

# SHALLOW AERATION: *Deeper Is Not Always Better*

*Another aeration technique for the  
golf course superintendent to employ.*

by STANLEY J. ZONTEK

**T**HE GENERAL philosophy of putting green aeration has been that deeper is usually better. Indeed, manufacturers have developed a long list of machines that give the golf course superintendent any number of options to choose from when aerating soils. High-pressure water, long tines of solid or hollow steel and/or deep drills are available to assist in managing soils. Each of these techniques has found its niche, its own purpose.

The turf tip offered in this article provides another option, another use of aeration for the turf manager. It is tightly spaced, solid- or hollow-tine *shallow aeration*.

The primary purpose of deep aeration is soil modification, drainage improvement, and the defeating of zones of soil compaction and layers in the soil. Deep aeration, for all of its virtues, is incompatible with seedbed preparation; that is, the overseeding of greens in an attempt to establish new grass in old stands of turf. Figure 1 illustrates this point. A traditional coring hole has been made in the soil. The green has been overseeded and some of the seed has found its way to the bottom of the hole. A light layer of topdressing has been added to mulch the seed. As illustrated, the seed has germinated and has begun to grow, but it is far too deep in the soil for the new seedling to survive. The seedling will be smothered when the aeration hole closes.

Recent developments in aeration accessories and machinery now give the golf course superintendent the ability to aerate the surface of the green



*Seed can germinate in aerator holes, but if planted too deep the grass plant doesn't have much of a chance for survival.*

to a very shallow depth. The shallow, closely spaced holes allow for seed to be placed at a more appropriate depth for germination and establishment.

Once cored or punched, the smaller holes are also less disruptive to the

putting surface (which golfers like), yet a tremendous amount of surface area is opened for seedbed preparation, thatch control, and the stimulation of new roots. The small holes heal rapidly, another feature that golfers like.



*(Above) Developments in aeration accessories, such as solid-tine aeration with the Job-Saver attachment, give the superintendent flexibility to accomplish various tasks. (Left) Shallow aeration can be accomplished using hollow tines on the Core Master.*



This shallow aeration technique is also useful on modern, sand-based greens. One virtue of sand-based construction is that the topmix, if properly prepared, is very resistant to compaction. Yet, it is recognized that even new greens built to USGA guidelines periodically need aeration. It is equally recognized that deep aeration of a sand-based green is not as necessary as it may be for an old-style topsoil or

clay-based push-up green. Shallow or surface aeration, which is designed only to pierce the thatch, is another good tool for the golf course superintendent to use to manage thatch, root development, drainage, and isolated dry spots on new sand-based greens.

This shallow aeration technology was used extensively in the Mid-Atlantic Region to help reestablish greens damaged from the winter of

1993-94 (see "Recipe for Rapid Recovery from Winter Injury," *USGA Green Section Record*, January/February 1996). This technique is gaining wider acceptance for overseeding purposes in general, be it as part of a program to establish new bentgrasses in old greens, and even as part of a putting green fumigation and regrassing program. Although specialized machines exist for surface aeration, existing putting green aerators can also be retrofitted for small-tine, shallow aeration.

Is shallow or surface aeration a replacement for deeper types of aeration? No. This form of aeration is another tool at the disposal of today's golf course superintendent to do a better job of managing putting green turfgrass under special circumstances. Deeper is not *always* better.

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