On Board: BOD Member E. Paul Eckholm CGCS Shares

Powers Of Observation

E. Paul Eckholm CGCS, Superintendent at Heritage Links Golf Club

Through the years I have had a numerous young people work for me, many have gone on to be in the green industry and many are in fact more successful than I. One of the first things we do when I hire a new employee is go out to a spot on the course and ask them to tell me what they see. We discuss the things they need to look at and the things I see and compare it to the things they see. This teaches them a number of lessons in observation and gets them thinking in terms of

how the course should look.

I began as a Horticulture Science major at the U of M focusing on a career in the greenhouse. When I took my career outside and began to focus on turf and soil science I brought my floriculture background with me. That industry is very focused on soils and inputs, water, nutrients etc. Many of the decisions made are based on scientific measurements and known plant needs. Very few of the successful growers go strictly off the observed look of the plant.

Those of us in the golf course industry have for years though of our field as more art than science. I am here to tell you that scientific measurements have a place in your program and may in fact help you to have a better playing surface and reduce your costs at the same time. Do you measure your nutrient levels in your soils? How often do you take soil samples? Do you measure the moisture levels in the soil? How often? Have you ever taken light readings? Have you ever measured the actual amount of precipitation that falls on your turfgrass during an irrigation event? These are just a few of the many types of measurements you can and should take on your course.

On my current course I have moisture sensors in the ground and monitor those readings daily. By working with the golf professional, we have developed a program which gives us a more consistent playing surface based on moisture levels. I know what the lower and upper limits of moisture are for the surface the players prefer. The added benefits of this process are a major reduction of how often I irrigate and a reduction in the amount of pesticides used to control pests.

Soil samples have been taken on a yearly basis and are the basis for nutrient program development. Again, this has increased playing condition consistency, reduced direct nutrient costs as well as the labor to apply those nutrients.

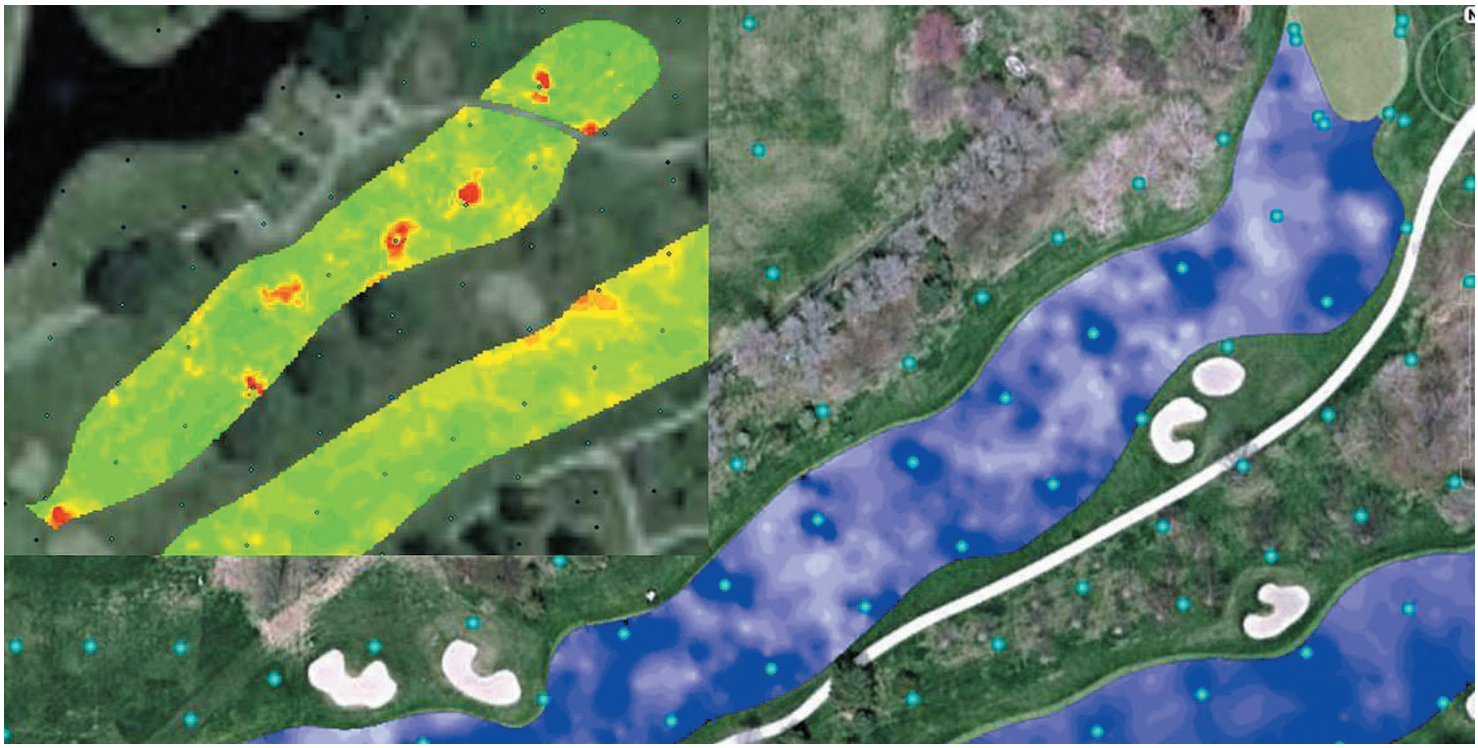
An irrigation audit of one of our golf holes identified problem areas and was used to justify increased irrigation coverage to the ownership. Although time consuming, the knowledge gained has more than paid for itself with the adjustment of irrigation times and adjustment of coverage.

Light audits are something that many of us are not familiar with. Many have problems with shade, but it is only through observation that we are able to provide anecdotal evidence as to the damage to the playing surface. The purchase of an inexpensive light meter and a few days spent taking regains will give you scientific proof of how those trees are affecting the turfgrass. Owners, managers and operators are much more likely to listen if you have proof rather than just listening to you complain that it is the tree that is causing the poor condition on the course.

Granted, we could spend our entire day taking readings of one kind or another but that is not the suggestion I am making.

Start with one type of measurement and begin to generate a database of the information. Then start to make some observation as to when the turf looks best and match it to the base information. This will, over time, help you to maintain more consistent turfgrass environment. I have been working with soil moisture measurement reading for over ten years and the more I use it the narrower the range becomes that I maintain. All of the measurements are just tools that help us to get closer to the science of turfgrass management.

In the photograph below you can see what appears to be very good distribution uniformity. However without the audit cups in place will you ever really know? Photograph courtesy of Troy Carson, Toro Company.



There are tools today for measuring soil moisture and compaction. Both pieces of information can be critical in your management program. Photograph provided by Troy Carson, Toro Company.