



# Any Way You

## Agronomic objectives should determine aerification technique

# Punch It

**BY CHARLIE FULTZ**  
CONTRIBUTING EDITOR

**A**erification is probably the most important cultural practice you can do to enhance and improve a turf stand. But with so many different methods and depths, which is the best for your facility? Before you can answer that question, you first must answer these questions:

- What am I trying to achieve with my aerification?
- Am I trying to modify my existing soils?
- Am I trying to control thatch and compaction issues?
- Am I trying to increase drainage and air/nutrient exchange?

After you answer those questions, others arise:

- Do I want to incorporate soil amendments into my aerification holes?
- What amendments do I want to put in if I do? Sand, porous ceramics, sand/peat mix?

Each question has a solution through various aerification practices that can achieve the goals you set.

Let's start with standard core aerification using tines from one-quarter inch up to one-half inch. This manner of aerification can accomplish many of the goals we have set. Cores are pulled and can be removed or ground back into the turf canopy. If removed, then amendments can be added and dragged in. With this practice, you get the following: thatch removal, compaction relief, increased drainage in the upper 3 to 4 inches of the profile, and increased air and nutrient utilization.

There are numerous machines on the market that do an incredible job of core aerification. One of the drawbacks of core aerification, however, is the heal-up time. On golf greens, it is the most disruptive, yet most beneficial, practice one can do. It also causes the most golfer complaints. But a practice that has found approval from golfers and superintendents in recent years is the use of one-quarter-inch tines on a smaller hole spacing. This allows the turf manager to achieve the above results with a shorter heal time and less disruption to the putting surface.

Deep-tine aerification is another kind of beneficial aerification

turf managers use to achieve certain results. Usually tines range from one-half-inch to 1 inch and anywhere from 5 inches to 10 inches in length. Cores can be pulled, or solid tines can be used to open up the profile below the 3 inches to 4 inches that standard core aerification achieves. With deep-tine aerification, you achieve: compaction relief at a deeper level, improved drainage, pulling cores and thatch removal, increased drainage, and increased air and nutrient utilization.

This process has found more favor in recent years on older push-up greens. Course managers can delay the rebuilding of greens by going "deep" to help improve drainage and add soil amendments. One downside to deep-tine core aerification is the size of the core pulled, which will leave a larger mess and subsequent cleanup. Associated with this is a longer heal-up time due to larger holes on a wider hole spacing.

One practice finding favor the last few years is deep tining around Thanksgiving and allowing the greens to stay open during the winter. The philosophy behind this is to allow the natural freeze-and-thaw process, combined with the freezing and thawing of snow and/or water, to help alleviate winter compaction and improve drainage and airflow through the winter.

Another type of aerification that has gained favor the past five to 10 years is the use of subsurface injection aerification, which injects amendments, water and/or air into the root zone. The machines use air and/or water pressure to create a hole, which, depending on the machine, simply leaves the hole open or can inject materials into the profile.

One of the biggest pluses for subsurface injection aerification is that the playing surfaces are almost undisturbed after the machine finishes. Most golfers can't detect that the putting surface has been aerified. But this type of aerification certainly doesn't alleviate thatch problems.

A final aerification method that has also begun to gain popularity, especially during the summer, is the use of slicer, bullet or spiker tines. These tines are extremely effective at opening up a portion of the turf's canopy and thatch to allow air movement into the upper 1 inch to 3 inches of the soil profile. ■