseed the turf and instead opted for liquid spray programs.

Rounds Played: Economic viability is an important factor with sustainability, and considering the impact on golfers is essential. There was an initial concern that golfers would find liquid overseeding unacceptable, resulting in fewer rounds. This was not the case, however, as the number of rounds increased from 26,312 (October 2010 through June 2011) to 28,405 (October 2011 through June 2012).

Water Use: Although this was not a scientific study, irrigation was reduced in 2011 by over 20 percent compared to 2010. There are many factors that affect irrigation use, including rainfall and evapotranspiration, but there is no doubt that discontinuing overseeding had a significant impact, as no additional water was needed to establish

overseeded turf or keep it alive through spring transition.

Cost Savings: The cost of the liquid spray program at Candler Hills was nearly \$22,000, but this was a substantial decrease compared to the total cost of overseeding, which was estimated between \$60,000 and \$100,000 (approximately \$30,000 for seed plus an additional \$30,000 to \$70,000 to maintain overseeded turf). Non-overseeded bermudagrass requires less mowing than overseeded areas. In fact, non-overseeded fairways were mowed once or twice weekly as compared to two to three times weekly on overseeded fairways. The labor saved from not having to regularly mow was instead used on other areas of the golf course, such as improving drainage or maintaining landscape beds, which resulted in additional savings and course improvements.

MOVING FORWARD

Switching to liquid overseeding was a success for Candler Hills Golf Club in 2011/2012. In fact, they not only con-

tinued the spray program at Candler Hills the following year but expanded it to the other two golf courses for the 2012/2013 winter play season. Mr. Jorgensen tested a variety of different pigments and rates to find the ones that provided the best season-long color, quality, and price. He also found that being proactive on traffic diversion and replacing grooved rollers with smooth rollers on mowers earlier in the fall nearly eliminated areas of thin turf on greens. All told, turf health and recovery improved immensely, and effective *Poa annua* programs provided a clean appearance on all golf courses. The level of detail throughout the entire golf facilities improved, as labor saved from mowing was allocated to other areas of the golf courses. Lastly, golfers were quite pleased with results.

One of the best practices to improve turf quality on an overseeded golf course is to give the turf a break every four or five years. Evaluating a similar spray program is a good way to see whether overseeding can be discontinued altogether at your facility. If you

are considering switching to a spray program but are concerned with going “cold turkey” with overseeding, you can test liquid overseeding on a few holes for the first year. However, make sure to begin early in the fall and continue regular treatments every two weeks through the winter play season for best results.

LITERATURE CITED

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Desired turf color, quality, and playing conditions were achieved the past two winters at Candler Hills Golf Club in Ocala, Fla., with “liquid overseeding.”