Take Charge of Your Topdressing

Don't just use the same material because 'you've always done it that way.' Some analysis and understanding of your goals will help you make the best choice

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Andrew McNitt, assistant professor of soil science at Penn State University, often cringes at the responses when he asks superintendents about their topdressing materials.

"In some cases, what you'll hear back is that they're topdressing with the material because that's what they've *always* done at the course," McNitt says. "That's exactly the wrong way to choose a topdressing material. It requires more thought than that."

Topdressing greens has evolved over the years. Superintendents used to consider it sufficient to topdress heavily once or twice a year to break up the thatch layer. Now, most superintendents are moving toward light, frequent topdressing programs to aid with drainage, amend the soil and smooth the putting green surface.

More frequent topdressing, however, means superintendents must be more discerning about the material they use. A wrong choice can lead to the creation of a perched water table, which could harm the root system and threaten the health of the greens. If superintendents take the time to analyze their soils and establish clear goals, they'll be much happier with the results.

A light, frequent topdressing prevents superintendents from beating up mower reels too badly.

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Check your soil

Superintendents need to decide what they want to accomplish before they start topdressing programs, McNitt says. Common reasons for instituting the practice usually fall into three categories: smoothing the putting surface, amending the soil to improve drainage or diluting a thatch layer.

David Gourlay, general manager, director of golf and certified superintendent of Colbert Hills Golf Course in Manhattan, Kan., says superintendents should have the soil tested to determine what kind of material to use. "You want your topdressing material to complement or supplement what's already there," he says.

This is crucial because superintendents can end up creating drainage and root-zone problems that will require more work to alleviate if the materials aren't complementary, says Rick Fiscus, superintendent at West-Chase Golf Club in Brownsburg, Ind.

"Small discrepancies will end up causing prob-

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lems," Fiscus says. "You can end up ruining drainage and leaving puddles on your greens. You don't want to use anything that's going to inhibit porosity or percolation rates."

A proper soil sample includes the top 4 inches of the soil and should be sent to a qualified laboratory for analysis, McNitt says.

Jeff Beardsley, superintendent at Big Canyon Country Club in Newport Beach, Calif., says he tests the greens' soil every year to make sure he's still achieving his goals.

"We haven't had to change our topdressing material since 1998 because we take great care to make sure what we're doing is still working," says Beardsley, whose topdressing goal is to improve his greens' drainage. "I wouldn't know that, however, if I wasn't testing."

Test your sand

It's not just the soil that needs to be tested, however, Gourlay says. Superintendents should also send their potential topdressing material to a lab.

"There's no such thing as straight sand," Gourlay says. "All sands have some level of silt and clay, and that can affect the way they react to soil conditions."

Fiscus says when he arrived at West-Chase, the grow-in superintendent had stopped using the sand with which he'd built the greens as topdressing. After having the original sand tested and discovering it more compatible, Fiscus changed it back.

"Everyone has their local dealers who can give them good deals on a nearly perfect match," Fiscus says. "But it's not exactly the same, and you might run into compatibility issues."

McNitt says superintendents shouldn't use a topdressing sand merely because they used it to build the green, however. "What if you have lousy sand to start with?" he asks.

Gourlay says superintendents must not focus on particle size exclusively. The shape, infiltration rates and air-space considerations are equally important.

"You can have two sands that are the same size, but one might be flat and the other round," Gourlay says. "The round sand will offer the proper amount of pore space so air and water can get to the plant roots, but the flat sand will create a barrier."

Sand vs. soil

One of the more heated debates about topdressing is whether it should include organic material. McNitt says he supports topdressing with straight sand on a light, frequent basis. He believes most superintendents are moving in that direction.

"Turf deposits tons of organic matter per acre per year," McNitt says. "If one of your reasons for topdressing is to manage thatch, why add organic matter in the topdressing?"

For a light frequent topdressing program, McNitt says it's probably advantageous to have no particles greater than 1 millimeter (mm), and that having them no bigger than .75 mm is typically even better, he says.

Some Essential Topdressing Facts

According to Patrick O'Brien, director of the USGA Green Section's Southeast Region, here are some facts about sand topdressing:

- When organic matter reaches 3 percent to 4 percent by weight of the soil profile, that's when superintendents start to see secondary problems like disease infestation and drainage problems. That's why sufficient sand topdressing is necessary to maintain USGA specifications in the root zone.
- The USGA defines a light topdressing as .5 cubic feet per 1,000 square feet per application. A medium topdressing is 2 cubic feet per 1,000 square feet, and a heavy topdressing is 4 cubic feet per 1,000 square feet.
- Superintendents should apply 40 cubic feet to 50 cubic feet of sand per 1,000 square feet per year to keep USGA-specification greens with the proper sand ratio in the root zone.
- Forty cubic feet to 50 cubic feet per 1,000 square feet per year equals 4,000 pounds to 5,000 pounds of sand over the same year, or about .6 inches of sand per year.
- Nonoverseeded Tifdwarf bermudagrasses only require 35 cubic feet to 40 cubic feet of per 1,000 square feet of sand per year, while overseeded bermudagrasses require more than 50 cubic feet per 1,000 square feet of sand per year.

– Frank H. Andorka Jr., Managing Editor

On the other side of the debate is Gourlay, who says adding organic matter can help keep greens healthy.

"I'm not saying you should go out there with a mix that's heavily tilted toward organic matter, but having a little bit helps," Gourlay says. "You have to give beneficial organisms a medium to grow in. Otherwise, your root zone will suffer."

Gourlay also says adding soil to the topdressing mix helps prevent isolated dry spots and pH problems in greens. He wouldn't, however, put more than an 85 percent/15 percent mixture on his greens.

He adds that the percent ratio is dependent primarily on the frequency of application.

In the end, no matter how much analysis superintendents do to create the perfect topdressing mixture for their courses' greens, it's still enough of an art that they shouldn't be afraid to explore different options, Gourlay says.

"You're not going to find a perfect topdressing solution from someone else," Gourlay says. "You can't be afraid to experiment to find a solution that works best for you." ■