

FEATURE II

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Economical Agronomical Thinking – Part I

Budgets rule! Unquestionably this is the case. The amount of money in our budget will, and often does, impact the products and methods we use to maintain our turf. So, when our budgets get cut...as most have....does this mean that quality of play must be sacrificed as well? Well of course each club/course is unique, and in some cases, where budgets are already tight, the quality of turf will be greatly influenced by further cuts. However, in most clubs this does not have to be the case.

Oil prices have fallen and gas is half of what it was a year ago. Fertilizers are still expensive but well off their highs. While these two factors will help to ease some of our budget woes, lower-than-expected play levels may well consume these savings. So what's the superintendent to do? Well, based on client visits, innovative and creative superintendents have found a host of ways to change their practices, improve playing conditions, and still meet budget restrictions. Aerification is but one of those ways.

Many hours of discussion take place around the types, tools, and methods used for aerification. One shortcut on greens that actually improves the quality of the profile, as well as saves money, is to re-incorporate sand based cores. This method, while old school, blends new sand with the sand used in construction and topdressing and actually builds a more homogenous profile. Now obviously there are exceptions and we don't mean to

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Improving the quality of the profile by pulling plugs on a sand based green.

suggest otherwise. For instance in some cases we have found that the construction material is too coarse to leave on the surface and must be harvested. In other cases, where extreme surface stratification and organic matter have developed, then core removal may be necessary.

We are also fully aware that anytime we use a sand that is either finer or courser than the material used in construction, we form layers. By blending cores as we fill fall and spring aerification holes, we also blend the sands that have been used over time and lessen the degree of stratification. If you have properly maintained organic matter, then give this labor-saving technique a try. I think you will be amazed at how much labor and sand you will save while improving your profile and your playing conditions.

Tees and fairways are their own animals. Many superintendents are still core-aerifying when thatch control is not a problem. As we all know, this is a labor intensive and a mechanically intensive method of compaction relief, as well as a great inconvenience to those who pay our bills. Further, because of the cost and player inconvenience, opportunities to maintain compaction relief are few. An alternative method of compaction relief is **slicer aerification**. This is a method that not only relieves compaction, but can be accomplished with no real disruption to the player's experience or revenue stream. These tools require no PTO or large, expensive tractor to operate and can be used repeatedly throughout the spring and fall. Ground driven, the time of operation may be 12 hours or less to aerify the typical 18-hole facility. Not only are the cost savings obvious, the results are more impressive than coring. Slices

within the turf canopy will allow water to move down and off the turf surface, which minimizes future compaction and aids in the ability to re-wet troublesome areas.

If thatch control is a concern, then take some time to first consider the cause. If your maintenance nitrogen levels are appropriate, then it may be time to employ a biological approach. Superintendents around Chicago are beginning to find that simple, short-chain sugars, such as corn syrup or molasses, will aid and increase the rate of organic matter digestion. (More on this may be found on the internet as well as in the article "Chemical thatch control in a creeping bentgrass putting green," found in CGM, Oct. 96). I would further add that the same biological approach to greens organic matter control has also proven to be highly successful.

As far as brands go, I have the most experience with the AerWay and Bannerman lines but am sure that there are more available. Among the objections I have heard to slicing technologies is the purpling (drying) of the slit in the soil. Two thoughts: First of all, as with any form of cultural practice, the operator must make sure that conditions are appropriate and, depending on the weather, may need to irrigate in order to lessen the drying that takes place. Secondly, slicer tines also provide a fracture of the soil profile that is a **long term correction, not just a short term fix** such as coring or solid tining. With this in mind, the more the equipment is used, the better the profile becomes, and the less that slice appearance is noticed. The photos show a late May aerification of a bentgrass fairway that raised no objection from players or groomers. After two to three years of



Reincorporating sand based cores into the sand profile after topdressing.

correcting years of compaction, these tools go in deeper and deeper with less and less surface disruption.

I would further suggest that slicing type aerifiers can be used year-round to maintain cart path ends and traffic areas. The benefits of regular use include avenues to keep causal water off the surface. This lessens the amount of physical damage done by players, carts, and maintenance equipment, which allows the turf to stay healthy and full.

Our budgets presently require us to use the tired old phrase "thinking outside the box." Ironically enough, it is outside the norm where we have observed the greatest improvement in green and soil profiles. These ideas are simple.

They are well proven not only to save money, but also to improve playing conditions. They are corrective in their approach, as opposed to being the same old effort we do every year. Simple tools and simple sugars and carbons are improving profiles while providing lasting results and conserving precious budget dollars once wasted on PTOs and diesel fuel. It was Albert Einstein who defined insanity as "doing the same thing over and over again and expecting different results." Let's let the present economic environment challenge us to be more corrective in our cultural practices, and maybe we will all maintain our insanity until better times return. **-OC**



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