

The First Amendment, But...

Though sphagnum peat moss still reigns as the leading greensmix additive, other choices are gaining ground in industry trials

By **Frank H. Andorka Jr.**
Managing Editor

Sand-based greens possess wonderful drainage qualities, but they don't do a good job of retaining water and nutrients. That's why the USGA, in its green construction guidelines, recommends amending the greensmix with materials to improve the growing medium for golf turf.

"I'm a great proponent of using amendments when constructing greens," says Steve Merkel, director of agronomy for Lincoln, Neb.-based Landscapes Unlimited, a golf course construction firm. "I know there are green construction meth-

ods that don't call for them, but I think amendments are important."

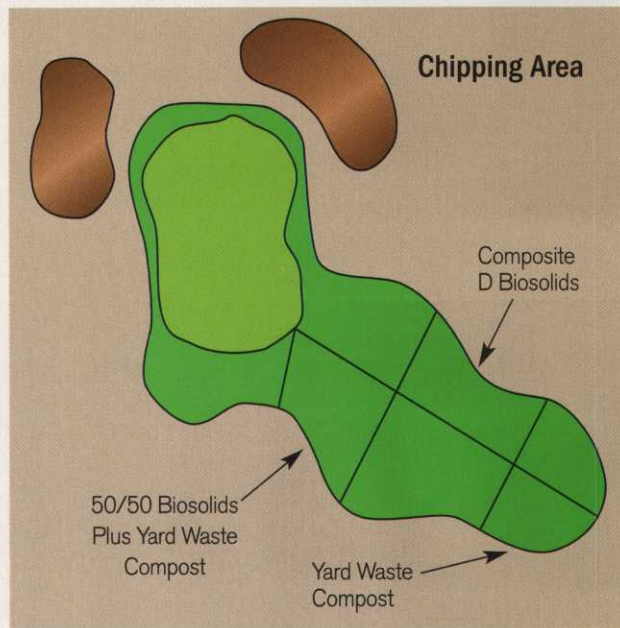
ongoing studies, sponsored by the National Turfgrass Evaluation Program (NTEP) and the USGA, indicate peat may soon face stiff competition from composts and inorganic amendments.

Conventional wisdom

For the last nine years, the USGA maintained consistent standards about the composition of greensmixes. Superintendents are urged to use a mixture of sand (at least 60 percent of which should be coarse- or medium-grained) and an organic amendment. The most common amendment is sphagnum peat moss, which the USGA says should contain a minimum of 85 percent organic matter by weight. (The percentages are determined by a burn test, where the peat is weighed, burned and weighed again. The leftover material is considered inert and of no use to the turf.)

"Peat is currently the most cost-effective amendment," says Jim Moore, director of construction for the USGA. "There's not much variability from batch to batch of peat because the manufacturers have refined its production to ensure good consistency."

Joe Traficano, certified superintendent at Renegade GC at Desert Mountain in



The chipping green at North Shore CC in Glenview, Ill., became a testing ground for a variety of amendments under the care of certified superintendent Dan Dinelli.

Scottsdale, Ariz., says he used peats in his greensmix because they're easy to use.

"Superintendents all have experience with peats, so they have a proven track record," Traficano says. "I'm not saying other amendments aren't good, but there hasn't been as much university research into the others."

Studies show competition

Though peat is the safest choice in amendments, that doesn't mean it always produces the best results. Two studies, conducted independently by the USGA and the NTEP, indicate composted amendments may be a better investment because of the additional nutrients they offer.

Dan Dinelli, certified superintendent at North Shore CC in Glenview, Ill.,

agreed to participate in an NTEP-sponsored study that tested different turf varieties. He furthered the study by adding different rootzone amendments on another section of the research green. Dinelli combined with different amendments. When he constructed his facility's practice green, he divided it into 20 different zones, each with a different combination of sand and amendments.

"We tested them all — peat, composted materials and inorganic amendments," Dinelli says. "We didn't treat it any differently than we did the other greens on the course. We wanted to see how the amendments would react under real-world maintenance practices."

After five years of observation, Dinelli says he believes

PHOTO: JASON NABB/SHUTTERSTOCK



Landscapes Unlimited's Steve Merkel is a great advocate of amending greensmixes.

ods that don't call for them, but I think amendments are important."

Sphagnum peat moss has long been the industry's standard additive because of its stability and ease of use. But

the compost helped the plots mature at least twice as fast as the others.

"The compost-amended plots were consistently denser and greener," Dinelli says. "We also observed slightly less disease pressure."

Dinelli says more research is needed into the long-term stability of those products, and Jim Murphy, a professor of turfgrass science at the Center for Turfgrass Science at Rutgers University in New Brunswick, N.J., may be the man to do such studies. Murphy started his study of amendments in 1997 and plans to continue for the foreseeable future.

"The nutrient-holding capacity of the composts has been good so far," Murphy says. "But we've got a way to go before we can determine their long-term success."

Composts can be inconsistent because the composition of materials can vary from company to company, Murphy says. Before using a composted material, superintendents should test it by a laboratory to see exactly what's in it.

"There are plenty of horror stories out there from superintendents who've used composts with disastrous results," Murphy says. "You need to make sure you know what you're getting. When you find one that works well, stick with it."

Dinelli says the turf industry should institute testing procedures to ensure consistency.

Don't discount inorganics

In the field of amendments, companies that produce inor-

ganic materials must feel like the whole industry is against them. The USGA green-construction guidelines recommend against them in root-zone mixes, and superintendents often complain about their cost. That doesn't mean, however, that they aren't useful, and the USGA may soon change its recommendations. This could overcome the reluctance of some superintendents to use amendments the USGA hadn't approved.

"We're looking to change our recommendations soon to include the possible use of inorganic amendments," Moore says. "It's not that they're bad, but they do tend to be costlier than organics."

Murphy says the longer he studies the inorganics, the more he is starting to recognize subtle differences in the effects they have on the turf. He says he wants to study the data from his project longer before he offers a recommendation on them.

Dinelli says the inorganics he used on his practice green performed well, and the differences between the composted plots and the inorganic plots have finally lessened five years after his study began.

"I'd hesitate to say anything one way or the other about the inorganic amendments," Dinelli says. "It's hard to make sweeping judgments based on tests at one location. In certain soils and under certain conditions, inorganic amendments may be the perfect solution."

Traficano says the debate over amendments will only be settled when more field

tests are done in different regions of the country.

"Amendments are often tested under laboratory conditions instead of the real world," Traficano says. "It makes it difficult for superintendents to evaluate them independently. That often leaves superintendents at the mercy of salespeople who are trying to get you to buy their products."

Examining alternatives

Dinelli says the industry should also establish a protocol for organic products in particular to ensure consistency from batch to batch.

"We need standards so superintendents know what they're getting when they choose an organic alternative to peat," Dinelli says. "It would help alleviate the fears some superintendents have."

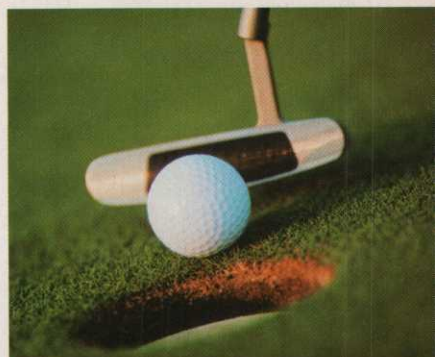
Merkel says the industry may also be missing the boat by not allowing native soil to be used as an amendment.

"Soil is another option that doesn't get a lot of attention, but there may be solid reasons to add it in lieu of another organic," Merkel says. "It's something I'd like to see studied."

Traficano says he doesn't know what the perfect amendment looks like, but superintendents must examine their own needs before making a decision.

"You may discover that there are 150 different microclimates on your course, which may require different amendments for different greens," Traficano says.

"That's the hardest part of making the decision, but it's what we get paid to do." ■



Five Great Things About Modern Greens

By Geoff Shackelford

USGA Greens — They're manageable, they breed healthier turf and nothing better has come along.

Elimination of grain — Except in Johnny Miller's eyes.

They're faster and more consistent — Slick greens are fun and give people something to talk about. Of course, some of the talk says the greens are too slow or inconsistent.

They hold shots — And reward precise, well-struck iron shots.

They're getting larger — Which creates more hole locations for better golf and improved conditioning.

Five Lousy Things About Modern Greens

USGA Greens — They're expensive, difficult to construct and not as reliable as billed.

Elimination of grain — Pete Dye says that negotiating grain used to be one of the most interesting aspects of the game.

They're faster and more consistent — Slick greens slow down play, and more speed means less contour can be constructed.

They hold shots — Which can shift the game to a one-dimensional approach.

They're getting larger — If we could just get architects to build large greens that don't feel so huge and clumsy, like the old architects did.