

Peat advocates cite positives of organics

Confronted with the debate about porous ceramics, peat proponents point to the positive attributes of the organic material.

"The most evident discrepancy comparing peat and ceramics is that peat is of biological origin and ceramics are fired mineral — meaning they are sterile," said Tom Levar of Peatlands Diversified in Hermantown, Minn. "Peat — and some high-quality composed materials — contain humic substances and biologicals ... such as naturally occurring enzymes, and humic substances."

Saying it is logical that a plant material would be the best for supporting plant life, he added: "Ceramics are not of plant origin and are only as good as how you manage them and what you put into them... Also significant is this: As organic matter accumulates — such as thatch and the natural die-back of the turf roots and clippings — those materials must be acted upon biologically so they can decompose. That's part of the package when you use an organic in your mix."

Ceramics proponents argue there are a number of products that can be and are added to ceramics as a sort of nutrient soup in the root-zone mix.

More research is necessary before this organics-vs-ceramics debate is resolved. Indeed, it is ongoing at Iowa State University, Ohio State University, Penn State and Florida State. "All of this research is because the industry demands it for us to be viable and credible," Parker said.

"I think we're just scratching the surface of root-zone amendments," said Dr. Michael Hurdzan, a golf course architect. "We're not far along on the road to knowledge. We're still dealing with old wives' tales and alchemy."

"It's disturbing to me when we don't try to apply emerging technology in the field of turfgrass science. We have stuck our head in the sand and said, 'Bygones, we are only going to use one method that was introduced in the 1960s and was slightly refined over the last few years. We are using 35-year-old technology... It's a shame, and we need to stay current with emerging technology if we are going to advance the art and science of golf course design.'"

Former high-cost factor of ceramics being minimized

By MARK LESLIE

Developers commonly wonder if it is worth it to add ceramics, as opposed to organic material, to the root-zone mix for greens.

"In terms of new construction on high-sand greens, it hinges on the original sand you are working with," said golf course architect Mike Hurdzan. "If we can buy inexpensive sand and mix in either an inorganic material like porous ceramics or an organic material and make it better than a more expensive sand without those materials, then the cost-benefit ratio makes sense."

But the industry is waiting for information to make that type of decision. An effective research project would maintain side-by-side plots with 1) pure sand, 2) porous ceramics and sand, and 3) peat and sand, and determine which plot uses less water, fertilizer and pesticide.

"If you could demonstrate that, then you could put a dollar figure on it, and make intelligent decisions," Hurdzan said. "You need to quantify what this material is worth, and that's where we have a problem. I know that with the proper sand we can grow great turfgrass with neither of the two."

Porous ceramics can either cost more or less than organic material, according to Roy Parker of Soil Management Technologies (SMT) in Lakewood, Colo., which distributes Profile Porous Ceramic, a product of AIMCOR made in Blue Mountain, Miss. "The worst-case scenario is that it will cost \$30,000 more to build a green with ceramics," he said. But sometimes it may cost less.

"And it will continue saving money in mainte-

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nance," he said, claiming less fertilizers and pesticides as well as water need to be used when ceramics are present in the root zone.

The standard 90-10 ratio of sand and peat used in greens mixes contains 32 pounds of peat per ton, said Dave Tooley, a 25-year golf course superintendent and now Colorado Division Manager of SMT. "That isn't much material. A 90-10 mix with Profile contains 75 pounds of Profile. Would an addition of 75 pounds do more than an addition of 32 pounds?" He said his recommendations differ from site to site, adding: "With some sand, 10 percent Profile does wonders. With others, we recommend 15 percent."

The cost to blend the organic matter into a root-zone mix is about \$3 a ton for the material and \$2 a ton for handling. Using about 8,000 tons to build 18 greens, that cost would be \$40,000.

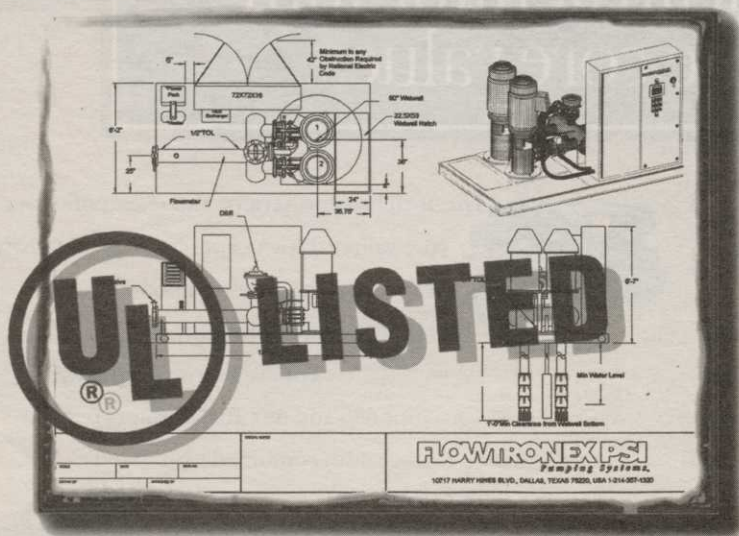
Figuring that a 10-percent Profile blend in the top six inches of the root zone equals 1,735 pounds per 1,000 square feet, Tooley estimated the cost for 120,000 square feet at \$52,800, or 44 cents per square foot.

Course architect Ed Seay added a twist to the figures, saying no subsurface drainage system is needed when porous ceramics are used. "Just 12 to 15 inches of mix and that's it," he said. "The savings is \$20,000 per green, easily, from not having tile and rock — depending on how far you have to go to buy it. The source is the key."

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