

By John Torsiello

PROMOTE GROWTH

DONE AT THE RIGHT TIME, VERTICUTTING IMPROVES TURFGRASS HEALTH

Golf course superintendents have no magic bullet at their disposal for their ongoing battle to maintain the best turfgrass conditions possible. But one of the best weapons superintendents have in their arsenal is verticutting, a process that has gained popularity and now is common throughout the country for all types of turfgrass.

Verticutting is the thinning of turfgrass by blades or wire tines that cut perpendicularly to the soil in a shallow swath or a deep cut. Both methods can promote lateral and vertical grass growth. Yet, a deeper cut removes more material to allow moisture and oxygen to reach the root zone more easily.

"In this area, verticutting is fairly common," says Tom Johnson, golf course superintendent of New Richmond (Wis.) Golf Club. "I've been doing it regularly for about 15 years, and I've seen good results in the overall health and quality of our greens. People on the green committee comment if we miss verticutting for one reason or the other."

Verticutting is an important turf management tool to reduce thatch, says Tim Haines, golf course superintendent at Binks Forest Golf Club

in Wellington, Fla., a KemperSports-managed facility. Thatch ties up chemicals and reduces efficacy, making it difficult to move water into the soil profile. Verticutting helps alleviate those problems, Haines says.

Verticutting can be used to control graining, remove thatch, prepare for seeding, cultivate the soil or disperse core materials following aerification, says Anthony Williams, CGCS, at Stone Mountain (Ga.) Golf Club.

Also, verticutting is useful on courses that have newer turfgrass varieties that might tend to form thatch quicker than traditional varieties.

"Today's ultradwarf Bermudas and new varieties of bents seem to produce more thatch," Haines says. "Thus, the frequency of verticutting should be increased. With fairways that have bentgrass and Bermudagrass, thatch is also an issue. I will verticut a couple of times a season on both types of grasses."

David Phipps, golf course superintendent at Stone Creek Golf Club in Oregon City, Ore., says many of the new bentgrasses, like the As and Gs and Ts, are extremely aggressive and require a lot of cultivation. Heavy verticutting can be used in conjunction with light topdressing to help

incorporate sand into the surface.

"I verticut my greens to enhance a more vertical growth habit," he says. "Regular verticutting stimulates branching and tightens the turf."

LOCATION

Most superintendents will topdress greens and water heavily following verticutting. One of the benefits of verticutting, unlike aeration, is that the process has little impact on the playing surface, which is crucial to maintain to keep customers happy.

"We might verticut greens on a slow day, such as a Monday," says Steve Lane, CGCS, at Twisted Dune Golf Club in Egg Harbor, N.J., an Empire Golf Club Max facility. "You might see a slight difference in the roll on the greens the day it's done, but the grass bounces back quickly, and in a few days, you have optimum playing conditions."

The long-term benefits of verticutting are considerable.

"My goal, in terms of turfgrass health and playability, is customer satisfaction," Phipps says. "If the greens are healthy and smooth, then my job becomes much easier."

Haines believes verticutting improves mowing quality, which, in turn, improves ball roll and speed.

The practice also is becoming common on fairways and tees boxes.

"Verticutting is beneficial to the entire course because the blades grow higher on fairway and tee-box grass and might lay over," says Bryan Barrington, superintendent at Golf Club at Oxford Greens in Oxford, Conn. "With verticutting, you're permitting the blades to stand up so you can cut off runners, and, in effect, groom the plant to be healthier. It also improves air flow and water penetration so you can get a better cut. We're fortunate because we have large tee boxes that are square or rectangular. I can send a guy out to verticut the tee boxes, and he can make two passes and be done. With odd shaped tee boxes, it might take more time to verticut."

Fairways and tees are important but not as important as the greens, Phipps says.

"If you can verticut your fairways and tees, then your budget is probably a lot bigger than mine," he says.

DEPTH

The depth of the cut varies according to what part of the course is being verticut – a shallower cut on the greens and deeper elsewhere.

"We'll cut the greens about an eighth of an inch, and a quarter of an inch to a half an inch on the fairways," Barrington says. "If you go deeper than that, you're really pushing the machine."

TIMING

The frequency of verticutting and the time of year the practice is done can vary according to weather conditions and grass type. Superinten-

At Binks Forest Golf Club, superintendent Tim Haines verticuts to reduce thatch, which makes it easier for water to move into the soil. Photo: Binks Forest Golf Club



At the Golf Club at Oxford Greens, verticutting is common on fairways and tee boxes, as well as greens. Photo: Golf Club at Oxford Greens



dents should consider the turf type they have carefully and avoid stress periods or being too aggressive with depths of cuts at times when recovery would be slow, Haines says. Superintendents should avoid any practice that will stress turf in severe weather, such as prolonged periods of heat or dry conditions. This will avoid making turf more susceptible to disease.

“Ideally, I would like to lightly verticut once a week during the growing season and as needed during the off-season,” Phipps says. “I’ve learned you have to be patient and not too aggressive. I use the Thatch-Away units, and they can pick up quite a bit of material in one pass. If I set them at barley cutting height, they become an effective grooming tool.”

Gus Nelson, CGCS, at San Clemente (Calif.) Municipal Golf Course, verticuts several times a year depending on the growth of the turfgrass, but mainly it’s during the growth cycles of spring and fall.

Johnson verticuts every 10 days to two weeks and follows that with regular mowing and rolling. It depends on how fast the grass is growing.

“When the temperatures in the Midwest are in the 90s during the summer, we have to be careful and might step back on verticutting,” he says.

Verticutting should be done when turfgrass is growing and not under stress, Williams says.

“The general rule of thumb is to verticut as often as recovery and improved turf health are noted,” he says. “I do it every 10 days in some areas of the course, but it might be wise to limit verticutting to two or three times a year in other areas.”

METHODS

Verticutting methods vary. Technological ad-

vancements have increased the efficiency of verticutting machines and reduced the man power needed for the process.

“Some of the newer verticutting systems have made it much easier to clean up debris because the machine picks up more of it,” Lane says.

“Technology makes it a lot easier than it was 10 years ago because the machines are more powerful and can handle more work,” Barrington says. “I prefer not to have the person verticutting keep emptying the debris catch baskets because of the time involved. I’ll send a couple of guys out behind the cutter and blow the debris off the greens.”

Turf species and time of year must be considered before verticutting, says Patrick O’Brien, the USGA’s Green Section southeast director.

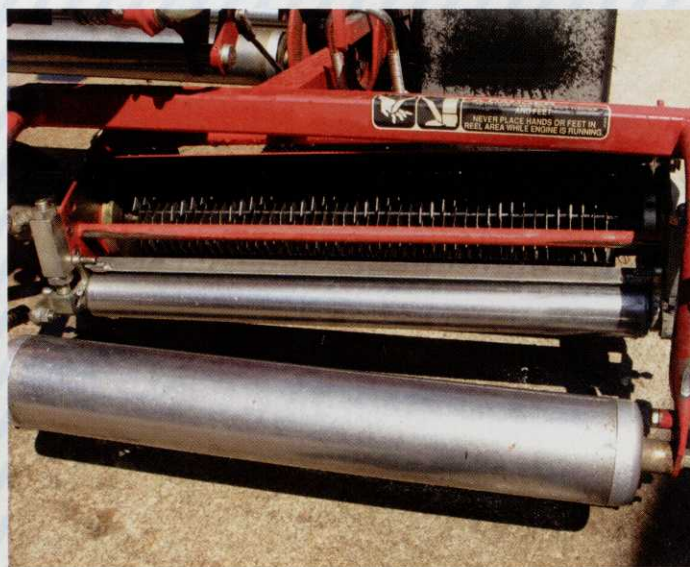
“For example, ultradwarf Bermudagrass varieties don’t respond well to heavy verticutting, especially in the presence of other stress factors such as shade, drought and low fertility,” O’Brien says.

COST

Cost factors, such as the need for additional equipment and man-hours to undertake the process, are other aspects of verticutting superintendents should consider.

“On putting greens, labor and time aren’t a consideration because of only having two to three total acres per course to do,” O’Brien says. “On fairways, because of more acreage, it can be a significant cost, about \$100 per acre or higher.”

Many of the new bentgrass varieties are extremely aggressive and require a lot of cultivation. Photos: Stone Creek Golf Club



Phipps' major cost is the equipment needed to perform the task effectively and efficiently.

"Cost hasn't been a challenge to this point because we're making enough money to cover an additional expenditure needed to care for the greens," he says. "The one thing we do battle is labor and time. As a public course, Stone Creek generates about 60,000 rounds annually, so finding the time to cultivate the greens can be a challenge. We have to be creative when working our cultural practices without affecting tee times."

Labor and time are verticutting issues, but when it comes down to it, superintendents must view the process as an investment in the quality of the course, Williams says.

"We spend about \$5,500 a year in parts and labor associated with our verticutting programs," he says. "That doesn't include the initial cost of the mower and verticut reels. If it costs \$10,000 a year to do your verticut program, you must decide whether this is a plus or minus."

Superintendents also should consider factors such as the total grounds budget, golfer expectations, turf type and local stresses when they weigh the value of their program.

"Our program is worth the investment we make," Williams says.

To verticut greens, a superintendent will need a set of verticut heads for a triplex mower (between \$3,000 and \$4,000) and a fairway unit that can range in cost between \$5,000 and \$25,000, depending on the size and type of machine.

PROGRAMS

There are a few ways superintendents can implement a verticutting program, Haines says.

"One option is not owning fairway equipment and having contractors come in with their own machines," he says. "It's quick, and you don't pay for a machine that you use minimally. It costs about \$250 to \$300 an acre to have a contractor come in, and they'll vacuum the debris as well. You have to balance owning your own equipment versus having someone do it for you."

At Stone Mountain Golf Club, Anthony Williams, CGCS, verticuts some parts of the course every 10 days and other parts two or three times a year. Photo: Stone Mountain Golf Club

Verticutting benefits

- It improves turfgrass quality through thatch removal.
- When combined with topdressing, it improves water penetration and air flow into the soil.
- It has little impact on daily playing conditions because turfgrass recovers quickly from the process.
- It produces more upright grass growth for better mowing conditions.
- Turf that's verticut might withstand the threat of disease and harsh weather conditions to a greater degree because of growth stimulation.

And being creative with the staff can help lower the cost of verticutting.

"I don't see the extra man-hours as prohibitive," Barrington says. "Instead of doing fairways one day, grab those guys and have them verticut, especially on days when you don't have a ton of play."

There seems to be little research to suggest a direct correlation between verticutting and disease prevention. But maintaining healthier turf can never hurt.

"Any time a cultural practice can be performed to encourage plant health, your benefit will automatically be disease prevention," Phipps says. "A successful verticutting program

will coincide with a proven fertility program. One can't work independently of the other."

Superintendents should avoid turf damage when verticutting, especially on crowned areas of greens that can be damaged easily by blades or dry out quickly after the process.

"Verticutting can cause mechanical injury to the turfgrass plant, and that can stimulate disease if done at the wrong time of the year," O'Brien says. **GCI**

John Torsello is a freelance writer based in Torrington, Conn. He can be reached at jtorsello@sbcglobal.net.

