CORE CULTIVATION: Too Much of a Good Thing?

It's time to re-think a time-honored cultural practice.

by JAMES E. SKORULSKI

SOME ISSUES are probably better left for after-hours round-table discussions in places where the music is a little loud and cigar smoke fills the air. The topic of coring greens may be one of those, but I will take a chance in hopes that this opinion will cause a few to reevalute their programs or at least stimulate some healthy debate.

I will start by saying that the benefits of conventional core cultivation cannot be denied. Core cultivation is used to alleviate the negative impact of surface compaction, modify poor quality soils, reduce the effects of layering, manage thatch, help overcome the effects of poor quality water, and overseed existing turf. It will continue to be an integral practice at golf courses around the world for those reasons. There are, however, negative aspects associated with core cultivation, the most obvious being the disruption it causes to the playing surface. How often have you heard, "Just when the greens get good you go tearing them up"? I have little sympathy for the golfer in most instances, knowing the benefits of core aerification. However, life would be a little bit easier if we did not have to do battle over this issue each and every summer. Another question to ask is, Does repeated core cultivation create an opportunity for annual bluegrass to invade? The answer is yes, it probably does, especially if the operation is completed at times when the turf is slow to recover. This may be of little concern if *Poa annua* is already your predominant grass species, but it is a point worth considering at new golf courses. There are other reasons why traditional core cultivation is not a popular topic in maintenance facilities around the world, but it is generally accepted that the program is a necessity whose benefits far outweigh the drawbacks.

This is probably the case at most golf courses. But — and be careful here — what if you could reduce traditional core cultivation without jeopardizing the turf and, more importantly, your job? Would you do it? To answer this question, first review the aerification programs in place to determine their effectiveness, and decide whether they remain consistent with your agronomic objectives. For example, when core cultivation is used to modify native-soil, push-up style greens, it is the most effective tool for this purpose. However, what is the role of core aerification after the upper 4 inches of the soil profile has been completely modified with a sandy material? Is surface compaction still a major concern even after the soils are modified? Hopefully not, but there are other less disruptive aerification tools available for alleviating surface compaction alone. Does core cultivation then become a thatch management and overseeding tool and, if so, can the operation be completed less frequently, with smaller tines, or replaced or supplemented with deep verticutting or some other type of cultivation?

Another consideration involves coring sand-based bentgrass greens. Assume that the greens are properly built with a sand meeting the guidelines developed by the USGA for putting green construction. The primary reason for core cultivation on such greens should be to manage the organic matter that accumulates in the upper profile. However, there are other cultivation tools that may manage the organic material equally well. Have you investigated or experimented with the use of smaller 0.25-inch hollow quadratines, more aggressive vertical mowing or slicing programs? Do you have the ability to topdress as needed throughout the season to minimize thatch buildup and prevent layering? Can the fertility programs be modified to meet the growing needs of the turf without stimulating unnecessary growth? Is it practical to manipulate pH to encourage the decomposition of organic material that already exists? The answers to these questions can only be determined through extensive field evaluation, laboratory testing, and knowledge of the greens' performance and the resources that are available. Core cultivation will likely continue to be an important tool for managing the organic matter and layering problems in sand-based systems. But if we begin utilizing other available cultivation tools and fine-tuning our cultural practices, then perhaps the frequency or aggressiveness of coring can be reduced, minimizing *Poa annua* encroachment and the surface disruption so despised by golfers.

I am not advocating, nor do I ever anticipate, the complete elimination of core cultivation from golf course operations. Even reducing the frequency of core cultivation may not be possible at many golf courses where soil quality is marginal, traffic heavy, the greens small, or the water quality poor. As the golf course superintendent, only you should make the ultimate decisions regarding what, when, and how cultivation programs are carried out. However, re-evaluate the goals of your current core cultivation programs and the new tools that are available with an open mind, and begin asking yourself, "What if . . . ?" You just might surprise yourself.

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