

# Blenders making crucial difference in greens

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"Contractors are more quality-conscious than they were before... Plus, players are more demanding, there's a lot more traffic, and members want shorter grass and firmer greens" — so more perfect conditions are required.

"Everybody's looking for perfection," Fazio said. "If an owner doesn't get perfection, then he blames the contractor, who blames the architect for recommending the mix. It's a matter of who does not want to get sued..."

Faulks said that while most blending is done for the root-zone on greens, there have been more calls to mix for tees the last couple of years. "The sports turf field is also taking a harder look at blending now," she said.

When a golf course is under construction the architect has a soil laboratory test the sand and other material to be used in the root-zone mixture. The lab recommends the mix — say, eight parts sand to two parts sphagnum/peat moss.

Fazio recalls when he worked with his uncle George and the firm bought the first four Royer shredders built by The Toro Co. in the early 1960s, then



A blender sends a predetermined mix into a stockpile

Photo courtesy of Greensmix

used them to mix soil.

"Using a front-end loader, we would pre-mix the soil — sand, peat moss and topsoil. We pre-mixed it in a front-end loader to the lab's specs, and would actually pick the soil up and roll it around three or four times before we would put it in the shredder. Then it would come out as uniform as you could ever get it —

in those days."

"It is humanly impossible to blend every day in exactly the same way with a front-end loader," Faulks said, adding, "When the contractor is done, you've got 18 greens that could be totally different in physical characteristics — standing water in one, perching like a sieve in another. So the owner spends more for

maintenance than if he had had it done properly in the first place.

"With our equipment, we guarantee the accuracy of a blend at plus or minus 1 percent. That takes the liability right off the contractor and puts it with the professional that's in the business."

"We built some great golf courses (Jupiter Hills and Hawk's Nest)

where we used pure sugar sand — no drain tile, no stone — because the nature of the sand didn't need it," Fazio said. "On some of those greens we never put peat moss on... The USGA (U.S. Golf Association) has built greens out of pure sand. We've built greens just using sand with peat on top.

"But if they're going to mix sand and peat 12 inches all the way through the mix, then I would say it is absolutely necessary to use a blender... to get a uniform grade."

Fazio said a builder must recommend USGA specifications to a client as the client's first choice. In his case, 70 to 75 percent of the owners decide to use a blender.

The blending companies send their crews, with equipment and mobile homes sometimes, across the country, some following golf course builders from job to job.

In fact, McNeill's equipment even includes percolation testing gear so that his crews can test the mix every 15 minutes to an accuracy "within one to four percent of the labs."

An 18-hole course normally uses 7,000 to 10,000 tons of materials, which takes four to five days to blend, Faulks said.

# Dakota Peat defies the odds, scientists testify

By Mark Leslie

While soil blenders are normally crucial to successful golf course greens construction, spokesmen for university athletic departments, football teams and racetracks agree at least one peat on the market needs no blender.

They say Dakota Peat is so fine and mixes so well with sand that it can be blended by front-end loader with the same accuracy as a mechanical blender.

Mike Powell, construction administrator for the University of Florida at Gainesville, hired a blender to mix Dakota Peat for the new Ben Hill Griffin Stadium. When the university builds its 2-1/2 new practice fields, Powell will most likely bucket-mix Dakota and sand, he said.

"K.W. Brown (laboratory) and Powell (Gaines at Tifton Laboratories) were enthusiastic in recommending Dakota Peat as a superior product. My paid agronomist and two volunteer agronomists agreed it was the one to use," Powell said.

Since the Griffin Stadium field was built, the mix has lived up to expectations.

Louisiana State University and Mississippi State University representatives "were amazed at the condition of the field" when they visited it after three successive home games, Powell said. "It was worn but not destroyed."

Ross Kurcab, turf manager at the Denver Broncos training facility which used Dakota Peat for its two full-size and one half-size workout

field, said a few months after construction: "We have 10 inches of roots already, which is amazing. And it has held water way better than I thought it would. It mixed beautifully. It rates out at 97 percent organic.

"We did exhaustive research. Everyone I talked to that used reed-

sedge just love it."

At Santa Anita racetrack in Los Angeles, rebuilt with Dakota Peat, five speed records were broken in the first 30 days.

Soil scientist Chuck Dixon, formerly with K.W. Brown and now at International Sports Turf Research Center, Inc. in Olathe, Kansas, said:

"Dakota Peat is really different from other reed-sedge peats. A lot are really muck... I have not seen anything that compares with Dakota Peat.

"The only thing close to Dakota's carbon-to-nitrogen ratio is city sludge, but that is loaded with heavy metals or ash. Every bag of Dakota

I've gotten has been clean as a whistle. I haven't seen any that blend as well."

Dixon said a "hidden difference" with Dakota is the resulting depth of root systems and the economy of the greens built with it. He said: "Santa Anita had nine-inch root

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## Dakota Peat

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growth after eight weeks... And it is really good in low water-use areas because it holds moisture so well.

"Their maintenance costs are one-tenth what they used to be."

Dixon performed extensive tests comparing North Dakota reed-sedge peat with a Canadian sphagnum peat, a rice-hull compost and a fir bark product from California — all of which are frequently submitted to soil labs for evaluation.

He said reed-sedge peat had the only carbon-to-nitrogen (C:N) ratio (23:1, dry weight basis) that would not tie up nitrogen.

"It was the most decomposed

and also had the highest cation exchange capacity and humic acid content," he said, adding the ratios were 65:1 for Canadian sphagnum, 80:1 for rice hulls and 100:1 for fir bark.

"Dakota really falls in with 'peat humus' rather than 'reed-sedge,'" Dixon said.

Dixon found that "all the mixes met the USGA (U.S. Golf Association) criteria for water holding and decreased bulk density. Based on the C:N ratio and total carbon content, the rice hull compost does not fit USGA criteria. The fir bark product contains a better total carbon content but has a high C:N ratio.

"The lowest infiltration rate, still

almost 20 inches per hour, was a 10-percent reed-sedge peat and 90-percent sand. It is interesting to note this mix had a better infiltration rate and water-holding capacity at a 10-percent volume than the other amendments at a 20-percent volume."

Tom Briddle, director of marketing for Tectonic, Inc., of Denver, has used the Dakota reed-sedge since he ran a test on it five years ago and "was amazed at the results."

He said, "The greens we have built with the reed-sedge peat are far superior to any of the greens we did with the others."

Briddle described Dakota as an

older peat that is further decomposed, "and it mixes to the consistency that every single grain of sand has a little grain of peat clinging to it. We run it through a mechanical mixer and I would categorize that 100 percent of our sand has a little grain of peat clinging to it... The closest you could come is with an amalgamated mix of sphagnum, which runs 60-40.

He said soil laboratories that have received samples of Dakota have sometimes claimed the bag was hand-mixed.

"We did the Denver Broncos training facility, which consisted of 15,000 cubic yards of root-zone mix, and we were within plus-or-minus 1

percent throughout the entire project. There's not a soul in the sand business in the entire U.S. that can do that," Briddle said.

"We have a bentgrass nursery. The guy from USGA looked at my turf and wanted to know where I got it. He didn't believe it was reed-sedge."

Briddle estimated the cost of peat for a normal 18-hole course between \$25,000 and \$50,000.

"The cost involved in a new golf course in building new greens — one with inferior peat and one with top-grade peat — is almost equal. It doesn't cost that much more to do a top-notch one. But it costs 10 times more to redo them," he said.

With others in the industry raving about his product, Mike Pierce is a happy man.

The president of Pioneer Peat of Mesa, Ariz., and Grand Forks, N.D., which produces Dakota Peat, Pierce agreed he is blessed to have a unique deposit of peat in North Dakota that is unlike any other, except one in Russia.

He added that his material's success is also partly due to his processing, which has also been cited with outputting a "clean" product minus twigs and other debris.

## Pioneer unveiling three blenders

Pioneer Peat, Inc. President Mike Pierce has announced that his company is manufacturing two models of compact soil blenders, and is designing a third, that will sell for a fraction of the cost of others on the market and make it possible for golf courses and other facilities to buy their own machines.

"These will make blending more affordable," Dixon said. "They are designed for any contractor or sand company that needs to blend. And the baby blender that we're working on, which we hope to have at the (GCSAA) Las Vegas show, will be sized and priced so every golf course or sports turf facility can have its own, just like mowers."

The larger models are the two-hopper "Dakota 2200" and three-hopper "Dakota 3200."

Pierce said 90 percent of all mixing jobs use one type of sand and one other material. The 2200 model — measuring 8-1/2 feet wide by 20 feet long and 10 feet high and selling in the \$33,000 range — has two hoppers and its own stacker. It can be hauled behind a pickup truck and is powered from a tractor's PTO.

The 3200, measuring 17 feet long, has three hoppers and its own payloader. It can be hauled with a trailer and is powered by a truck's hydraulic unit.

The 1200 "baby" will probably measure around eight feet long by five feet wide and high and cost around \$8,000, Pierce said.

Pierce, whose firm has headquarters in Grand Forks, N.D., and Mesa, Ariz., said the biggest complaint he hears is that "certain golf courses want a mix (of sand and peat) that's not available in their area. With their own blender, they can buy small portions of the materials they want when they're available and do the blending themselves."

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