Worth Its

BY BRUCE ALLAR

You can take this grass variety to the bank — of a seaside estuary. You can take it to the shore of the ocean or to an inland area plagued by shortages of fresh water. In fact, you can take it anywhere in warm-weather climates where nonpotable water is the best irrigation option. It's a grass that thrives on saltwater, and it grows well even when drinking from recycled or effluent sources.

Its name is seashore paspalum, and special strains of it are now being marketed for greens, tees and fairways. It's also being touted by one researcher as "the environmental turfgrass." As the world's population increases and per-capita consumption of potable water skyrockets with it, the days of adequate freshwater for irrigation purposes may be numbered. Thus, paspalum has hit the golf industry at a time when superintendents will welcome such a hardy grass with open arms.

"Seashore paspalum has the potential for use with high concentrations of salt, which would meet with one of our objectives, which is less use of potable water," says Jim Snow, national director of the USGA's Green Section. The USGA has funded research on this turfgrass since 1992 to the tune of $30,000 per year.

Ronny Duncan, along with Robert Carrow, literally wrote the book on the subject (*Seashore Paspalum: The Environmental Turfgrass*, Ann Arbor Press, 2000). The pair, professors at the University of Georgia at its Griffin, Ga., campus, teamed with architect Pete Dye to debut the turf at his Casa de Campo course in the Dominican Republic. Dye views the grass as a godsend.

"All the island courses in the Caribbean have dried up," Dye says. "Now they can come back. This grass will put them back in business."

Duncan has bred two paspalum strains: Sea Isle One for fairways and tees and Sea Isle 2000 for greens. He has created a Web site so courses can look at the grasses he's developing (*www.griffin.peachnet.edu/cssci/turf/paspalum/paspalum.htm*). It lists only 24 U.S. growers of the Sea Isle cultivars, so supplies are still limited.

Still, both will be installed at Casa de Campo, where fresh water is restricted, but seawater below a nearby dam is available in unlimited quantities. "There will not be sufficient volumes from growers to do a whole course until 2001," Duncan says.

"We're pushing all of the environmental buttons with it because potable water is going to be gold," Duncan says.

Seashore paspalum grasses are the most salt-tolerant warm-season turfgrasses, according to Duncan. They can grow with exposure to ocean water salt levels of 34,400 parts per million (ppm). They also do well in effluent and recycled waters, which often feature high salt and contaminant levels. "So far, I haven't found a single recycled water it won't take

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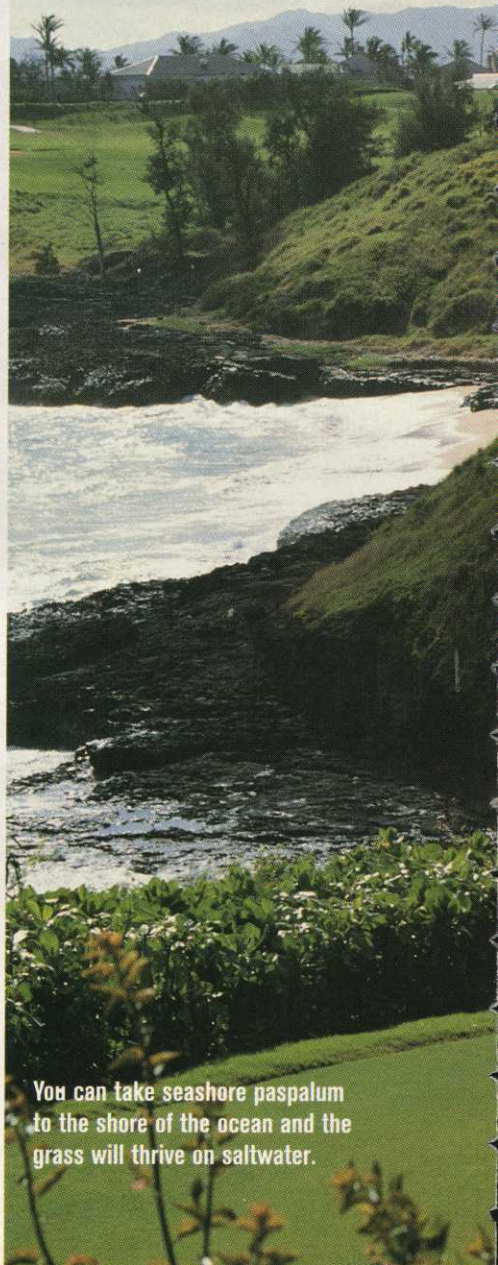
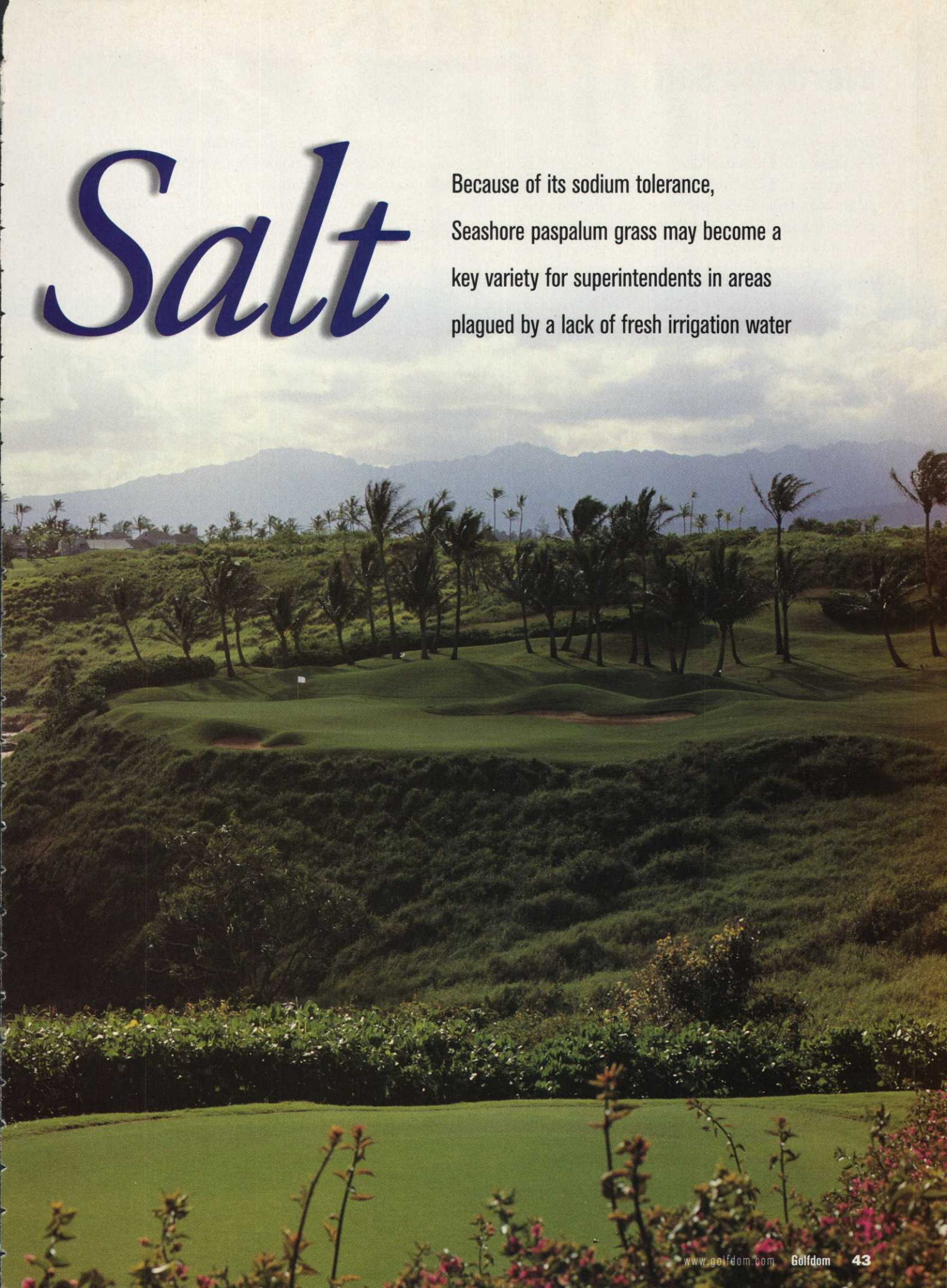


MIKE KLEMME

You can take seashore paspalum to the shore of the ocean and the grass will thrive on saltwater.

Salt

Because of its sodium tolerance, Seashore paspalum grass may become a key variety for superintendents in areas plagued by a lack of fresh irrigation water



Worth Its Salt

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and thrive on," Duncan adds.

Duncan and Dye made their paspalum connection in the early '90s. Dye maintains a residence in Delray Beach, Fla., and a membership there at The Little Club, a par 3 next to the ocean. A long-time member at the course, Dye noticed patches of naturally occurring paspalum thriving there despite water at up to 1,500 ppm salt. About five years ago, when he was having trouble with salt-spray and dieback on ocean-exposed bermudagrass tees at his Teeth of the Dog course in the Dominican Republic, Dye made a transplant.

"I took this hybrid paspalum down to the Dominican Republic and I planted it on tees that are only four or five feet above the sea, so they're almost in the water," Dye says. "That grass is fine. The tees are like a putting surface."

Dye brought Duncan down to see the results of his Teeth of the Dog experiment. Now there's a 40-acre Dominican Republic nursery with the Duncan hybrids, which is supplying the turf for the Dye-designed Casa de Campo.

MIKE KLEMME

With per capita consumption of potable water increasing, the days of adequate freshwater for irrigation may be numbered and golf courses will have to turn to other water sources.

Another paspalum turf course will open this winter in Naples, Fla. Developers of Old Collier GC in Naples worried about their irrigation supply from the Cocohatchee River, which can be nearly fresh after rains, but is brackish as seawater during dry periods.

Tim Hiers, golf course manager at Old Collier, spoke with superintendents at some of the 65 courses worldwide (many of them in the Pacific Rim) that currently use seashore paspalum. He traveled to Hawaii, where the grass was introduced on golf links in the 1980s, and saw it thriving on three courses, each in a different climatic zone. One was in a wet climate, one was on a dry side of the island and one was in between.

"It was the trip to Hawaii that sealed our decision," Hiers notes. "Once we started studying the grass, we decided we wanted it, no matter what our water situation was."

Instead of bermuda, Hiers has been grassing Old Collier with Sea Isle 2000 on the greens and tee tops and Salam everywhere else. Salam is a seashore paspalum that has been available from Southern Turf since 1998. Hiers says the University of Florida will do on-site research on his paspalum grasses with an eye on future uses. "We felt this would be an easier grass to manage than bermuda," he adds.

Proponents of the grass note that it's greener than bermuda, has a deeper, more fibrous root system, has waxy leaves that are more dew-resistant, requires less fertilizer, better resists insects and prospers under cloudy weather conditions.

"The thing we have to cover is cold, cloudy weather in Florida, and that's where this grass excels," Hiers says. "Its recuperative ability seems to be better than bermuda. It grows by rhizomes and stolons. It's a rapid mover."

The USGA's Snow says he thinks the new grasses could be revolutionary.

"They've been found on courses for years, but no one has spent the time to find strains best for golf," Snow says. "It has never been worked on and improved."

Dye describes seashore paspalum's playability as less than the best bentgrass, but "as good as any bermuda."

Duncan and Carrow applied for funding after spotting a recommendation in minutes published by a USGA research committee that seashore paspalum be studied. Duncan released his two cultivars after six years of work.

"I've got a couple more coming," he says. "The next one that's probably going to come out seems to be resistant to insects." This fairway-type grass could help cut down on pesticide use.

The grass should be managed with less water and fertilizer than bermuda. "If you put too much water or too much fertilizer on it, you're in trouble," Duncan adds.

Seashore paspalum's geographical range is limited. Duncan says it will grow where most hybrid bermudas now exist, from the transition zone to the South, but not at higher latitudes. Snow says that areas such as northern Georgia and other parts of the transition zone may not support seashore paspalum. "In the next few years, we'll see more cold-hearty bermudagrasses in the upper transition zone where they've not been used before," Snow says.

He also points to promising research on saltgrass, a salt-tolerant warm-season turf that can grow all the way to Canada. Saltgrass shows promise for courses in the West, although it may not prosper in humid portions of the Midwest.

Saltgrass, like bermuda, goes dormant in the winter. But Snow says golfers are beginning to accept the winter browning of these grasses in these water-restricted times. Still, he expects that before use of the grass becomes widespread, he will have to change some attitudes about it. "Most people won't change their attitudes unless they're forced to change them, but that's already happening," Snow says. ■

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