

In the early stages

SUPERINTENDENTS REFINE THE MANAGEMENT OF SEASHORE PASPALUM

by DOUG SAUNDERS

For golf course superintendents throughout the Southeastern United States, the challenge of growing healthy turf in hot, humid conditions leads to the continuous development of new strains of Bermudagrass, bentgrass, fescue and ryegrass (for overseeding). The new strains are more disease and stress tolerant than older ones and are more like the latest software versions, but they don't address all the variables turf managers face. Difficult growing conditions stemming from poor-quality and high-salinity water created the need for a new turfgrass.

During the past 10 years, seashore paspalum has been introduced and seems like the answer to the aforementioned problems. The hardy grass thrives amid the salt spray of the ocean coastlines and grows well near swamplands and brackish water.

Ron Duncan, Ph.D., a former professor of turfgrass breeding at the University of Georgia in Tifton, first began studying paspalum after a colleague sent him a clump of the deep-rooted turf in 1992. The grass, which had been around golf courses since the 1970s, was wiry, stringy and difficult to mow. Through breeding, cross-

breeding and refining, Duncan was able to develop two cultivars of a salt-tolerant grass that could thrive in warm climates, grow well in foggy and humid conditions, and provide a satisfactory playing surface for discriminating golfers.

The results of Duncan's research were two cultivars – Sea Isle 1, a paspalum suitable for tees and fairways, and Sea Isle 2000, which could be used for greens. The grass breeds, licensed in 1999, became an alternative to Bermudagrass. They can withstand water with high salt content, even brackish water and seawater, require as much as 75 percent less fertilizer and be mowed to heights of 0.25 of an inch. It seemed Duncan helped create the perfect grass for southern climates.

“Many thought paspalum would just be a niche grass with limited use, but I always felt it would be an important turf because it can withstand poorer water sources,” Duncan says. “The fact is, overall water quality is as good as it will ever be, and during the next decades it will only get worse.”

Poor water quality and the increasing cost of fertilizer have continued to pique the interest in paspalum, which can tolerate salt levels as high as 22,000 ppm.



Photo: Rich Reelies

Tuscany Reserve Golf Club in Naples, Fla., is grassed tee-to-green with SeaDwarf seashore paspalum from Environmental Turf.
Photo: Rich Redles





The seashore paspalum on the Monarch Bay Golf Course in San Leandro, Calif., has survived cool winters.

“We can’t grow enough sod to meet the demand for paspalum right now,” says John Holmes, director of global sales for Soperton, Ga.-based Phillip Jennings Turf Farms. “Fifty percent of the golf course renovation work in the Southeast is going to paspalum, and 50 percent of the new course construction has specified paspalum turf. Because it can be introduced only through sod, the initial cost of paspalum can be 15-percent to 20-percent higher, but the need for less water and nutrients during the first few years can easily justify the cost. In fact, more than 160 courses worldwide have paspalum.”

Paspalum can be introduced only through sod because of the long germination process that would be inefficient on a golf course. Sprigs can be used, but that method also would take too long to fill in.

A new learning curve

Because paspalum is a relatively new grass, developing the proper techniques to maintain it has been a work in progress. The Old Collier Golf Club in Naples, Fla., was one of the first courses to use the newer breeds.

“The site where Old Collier is located had no source of fresh water, only brackish water from the Cochatchee River, so the reality is there would be no golf course here if it wasn’t for paspalum,” says certified golf course superintendent Tim Hiers. “The developers took a huge leap of faith to go with this new grass when the course was built.”

Hiers compares the challenge to what happens when a new drug is introduced to the market by a pharmaceutical company. While a company will lab test a product before it’s finally introduced to the market, Hiers took a new product from the research center and put it to use immediately.

“We skipped the testing phase,” he says. “When issues appeared, we had no place to go to for answers. It was a matter of creating a new learning curve right on the spot as we grew this new turf.”

During the past seven years, Hiers learned nurturing paspalum takes a completely different mindset. Even though it’s a warm-season grass like Bermudagrass, the similarities end there. Because it grows aggressively, a different approach to control thatch is needed. While the turf can be irrigated with high-sodium water, it’s important to manage salt buildup in the soils through additions of trace minerals and aeration during the year.

“There are so many nuances to paspalum,” Hiers says. “For example, dew will not form on paspalum, yet rainwater will be absorbed more readily by it. The grass will grow in faster, but it will take a longer time to develop a good putting surface. It takes more water to bring in the turf, but then it will require less water to keep it healthy after it has been established. Anyone who switches to paspalum needs to study the recent research that has been done but also understand each course

will present its own unique situation.”

Stimulating an interest

Hammock Bay Golf Club near Marco Island is another course in Florida that features paspalum. Golf course superintendent Rodney Whisman was on board for the grow-in phase of the course in 2003. Managers at WCI Communities made the decision to use the turf.

“WCI’s commitment to finding solutions to environmental challenges stimulated the interest in paspalum,” Whisman says. “Since it was established at

Hammock Bay, I’ve been very happy with its performance. I’ve used water that’s as high as 10,000 ppm of salts for irrigation, and I use 35 percent less fertilizer than I used to use on Bermudagrass. I have to be careful to control its growth, and I make sure my mowing equipment is very sharp.”

Whisman agrees with Hiers and says the key is not following old concepts of turf management when managing paspalum.

“This a new and interesting turf to deal with,” Whisman says. “I’ve had visitors from Costa Rica, the Caribbean and Dubai come to see what the turf is like. The players who play on it like how the ball sits up on it. I like that it keeps a greener color throughout the winter so I don’t have to overseed. Overall, I know that if I was offered another course to manage that was Bermudagrass, I would rather not do it.”

The success of paspalum at Hammock Bay lead WCI to use it at many of its other Florida properties.

Meeting expectations

Another example of the versatility of paspalum can be found in the San Francisco Bay area. Monarch Bay Golf Course in San Leandro, Calif., is an 18-hole course built on an old landfill in 1961 and was redesigned in 1999. The remodeled track was planted with ryegrass but began losing turf three months after the renovation was complete.



Photo: Rich Reclies

Seashore paspalum’s susceptibility to insects and disease is being addressed through research.

“Our soil here is very salty because the old landfill was capped with dredge material from the bay, and our irrigation water also has a high salt content,” says golf course superintendent Todd Gilles. “The designer, John Harbottle Jr., came up with the idea of using paspalum, but the concern was whether our climate was too cool for it to work.”

The course was sodded with Sea Isle 1 in 2004, and after two of the coolest winters on record, and some of the heaviest rains, the turf has stood up to the test of Mother Nature.

“The turf has certainly performed up to expectations,” Gilles says. “This winter, I’ve worked on other projects and haven’t had the time to concentrate on the fairways like I usually do, but the turf looks good after the heavy rains this winter.”

Gilles tries to keep the soil high in potassium and light on nitrogen. He also plans to verticut the fairways four times a year and aerify three times a year to control thatch buildup. Gilles takes the cores that result from aerifying and spreads them into areas of the rough that have a poor soil profile. He says the turf has performed well in those areas.

“The majority of players don’t even know what type of grass they’re playing on, and because the ball sits up on the fairways well, they don’t seem to mind the subtle color difference between the fairways and greens,” he says. “I noticed paspalum stripes very

turfgrass management

nicely when it's mowed, adding to the visually pleasing quality of the turf."

Refined management

Even though there are many attributes of paspalum, it isn't a silver bullet for difficult turfgrass management situations. Concerns about paspalum include its susceptibility to insects and disease and the difficulty to control other turf types within a stand of paspalum. But Duncan says these issues are being addressed through continued research.

"As the grass increases in acreage and is exposed to the challenges of Mother Nature, more information will be gleaned and translated into a refinement of management protocols," Duncan says.

Hiers agrees.

"We've been using Bermudagrass for decades, and the industry continues to come up with new management protocols for it," he says. "Paspalum is only a few years old, so obviously more research will lead to better growing techniques." GCN

Doug Saunders is a freelance writer based in Truckee, Calif. He can be reached at dougs@sierra.net.

Editor's note: For more information about seashore paspalum research, visit www.usga.org, www.environmentalturf.com, www.seasprayinfo.com and www.seasprayinfo.com/research.php. Additionally, the National Turfgrass Evaluation Program is considering a national seashore paspalum trial.



- SeaDwarf is the ONLY dwarf cultivar of Seashore Paspalum
- Aloha provides a deep green color and longer roughs
- Tolerates a wide range of mowing heights, from 1/10th-inch to about 4-inches
- Use from tee-to-green and in the roughs. Just one grass to manage!
- SeaDwarf has a bright green color and fine texture
- Well-suited for sports fields
- Heals twice as fast as Bermudagrass from sports-related wear
- Highly salt tolerant. Can be irrigated with potable, brackish, reclaimed, effluent, even seawater under proper maintenance
- Takes up to 50% less water than Bermudagrass
- Requires up to 75% less nitrogen
- Fairly shade and cold tolerant
- Can withstand prolonged wet conditions
- Weeds can be treated with ordinary table salt
- SeaDwarf documented green speeds at 10.5 on the stimp meter and faster

www.environmentalturf.com • info@environmentalturf.com

