Sand on Steroids

Soil amendment bulks up sand-green drainage capacity

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Problem
Sand-based greens wouldn't stand up to the high traffic expected on Capitol Hill GC, and the drainage capacity needed to be maximized.

Solution
Adding Profile to the sand underpinning the greens resisted compaction from foot traffic, increased green drainage and inhibited the creation of a thatch layer.

John Yancey, who would soon become the superintendent of Capitol Hill GC, a 54-hole facility in Prattville, Ala., surveyed the site of his future golf course in the fall of 1997. The construction crew had just started clearing the site, and the course slowly took shape.

The course planned USGA specified sand-based greens, but Yancey wanted to ensure the greens drained well. He was skeptical that sand-based greens alone would fit the bill.

"Sand by itself doesn't hold moisture well over time, and it compacts pretty easily, which hurts the overall health of the greens," Yancey says. "We were looking for something that would accentuate the positives of a sand base while adding desirable characteristics such as nutrient and water retention."

Yancey says he had read about a product called Profile a couple of years before the first greens were grown at Capitol Hill in 1998. He thought it might be an appropriate soil amendment that would meet his needs. He researched the product and called upon fellow members of the Robert Trent Jones Golf Trails' group of eight courses in Alabama to see if any of them used the product. He found several of the other courses were using Profile as a top-dressing. The superintendents at those courses were impressed with the results.

The problem
Yancey hoped supplementing the greens' sand with Profile would increase the drainage potential and nutrient retention, which would not only increase root mass, but would also maintain better overall turf health. Concerns about compaction and thatch also drove Yancey to supplement the sand for the greens.

"My experience has always been to take a long-term approach, and we were projecting that Capitol Hill would be a high-traffic course," Yancey says. "The owners wanted greens that would stand up to the traffic."

Yancey says he also installed a Sub-Air drainage system.

Profile was added to the greens at Capitol Hill GC to improve drainage, withstand heavy traffic and prevent the development of a thatch layer.

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system that sucks carbon
dioxide and water from un-
derneath the greens, which
required his greens both to
drain well and to avoid
compaction to maximize
the system’s efficiency.

So Yancey investigated
Profile, which is engineered
from a blend of minerals,
primarily silica and illite
clay. The mineral is kiln-
fired to protect its stability,
and when added to soil it
combines the porousness of
sand — leading to good
drainage — with the reten-
tion qualities of clay.

Profile won’t decompose
to produce the excess or-
ganic matter that can lead
to thatch, says Mark Fields,
gulf region project manager
of Profile Products LLC.
The product also encour-
gages faster grow-in and cre-
ates deep and massive roots.

Fields says Capitol Hill
also had the added chal-
lenge of producing sand
greens that contained two
different varieties of grass
— bermudagrass and bent-
grass. Eighteen holes are
bentgrass and 36 holes are
bermudagrass. The course
had to find a product that
would accommodate both
species and meet USGA
specifications.

The solution

Working with Profile,
Yancey and Sun Belt Con-
struction Co. determined an
85 percent sand to 15 per-
cent Profile mix would work
best to create the green com-
plexes they desired.

“It’s important to make
sure the sand and Profile ra-
tios are exact because you
can inadvertently cause the
problems you’re trying to
solve if the ratio is off,”
Yancey says. “It’s a little
more expensive than peat
supplements, but it doesn’t
have a lot of the organic
problems that peat can cre-
ate, especially with thatch.”

Fields says his company
will work closely with a
course to determine the
right ratios of Profile for the
sand it’s using. Profile will
sometimes recommend a
different sand to a course if
it would create better
greens, he says.

“In some cases, the
course doesn’t know what’s
available locally, so it im-
ports sand from halfway
across the country,” Fields
says. “That can drive up
construction costs, so
sometimes we can save
them money with our local
contacts.

“We can make any sand
better, but it takes some re-
search to find out which
ratio will work best for your
formulation,” he says.

Last year, with just two
of the 18-hole configura-
tions open, Capitol Hill did
30,000 rounds of golf,
Yancey says. The greens
have done everything he
hoped they would in resist-
ing the strain of so much
play.

“The greens held up well
under all the rounds that
have been played here, and
we believe that the planning
that went into their subsoil
has a lot to do with that,”
Yancey says. “The long-
term outlook is great.”