

Converting Bermudagrass to Seashore Paspalum

A successful case study on why and how turfgrass conversion should occur.

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Regrassing is a major project for any golf course and is one that should not be taken lightly.

There are many factors that determine when a golf course should regrass and which turfgrass species is the correct choice. For The Sanctuary Golf Club on Sanibel Island, Fla., these factors included high salts, high sodium, heavy soil, low elevation, and contaminated bermudagrass playing surfaces. Any of these factors alone is tolerable to some extent, but together they made for patchy, off-color playing conditions that did not meet the members' expectations. Sanibel is near Naples, Fla., a city with many well-conditioned golf courses. Certified Golf Course Superintendent Kyle Sweet was forced into overseeding each winter to provide acceptable playing conditions for the peak golfing season. Few courses overseed in Southwest Florida because of the added expense, disruption to play, and spring transition problems. For Mr. Sweet, the decision to regrass was simple . . . seashore paspalum as soon as possible.

Seashore paspalum has long been known for its salt tolerance. Although it has out-performed bermudagrass in Hawaii at golf courses with salt problems for the past decade, it had not proven itself in Florida until 2001, when clubs like The Old Collier Golf Club, Crown Colony Country Club, and Hammock Bay Golf & Country Club were successful with wall-to-wall seashore paspalum. Each golf course had relatively high salt levels and chose seashore paspalum because of its tolerance to salt. It soon became a grass



The golf course was treated with herbicides, stripped, tilled, and fumigated in spring 2005 prior to sprigging.



The golf course was sprigged and sodded in early summer 2005.

It nearly grew-in five weeks after establishment.



avored by golfers due to its improved ball lie on tees and fairways, improved mower striping, vibrant green color, increased cool-weather color retention, and increased shade tolerance. Often referred to as the “WOW” factor, these improvements have caused quite a stir in South Florida, with an increasing number of courses switching over from bermudagrass. While there is no perfect grass (please read the preceding article entitled “Selecting the Right Grass”), each course in this region has been very pleased with the results.

The Sanctuary was blessed to have had several years to evaluate seashore paspalum at several golf courses in the region before regrassing. In addition, several on-site test plots were established at The Sanctuary on a heavily used par-3 tee and on a practice putting green nearly one year prior to making the final decision. There are several seashore paspalum varieties available, and most are quite similar in turf quality. The Sanctuary chose SeaIsle varieties for their improved breeding and darker green color. SeaIsle 1 was chosen for tees, fairways, and roughs, while SeaIsle Supreme was planted on putting greens.

The first step in The Sanctuary’s renovation was regrassing only the practice facility in summer 2004. Bermudagrass eradication is nearly impossible, and Mr. Sweet embarked on an aggressive chemical program, similar

to what had been done at other regrassing projects,¹ as Roundup and Fusilade II (fluzafop) treatments were applied several times to the bermudagrass turf. The practice facility was then tilled, fumigated, and sprigged with seashore paspalum. Renovating the practice facility on time and on budget was valuable for the continued support of the entire project, but even more impressive was the improved quality that seashore paspalum provided.

Bermudagrass is a perennial plant and recovers from underground stems (rhizomes) following herbicide injury. Therefore, the most effective means of killing bermudagrass is a series of herbicide treatments over several months.² It is vitally important to kill the existing bermudagrass to reduce its emergence following the renovation, as there are no herbicides to selectively remove bermudagrass from seashore paspalum. Therefore, Roundup and Fusilade II treatments were applied three times, with the first application in fall 2004. All playing surfaces except bunker faces and putting greens were killed and overseeded with perennial ryegrass for the winter play season. This is an aggressive measure and requires an understanding membership and an appropriate establishment rate (700 to 1,000 lb. per 1,000 sq. ft.) and period (4 to 8 weeks). Eventually, the ryegrass established and provided great playing conditions for the peak season.

The golf course was closed May 1, 2005, and sprayed twice with Roundup and Fusilade II at 21-day intervals. The dead grass was stripped and buried, and each hole was tilled and fumigated with methyl bromide. Seashore paspalum was sodded on all green/tee slopes, bunker faces, and lake banks, and sprigged on the remaining playing surfaces. Sprigs were established at a rate of 1,200 bushels per acre. The increased sprig rate was beneficial for grow-in and allowed the course to open three months after sprigging. Ronstar (oxadiazon)-treated starter fertilizer was applied shortly after sprigging to reduce weeds.

All playing surfaces were mowed for the first time two weeks after sprigging. Roughs were mowed at 1 inch, tees and fairways at 0.04 inch, and greens at 0.187 inch. This encouraged lateral spread, and nearly complete coverage occurred within six weeks! On greens, mowing height was reduced as density improved so that the target height of 0.110 inch was achieved by the opening date. All playing surfaces were rolled shortly after mowing to provide uniform, smooth conditions. Tees, fairways, and roughs were rolled with a two-ton unit, and greens were rolled with a tennis court roller and a vibratory triplex unit. All playing surfaces were fertilized, rolled, spiked, and topdressed with sand as needed to improve surface uniformity. The golf course was fertilized occasionally throughout the

grow-in to improve turf health and encourage coverage.

Managing seashore paspalum has not been difficult for Mr. Sweet. In fact, while there are some differences in management practices, there are many similarities to bermudagrass. Less water and nutrients are necessary for all playing surfaces, and this is most likely due to the significantly increased root depth and mass. Even putting greens mowed at 0.110 inch have a thick root system that stretches 6 to 8 inches into the soil! As far as cultural practices are concerned, putting greens require a little extra work to provide premium playing conditions as compared to the previous bermudagrass greens. Seashore paspalum has relatively thicker leaves and stems than bermudagrass, and putting greens must be rolled and double-cut more often than bermudagrass to obtain consistently favorable speeds. Also, the plant growth regulator Primo (trinexapac-ethyl) is applied at nearly twice the rate

as was applied to the previous bermudagrass putting greens. But, Mr. Sweet remarks, "Our expectation level rose following the renovation, and the golfers are quite pleased with the results. Putting speeds are maintained between 8.5 to 9.5 feet during summer months and 9.5 to 10.5 feet during our peak winter months." A significant financial savings occurred as the golf course is no longer overseeded due to the improved cool-weather color retention that now occurs with seashore paspalum.

The Sanctuary Golf Club reopened in November 2005 to rave golfer reviews. The vibrant green playing conditions that seashore paspalum provides are a far cry from the drab, patchy bermudagrass that once existed. Also, mower striping occurs with each mowing, and the increased shoot density significantly improves ball lie. The likelihood of complaints is always a possibility with any major renovation, but

only positive remarks have been voiced since the reopening of The Sanctuary. Every course is different in regard to expectation level, and no turfgrass is perfect for every region, but regrassing The Sanctuary in Sanibel, Fla., with seashore paspalum was a big success with the golfers and the golf course superintendent!

REFERENCES

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Playing surfaces were rolled multiple times to provide smooth, uniform playing conditions.