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## ABOUT THE COVER

Bruce Schweiger, Manger of the Turfgrass Diagnostic Lab on the Par 3 10th Hole At South Hills Country Club in Fond du Lac.

*Fate makes our relatives; choice makes our friends.* **By French Poet Jacques Delille, 1738-1813**

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## THE GRASS ROOTS

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## Patience

By Chad Harrington, Golf Course Superintendent, Autumn Ridge Golf Course

I have always told people and felt that one of the greatest benefits to our profession is the fact that every day, every season, and every year is different and will bring new challenges. Not that I have a problem with a routine, as I have found out a routine can be very nice, but I personally enjoy the diversity each new day brings.....at least until this spring.

The early start that many of the Wisconsin Golf Courses enjoyed in 2012 has seemed to bring a false and extremely unrealistic expectation to golfers in our region. I am not sure we collectively have enough fingers to count the times I have heard about how great the weather was last year or how many rounds were played at this time in 2012. I am still looking for the polite and courteous method to explain that although we take great pride in the property we represent, we can do very little about the weather conditions that occur at the facility. One would think that the average golfer would understand that, but we do seem to get the blame.

I know I have mentioned that my favorite part of our industry is the diversity that comes with it, but I will say that 2013 has started a bit mean to many of us. The "Spring" issues at our facility actually started way back in January with the heavy rains that melted much of our snow base and filled our wetlands, lakes, and streams. I was asked multiple times to gaze into the crystal ball and predict what the outcome would be for our turf as we get started for the season. Every course responds differently to weather events, but our facility usually drains fairly well, so I was not overly concerned about the water

we had just received seeing that most of it had drained into our wetlands and lakes. My crystal ball must have had a crack! Little did I know that we would get another three plus feet of snow and completely overwhelm our drainage areas.

So much for being prepared for the hundred-year flood. I did find it almost humorous when my son told me that the fishing was great on the thirteenth fairway. One cleaned out drain tile and a week without rain and we were good to go. See how our jobs keep us learning new and exciting things to keep us interested and on our toes. I wish this is all I was able to learn this year, but unfortunately it was not.

Warm weather has finally made a bit of an appearance to our state and many of us had to fire up the irrigation and we are no different. Flooded in one spot, dry in another. This year became even more exciting than most for what I would consider a "regular" task. I am sure like many of you, we had the occasional broken head or cracked pipe that somehow had a bit of water that didn't get blown out, but unfortunately that was not it. I again got to learn something new for 2013. I found out that when you have a fire protection system in your facility that is hooked to your irrigation system and pump station, and that fire protection system has a leak, you can pump a lot of water into a building at one time.


This type of issue has very little to do with turf maintenance, but many of are responsible for clubhouse maintenance as well, and this event has definitely allowed me to learn a couple of new skills. One of them

is patience. No one ever likes to pay an insurance premium, but make no mistake, it is important. Thankfully a couple of weeks into this process things are starting to get back to normal and shortly I will be able to move back into my office that will have a bit of a facelift. I have been amazed what the loss of something as simple as an office, and of course everything that was in it, can affect my daily routine. Maybe I need to rethink my opinion about a regular routine, this year that doesn't sound bad at all.

Some of you have probably heard, but for those of you who have not, we are losing one of our valued board members. I would like to congratulate Colin Seaberg on accepting the Superintendent position at Barton Hills CC in Ann Arbor, Michigan and wish him the very best. I have appreciated the dedication, hard work, and enthusiasm Colin has displayed as a member of the WGCSA and our Association's Board of Directors. Thank you for all of your efforts Colin.

For the members who have attended our first two golf-meeting events this season, you may have noticed something new at our registration table. We have been working with Ping Apparel to be able to provide WGCSA logo merchandise to our association at a great value. Many of the other allied golf associations have offered branded apparel for many years and we felt it would be prudent to be able to make the same offer.

If you have not been able to attend one of our first events or missed the order form at registration, there will be one included in this copy of *The Grass Roots* and look for an electronic link on our web site shortly. All of the clothing orders will be shipped directly to you from Ping and are a great way for us to show the pride we share of our profession.

I wish all of you the best of luck in the 2013 season and thank you for being a part of this exciting and ever changing profession and association. 



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## Spring Office Activities

By Brett Grams, Chapter Manager, Wisconsin Golf Course Superintendents Association

All of you are very aware of the long winter and then cold and wet spring we had this year and had everything in WI off to a slow start. I look forward to the first Saturday each May which is historically the start of our Fishing Season. This year I could have ventured to my favorite lakes in Northern WI but I refused to ice fish in May! In fact many lakes finally had "ice out" the weekend of May 10th. I have yet to talk to an "old timer" that recalls a later start to spring than this year. I wish all of you who experienced winter damage a speedy recovery and that your tee sheet and membership rosters start to fill up quickly.

While we all waited to get the golf season underway I was quite busy with our annual spring efforts. The start of the year is a busy one for me as we have to update our annual membership and collection of dues. Thankfully the majority of you renewed by the Feb. 1st deadline which makes the administration of this task far easier. I have been working at getting the last of our members renewed since that time. I still have 12 of you left to go but I could not wait any longer to print our directory. I am happy to report that with the printing and mailing the last of my spring projects is complete! In addition to the membership renewal/directory I have also secured the Industry Partnerships from our generous and dedicated Vendor Companies.

We have seen a reduction of overall participation as companies are cutting back, downsizing staff, or merging which has changed how much money is being sent on advertising in our *The Grass Roots*, sponsoring our meetings, and underwriting our WI Hospitality Room. Please consider the companies that sponsor our events and advertise in this magazine when you make buying decisions! The leaders of the WGCSA will address this by being careful in our expenditures and look to additional ways to raise funds and

maintain revenues. One successful fundraiser that has helped raise turf research funding at UW Madison has also been completed. I am happy to report that we raised over \$11,000.00 during Masters Week thanks to the generous member clubs and courses that donated rounds for our 4th Annual PAR 4 Research Auction. This brings our net total to the UW of over \$40,000.00.

This event takes a fair amount of my time in creating the website and managing the donations, processing and collecting funds and mailing out the various prizes and certificates. I find it especially reward-

**I am happy to report that we raised over \$11,000.00 during Masters Week thanks to the generous member clubs and courses that donated rounds for our 4th Annual PAR 4 Research Auction. This brings our net total to the UW of over \$40,000.00.**


ing as the relationship with the UW and the education and research provided is part of our core missions since our chapter was formed 83 years ago. Thanks to Dustin Riley (chairman) and Jake Schneider who are so helpful with securing donations and helping promote the event. I could not do this without their help!

It was with mixed feelings when I learned that Colin Seaberg, CGCS resigned his spot on our Board of Directors this month. I am happy for Colin who is taking a new Job at the prestigious Barton Hills CC in Michigan but I was sad to lose his leadership and dedication. Colin was always quick to offer suggestions and support and did a great job of monitoring the Governmental Regulations Committee in recent years. Colin represented our association and members in some important meetings and for that we should all be grateful. Colin has promised to remain a member and I am confident that we will

remain an influential leader in our industry even though he is out of state.

It is hard to believe that June will mark the start of my fifth season as Chapter Manager. I have been fortunate enough to work with four dedicated servant leaders as they took the time as Chapter President. President Chad Harrington started his term this year and you are already seeing his impact and initiates that he is bringing to our membership. Chad has given a lot of his time and thought making sure that we are adding value to our membership and promoting our chapter and profession. One of his first projects is the creation of a very nice line of apparel thru Ping that will carry our chapter logo. I challenge all of you to find an item or two for yourself, staff, or spouse. This is not a revenue generating effort, rather we are trying to offer you a great price for golf related clothing which will also showcase and promote our membership and chapter.

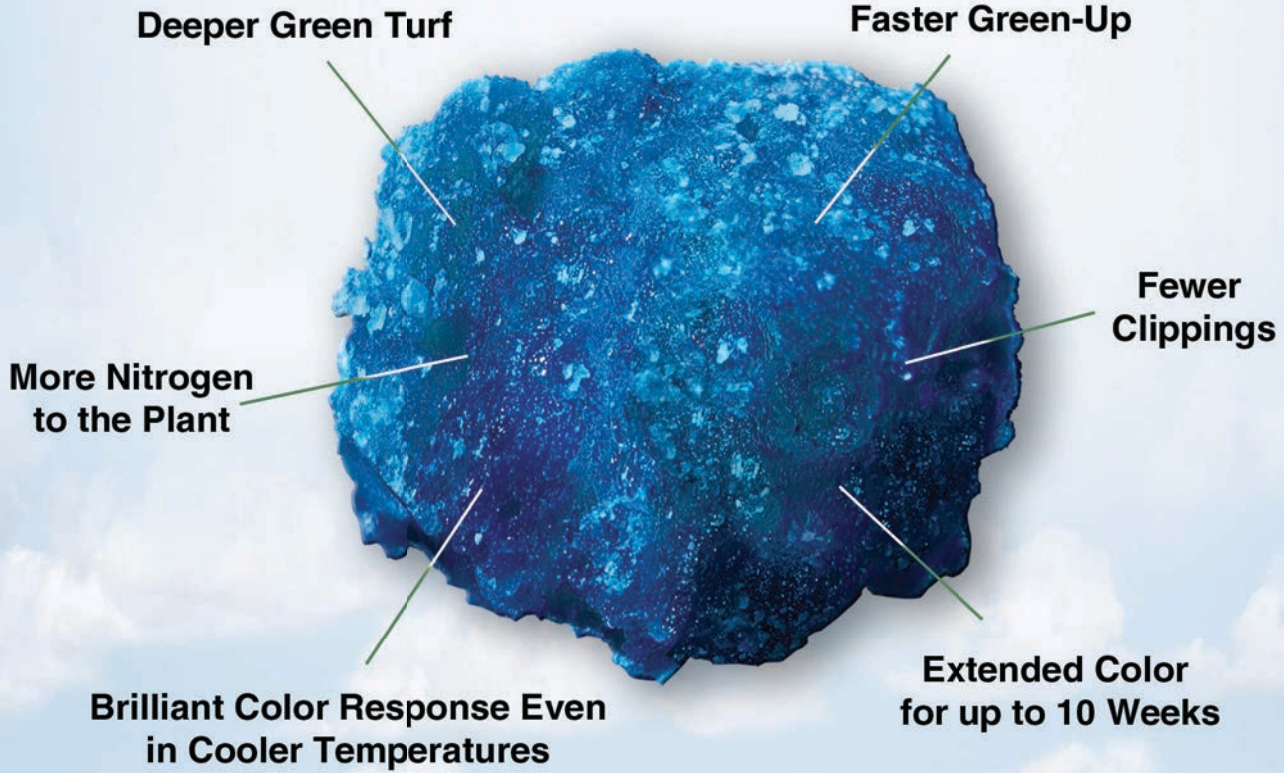
The WGCSA board has also been busy with the various committee assignments. We have our speakers and meeting dates set for the remainder of the year. Work is being done to finalize the last of the speakers for the Turf Symposium, and the board will soon be making plans to conduct a long range planning meeting this fall.

Thanks to good leadership the WGCSA is financially healthy, has a stable membership, and will be working at enhancing new initiatives and efforts to better serve our members and industry in the years to come. I wish all of you a successful golf season and hope that you and your family and friends can find some time to enjoy our much deserved summer season! . If any of you would like to share ideas, make suggestions or simply have a question or issue that I may be of assistance please contact me. I am happy to help all members any way that I can. 

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## How Reliable is Soil Testing?

By Dr. Doug Soldat, Department of Soil Science, University of Wisconsin - Madison

Who hasn't heard the phrase "Don't guess, soil test!", or listened to a speaker tout the importance of soil testing prior to planning out a fertility program? But the truth is a soil test is only as good as the method used and the research data supporting it. And unfortunately, the methods are not always appropriate and the data behind the soil test interpretations is thin or non-existent. But soil testing can be an effective part of your fertilizer program when used properly. In this article we'll cover the most common soil testing mistakes and how to avoid them.

One of my favorite quotes on soil testing comes from O.J. Noer's book *The ABC of Turfgrass Culture* (1928). O.J. worked under Emil Truog, a Soil Science Professor at the University of Wisconsin who pioneered soil testing as we know it today. So as a turfgrass agronomist with a great deal of technical knowledge about soil testing, O.J. said:

*"There is a tendency to place undue emphasis upon the value of chemical soil tests. This is true of some technical workers as well as salesmen. These methods have a promising future but their present usefulness is limited by imperfect [methods] and for a lack of definite correlation with field experience."*

Although this was written 85 years ago, many aspects of this quote still ring true. We'll go through the three highlighted parts individually and I'll try to explain their continued relevance to our

situation today.

### "Imperfect Methods"

Soil testing is a relatively straightforward practice. You collect some soil, you send it to a laboratory. The laboratory dries and grinds the soil, then takes a pinch and adds a half ounce or so of a chemical extractant and shakes the soil/liquid solution for a few minutes. Next, the solution is poured through a filter and the clear solution is analyzed for the nutrients in the soil. The chemical extractant is usually some sort of acid ( $\text{pH} < 7$ ) combined with salt. The acid is used to extract the plant available phosphorus, while the salt is used to measure the exchangeable cations like potassium, calcium, and magnesium.

For acidic soils, commonly used extractants include the Bray-1 and the Mehlich-3. For high pH soils, the Olsen extraction is a good choice. Often, soil testing labs will use several different extractants on the same soil. For example, they may use the Bray-1 for phosphorus and ammonium acetate for potassium and other cations. Soil testing laboratories usually use the tests that are most appropriate for the soils in their region, so if you are sending samples across the country it makes sense to make sure the proper extractant is being used on your soils. Table 1 gives some general guidelines, although exceptions may apply. Some soil test reports do not list the extractant that was used. In that case, simply call the laboratory and ask. You'll

notice that Mehlich-3 shows up in every category in Table 1. While Mehlich-3 may not be the best test for all situations, it is regarded by many as the most versatile extractant and it's the one we have the most calibration data for here in Wisconsin, with the Bray coming in a close second.

Assuming the correct extractant is chosen, there is another important but overlooked step in getting good results: pulling the sample properly. Nutrients aren't uniformly distributed in the soil like they are in agricultural fields. Because we usually apply fertilizers to the soil surface and do not till them in, over time certain nutrients, especially phosphorus, accumulate near the surface and are at lower levels deeper in the soil. This means that the deeper you push the probe into the soil, the lower your soil phosphorus levels will appear. I have fielded many phone calls where the manager explained that the soil phosphorous levels rose rapidly from one year to the next, even though the manager applied no phosphorus fertilizer. This could be attributed to a shallower testing depth than the year before. For this reason, it is critical to maintain a consistent sampling depth over the years. Use a sharp tool to score a line on the probe at your desired testing depth - I recommend something between 10 and 15 cm - and make sure you use a consistent sampling depth from year to year.

**Table 1. General guidelines for appropriate soil tests for low and high pH soils.**

Nutrient	High pH Soils (>7)	Low pH Soils (<7)
Phosphorus	Olsen, Mehlich-3	Bray-1, Bray-2, Mehlich-1, Mehlich-3, Morgan, Modified Morgan
Potassium, Calcium, Magnesium, Sodium	Buffered ammonium acetate ( $\text{pH}=8.5$ ), Mehlich-3	Neutral ammonium acetate ( $\text{pH}=7$ ), Mehlich-3
Micronutrients	DTPA, Mehlich-3	DTPA, Mehlich-3

# Wee One Foundation

A Tribute to Wayne Otto, CGCS



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# WISCONSIN SOILS REPORT

## “Lack of definite correlation with field experience”

In general, soil test reports do not offer a user-friendly experience. In fact, most people understandably skip the details and decimal points and go straight to the section where says either low, optimum, or excessive. The often overlooked question, however, is how was the assessment of low, optimum, or excessive developed? Soil test data are specific to a crop type and a soil type. That means the “optimum” number for corn on a Batavia silt loam will be different from that of corn on a Miami silt loam. Or, the “optimum” level for soybeans on a Batavia silt loam will differ from that of corn on the same soil. That means that we need to run a whole bunch of studies for each crop type and each soil type to have reliable data. Much of this work has been done in agriculture because of the economic significance of food production. But soil testing research for turfgrass is hard to find. The little work that has been done is only specific for a particular grass species (or even variety), and the

soil type that is was growing on. For example, we ran the study shown in Figure 1 to show that for a high pH sand root zone with ‘A4’ creeping bentgrass the optimum Mehlich-3 phosphorus is above 7 ppm. Under no circumstances could I assume that 7 ppm would be ideal for a loam soil growing Kentucky bluegrass. We’d need to run another study for that number which we haven’t done yet. So, to get around this issue, we take the data we have (in this case 7 ppm) and round it up for safety. At the Wisconsin state soil testing laboratory, any Mehlich-3 soil test less than 25 ppm will say “low” – even though the true definition of “low” is probably much lower.

In essence, I suppose you could say most soil test interpretations for turfgrass are simply educated guesses. If you sent the same soil sample to six different labs, chances are you’d get at least three different interpretations. Now you can fully appreciate the irony embedded in the phrase “Don’t guess, soil test”. Turfgrass researchers continue to improve the soil testing recommendations, but that type of research is

time consuming and expensive. It is also worth noting that every time a researcher conducts one of these studies, they tend to find that the levels required are lower than what we previously thought – meaning that “low potassium” you got on your last soil test report might be optimum down the road.

## “Undue Emphasis”

Without understanding all the limitations that we just covered, it’s easy to see how one could get carried away by attempting to find the “ideal” level of every nutrient in the soil. One common over-interpretation is when soil test reports recommend balancing the soil cations using the base cation saturation ratio or BCSR. BCSR-style interpretations use the same methods as described above, but recommend that the soil cations (calcium, magnesium, and potassium) are balanced in an “ideal” ratio. Unfortunately, after years of research we still have no evidence that this approach works, but we do know that someone who follows this approach ends up spending a lot more money. (1)

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