

Aerification Doesn't Need to Disrupt the Game

By David A. Oatis

The single biggest problem facing superintendents today is the pressure to avoid disrupting the golf schedule with maintenance practices.

As a result, superintendents are finding it increasingly difficult to find the time necessary to carry out standard turfgrass maintenance tasks.

Cultural activities such as verticutting, top-dressing and fertilization are frequently delayed or missed entirely as a result of a heavy golf schedule.

Aerification often suffers a similar fate. Aerification of putting greens generally means dis-

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rupting the putting surfaces for as few as a day or two, to as many as three or four weeks or more.

Not surprisingly, tremendous pressure can be brought to bear on superintendents to aerify less and to choose the least-disruptive equipment (such as smaller or perhaps solid tines).

If everyone dislikes aerification so much, one has to wonder why in the world putting greens still get aerified. The answer is simple: Despite the many advances in the science of turfgrass management, good old-fashioned hollow-core aerification remains one of the most important tools available to superintendents today.

A properly timed and conducted aerification program can help superintendents address a number of different problems, but the trick is getting it done with minimal disruption to the course — and perhaps even your career.

There are many different aerifiers on the market today, and there are just as many options for equipping them.

We have conventional aerifiers, deep-tine aerifiers, drilling and filling machines, and high-pressure air and water injection machines, for example.

TABLE 1

Tine size and surface area chart

Tine size (in.)	Spacing (in.)	Number of holes per ft. sq.	Surface area of one tine	Percent surface area affected
1/4	1.25 x 1.25	100	0.049	3.41%
1/4	2.5 x 2.5	25	0.049	0.85%
1/2	1.25 x 1.25	100	0.196	13.64%
1/2	2.5 x 2.5	25	0.196	3.41%
5/8	2.5 x 2.5	25	3.07	5.33%

The conventional high-impact vertical piston type can be outfitted with solid or hollow coring tines ranging in diameter from one-fourth of an inch to 1 1/8 of an inch or more. With all of these options, the key to success is to identify your soil problem and design a program to address it.

When it comes to modifying soils, the number and size of the aerification holes are critical. More and larger holes cover more surface area, and larger holes are much easier to fill with topdressing material. So the choice should be an easy one, right?

Courses with a particular need to modify soils or reduce thatch need larger holes (so they can be filled) and more holes per square foot to have an impact on as much surface area as possible. Unfortunately, it isn't always easy. Larger holes increase both surface disruption and golfer dissatisfaction.

If your putting green soils require modification, this turf tip is for you. It comes from Eric Greytok, superintendent at Winged Foot GC in Mamaroneck, N.Y. It is unique in that Greytok has discovered a method of aerifying greens and effectively modifying their soils, and this is accomplished with less surface disruption. That may sound like a tall order, but if you listen to this turf tip, I think you'll agree.

Greytok's tip is very simple. Use a narrower spacing pattern and a larger tine. Greytok uses Ryan Greensaire aerifiers, but this could probably be accomplished with many of the other available models. Eric had the quadra-tine holder attachment, but modified it to accept a larger tine.

In addition to drilling out the tine holders, the slots in the turf hold-down kit had to be widened. Instead of the traditional 2.5-inch spacing, the quadra-tine holder has 1.25-inch spacing.

With a larger hollow tine, it now has the capability of affecting an impressive amount of surface area. Most surprisingly, the surface disruption is actually reduced, and the end result is impressive.

Switching from a quarter-inch tine to a half-inch tine quadruples the amount of surface affected, and changing the spacing from 2.5-inch to 1.25-inch also quadruples the number of holes per square foot. All told, using a half-inch tine on a spacing of 1.25-

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inches affects an impressive 13.64 percent of the surface area.

Compared to the old traditional approach of using five-eighths inch hollow tines on 2-inch spacing, which affects only 5.33 percent, this new approach affects 2.5 times more surface area and leaves the surface much smoother.

Thus, more but smaller holes can result in significantly more surface area being affected with less overall disruption. Hence, sometimes more is less.

The downside? With all those holes, plan on using more topdressing material, and you may need to hand-broom it in for optimum effectiveness.

For more information about aerification hole spacing, tine size and the percentage of surface area affected, read Pat O'Brien and Chris Hartwiger's article, "Aerification by the Numbers," which appeared in the July/August 2001 issue of the Green Section Record.

Oatis joined the USGA Green Section in 1988 and has been director of the Northeast Region since March 1990.



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