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# 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**

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

**A**ndrew 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.

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

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## Take Charge of Your Topdressing

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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." ■

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# The Value of Verticutting

Given the benefits of cleaning up your greens, the only question to ask if you're not 'pruning' them is, 'Why not?'

By Frank H. Andorka Jr.  
Managing Editor

**J**ason DeMartino, superintendent at Audubon Country Club in Naples, Fla., gives his golfers an explanation he hopes they can relate to when they ask him why he verticuts his greens.

"I've found that if I tell them I'm pruning

the greens the way they would prune trees — to make the plant grow stronger and more healthy — they understand it immediately," DeMartino says. "It's much better than trying to overload them with the scientific explanation for it."

Verticutting, or the process of removing some of the vertical growth that occurs around a grass plant, provides several potential benefits for the turf. It can:

- force the remaining turf to stand up straight and smooth the putting surface for better ball roll;
- increase green speed;
- open the turf canopy to allow in more sunlight;
- makes topdressing easier to work into the soil; and
- allows the plant to put more energy into growing upright shoots instead of lateral shoots.

But verticutting isn't something that can be done haphazardly. Superintendents should account for weather patterns, grass varieties and region of the country when deciding how often and how aggressively to verticut. If superintendents have any doubts about what they're planning to do, experts say they should check with their peers who are experienced verticutters. This careful preparation will help them get the most benefit from the practice.

## How it works

Normally, when superintendents mow greens, the blades cut the turf horizontally, taking off the top of the crown to reduce its height. Verticutting blades, which can be fitted on most triplex mowers, rotate in the opposite direction. The goal is to

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Assistant superintendent  
Kevin Neils verticuts a green  
at Audubon Country Club in  
Naples, Fla.

PHOTOS COURTESY OF AUDUBON COUNTRY CLUB



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## The Value of Verticutting

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reduce the number of stolons on leaf blades that grow laterally, says Ron Wright, certified superintendent at The Country Club of Mobile (Ala.).

"Every time a plant grows new shoots, it takes energy," Wright says. "If you cut off some of the lateral plant growth, it forces the plant to use that energy elsewhere. The plant will use the excess energy to grow upward, creating a more upright and dense stand of turf."

Tighter turf also increases green speed without lowering mowing heights, says Cory Blair, certified superintendent at Rarity Bay Golf & Country Club in Vonore, Tenn. He says it also allows the ball to roll more smoothly.

DeMartino says he combines a verticutting program with plant growth regulators to keep his greens consistent from one hole to the next. He says verticutting also increases water penetration and air movement — two essential ingredients to healthy turf.



**Superintendent Jason DeMartino says his members understand the verticutting process more easily if he describes it as "pruning" the turf to promote strong growth.**

### Be careful

Superintendents who verticut on a regular basis warn their colleagues that an indiscriminate program can do more harm than good.

"Anytime you're mechanically damaging the plant, whether by regular mowing or verticutting, you're opening the crown of the plant," says Russ Heller, certified superintendent of Franklin Park Golf Course in Boston. "That gives diseases and other pests opportunities to harm the turf."

Heller says superintendents should also be careful to watch the weather when deciding whether to verticut or not. If the weather is too hot (in the case of Franklin Park, Heller says that's June, July and

August), verticutting can stress the turf so much it can severely damage it.

DeMartino says superintendents should wait to verticut until the dew burns off to avoid turning their greens into muddy messes. "You don't want to verticut wet turf — it will get ugly."

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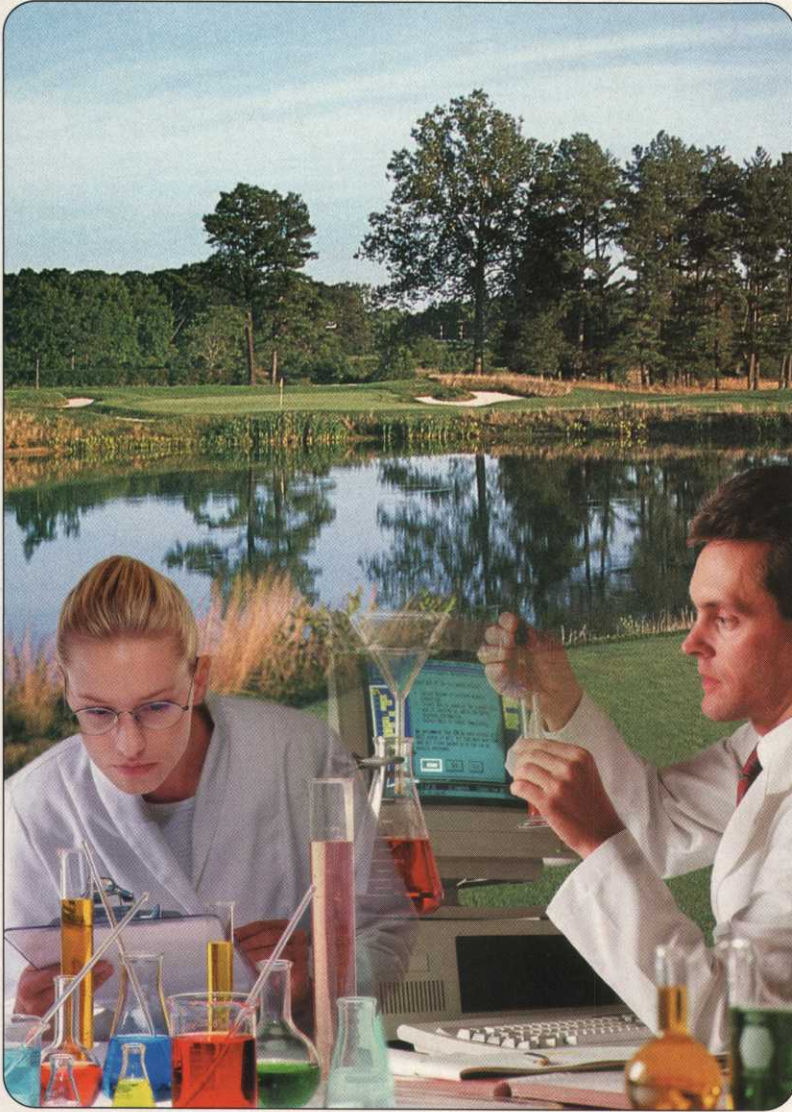
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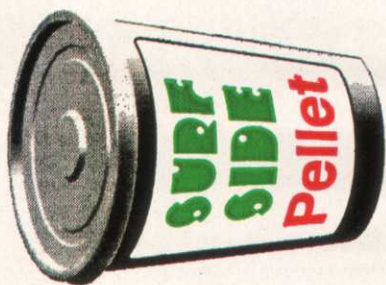


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## The Value of Verticutting

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Not only is verticutting dependent on the region, it's also dependent on the grass variety, Wright says. For example, when Wright had TifDwarf bermudagrass greens at The Country Club, he would verticut every other week (and topdress on the weeks in between) because the turf grows so aggressively. Now that he's moved to an ultradwarf bermudagrass, he doesn't verticut as often because the turf recovers more slowly from the procedure.

"If you verticut an ultradwarf, you can still see the scars three weeks later," Wright says. "That's not acceptable at most courses."

Wright says superintendents in the South, where ultradwarfs are more prevalent, are moving away from aggressive verticutting.

Blair says he also changed his verticutting practices when he switched from Crenshaw bentgrass to PennCross bentgrass. Superintendents have to verticut Crenshaw more aggressively because it's such a tight turf that topdressing can't get down into the soil profile. With PennCross, raising the green speed is more the issue, Blair says.

"Before you start verticutting, you have to understand your variety completely," Blair says. "You don't want to create a program that won't do what you want it to."

As with so many other cultural practices superintendents employ, there's no one verticutting program that will work for everyone, Blair says.

"If you're in doubt, turn to your local extension agents or other superintendents in your area to see what they're doing," Blair says. "It's such a region-dependent practice that your best guides through the process are your peers." ■

### Tips and Tricks

Here is some general advice from superintendents for effective verticutting:

- Focus on periods of time when the grass is growing aggressively because verticutting when the turf isn't growing strongly could lead to the most damage.
- Set your verticutting blades to a uniform depth of cut to avoid scalping.
- Don't think that verticutting is a substitute for aerification because you'll never remove enough of the soil profile to make a difference.
- Topdress lightly afterward to smooth the greens, and brush or water the sand in afterward.
- Test your program on the practice putting green before taking it out on to the course because it will give golfers the heads up that you're trying something new.
- Alert your pro shop about what you're doing and why.

Most of the complaints about the procedure are going to be lobbied there first, and you want to have the pro to have a ready explanation.

— Frank H. Andorka Jr., Managing Editor

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