Sustainability Breeds Sustainability

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The dictionary defines sustainable as:
1. Able to be maintained
2. Maintaining ecological balance

The second of these definitions is probably what most of us concentrate on when thinking of a sustainable golf course. Creating an ecological balance between our golf courses and the surrounding environment has long been a cornerstone of turfgrass management.

We are proud of the fact we practice sustainable turfgrass management at Northland. Over the past few years, the economy has taken its toll on our budgets. Making sure budget cuts do not affect the quality of our courses is something we have all struggled with. For us, sustainable turfgrass management has allowed the development of programs and practices, which can be sustained over time, regardless of environmental or economic conditions.

A couple of examples, case studies if you will, of how we have put sustainable practices into play:

Fairway Mowing

Prior to 2007 the fairways at Northland were mowed six or seven days a week with nine holes being mowed each day in a diagonally striped pattern. In 2007 we began mowing our fairways in light and dark halves and mowing all 18 holes three days a week. Then in 2008 we cut our mowing back to just two days a week. When the fairways were striped diagonally, the mowing time for nine holes was roughly the same as mowing light and dark halves on 18 holes. Both methods required two mowers working about 5.5 hours per mowing day. Our man-hours to mow fairways went from around 70 hours/week to 22 hours/week.

In order to make this change successful, we needed to get a handle on the growth rate of the fairways. Implementing a reduced mowing schedule was not going to work if it meant we would be mowing a hayfield two days a week. In order to get a handle on growth, we needed to implement a PGR (Plant Growth Regulartor) program and even more importantly adopt a very lean approach to fertilization. In this case, the desire to adopt one sustainable practice (ie. reduced fairway mowing) led us to adopt further sustainable practices (ie. lean fertility) to make the initial practice a reality.

Fairway Aeration

Fairway aeration is another example of how the far reaching tentacles of sustainability have impacted our golf course.

Over the years, the unique micro-climate in which Northland is located has conspired with fertility practices and a large bentgrass population to create a considerable thatch layer in the fairways. Three years ago when I took over as Superintendent we felt the need to use aggressive cultural practices to gain control of the thatch. Despite strong communication detailing why the aggressive aeration was necessary, our membership felt they were "losing" the course for too much time during what was already a very short golf season. The reaction from the membership was frustrating and it was clear we were not going to be able to sustain the aggressive approach. This past spring the issue came to a head when our aggressive fairway cultivation, coupled with a cool, dry spring left us with a season of disappointing fairway conditions. When we drilled down through the details of what went wrong, it was clear our commitment to low nitrogen and heavy PGR use had not given our fairways the chance to heal from the aggressive cultivation. We could have thrown a good dose of nitrogen at the problem and probably achieved better conditions.

However, this solution did not mesh with our commitment to lean, sustainable fertility practices. We were standing at a crossroads. Fall back on one sustainable approach and run the risk of affecting other practices (see fairway mowing), or look for a long term solution; one that meshes with our previous commitment to a sustainable practice?

It was at this time I recalled a conversation with a fellow Superintendent about how they had moved away from core aeration and gone exclusively to solid-tine aeration. Over the course of numerous conversations, I came to understand his own commitment to sustainable turf had allowed them to move away from core aeration. This sounded too good to be true: implement sustainable practices allowing us to eliminate core aeration and erase one of our membership's most hated maintenance events at the same time? The need for core aeration is generally tied to the management or reduction of thatch and our thatch layer was improving, but still significant. Was a move to solid-tine aeration realistic considering our thatch problem?

I wanted to get Dr. Brian Horgan's opinion and we lured him to Northland the best way we could: by offering a round of golf. Dr. Horgan's response was exactly what we hoped it would be. In his opinion, solid-tine aeration could be a sustainable approach, even with our thatch problem. If we were going to go down this road, we needed to keep our nitrogen

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rates very low; keep soil as dry as possi ble; and make sure the soil was well aerated. All of which were practices we were already using. Dr. Horgan felt by doing this our thatch problem would eventually take care of itself. Why is making a switch to solid-tine a sustainable practice? In solid-tining our fairways, we reduced required man hours to roughly a 1/4 of those of core aerating. Additionally, the reduced disruption caused by solid-tining allows the practice to take place at anytime without upsetting and disrupting the membership.

Once again, in this case, multiple sustainable practices were required to sustain a single desired practice. As we analyze our turfgrass managment program, how it has changed and why, a theme became apparent: sustainable practices breed sustainable practices.

Let's take another look at the definition of sustainable. The ability to be maintained sounds simple, does it not? After all, we maintain our golf courses on a daily basis. Ask yourself this question:

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"Which is greater, your turf's ability to sustain itself, or its need to be sustained by us?" In today's world, we need to take a good look at whether or not our practices are "able to be maintained" in the face of rising costs, greater restrictions and inevitable budget cuts. Is it realistic for us to think our memberships are going to except a reduced product? Probably not, but what if through communication and education we can help our members realize a different idea of quality.

Implementing sustainable practices might mean a different golf course, but it does not have to mean a lower quality golf course. Sustainability is like a snowball rolling down a hill. Start with something small and you will likely find implementing one sustainable practice makes implementing a handful of other sustainable practices a necessity. The end result is a golf course, whose quality in uncertain economic and environmental factors is "able to be maintained."