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Hole no. 10 of the West Course at White Pines Golf Club, host site of the MAGCS April monthly meeting. Photo by Jim Trzinski.

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The Midwest Association of Golf Course Superintendents (MAGCS), founded December 24, 1926, is a professional organization whose goals include preservation and dissemination of scientific and practical knowledge pertaining to golf turf maintenance.

We endeavor to increase efficiency and economic performance while improving and enhancing the individual and collective prestige of the members.

The MAGCS member is also an environmental steward. We strive to uphold and enhance our surroundings by promoting flora and fauna in every facet in a manner that is beneficial to the general public now and in the future.

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A Walk Down Technology Lane

This month, I'd like to talk about technology: what technology has meant to me throughout my 19 years as a superintendent at several golf facilities. My goal is not to cover everything pertaining to technology in our industry, but to relate my experiences in such a way that you, too, will reflect on what technology has meant over the years in your own career.

Some would argue that they preferred the simplicity of their early careers, with fewer gadgets; I would include myself in that crowd when the computer crashes. However, I have also adapted to the use of e-mails, cell phones and computer programs to free up and better manage time.

My first position as superintendent in 1987 seemed to utilize some technology, but this was a far cry from what I use today. I did not have a computer, the irrigation system was manual (but we could advertise watered fairways) and the pump station needed to be primed each evening; I had no cell phone or PDA, but I kept a daily log in a logbook. However, the triplex mowers were improved enough to provide an excellent, smooth cut on greens. Self-contained fairways mowers allowed for striping the fairways (many courses used this fact in their advertising), and new fungicide products came to the market that could give one month's control of dollar spot. And in the next few years, advances in lightweight fairway mowing and vast improvements in watering facilitated many golf courses' changeover to bentgrass fairways. (Those advertising golf courses also jumped on the bentgrass fairways as an advantage for enticing golfers.)

I assumed my second position in 1992 and for me, technology advanced over the next several years. My first computer came with a new irrigation system. Control over watering improved with a double-row system versus a single-row. We also added heads in dry areas on green and bunker banks. The fairways had been converted to bentgrass and we started mowing those greens by hand again. In addition, now that the playing surfaces were more playable than ever before imaginable, we improved the playability of the hazards by replacing the sand and improving drainage in the bunkers. I kept records on the computer and eventually gave up on the daily log due to redundancy.

Following my last move in 2001, technology and my use of it took another leap forward. Once again the irrigation system saw improvements, but this time three rows proved better than two. Greens need heads that throw only at the green, and some only at the banks, and some steep slopes get mini-spray heads. We no longer have irrigation heads on the tees; they are at the perimeter. All landscape beds also have irrigation. We now seem to have ultimate control over watering, allowing us to actually keep a drier course that is more conducive to healthy plants and firm, fast surfaces. (Advertisements for golf courses now proclaim that their fees and conditions are the best bang for the buck.)

Some would argue that they preferred the simplicity of their early careers, with fewer gadgets; I would include myself in that crowd when the computer crashes. However, I have also adapted to the use of e-mails, cell phones and computer programs to free up and better manage time. Yes, I do feel I have more control over my time now, both at the golf course and while away from the course. I can access the e-mails whenever I want, while at work and while at home. The cell phone works everywhere I go, and I can choose to answer and retrieve messages when I want to. In a given busy day at work, I spend

(continued on page 30)

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Hospitality Suite Brings New Meaning to Raising and Maintaining the Green Stuff!

As most of you know, the 2004 hospitality suite was phenomenal. I was on the committee led by Sylvia Lima and kept thinking under my breath: "Thank goodness we have someone like her running the show—I'm so glad she knows what she is doing as this is something I would never be able to do!" As the year progressed, her dedication and time commitment further emphasized my opinion. I assumed that if I had done a pretty good job for her I would be on her committee once again, you know, help out as much as I could and let her do all the hard work. Well, you know what they say, "When you assume . . ."

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In December at the IPTC (Illinois Professional Turf Conference), I was asked to take the Commercial Advisory Committee Board-level position. I knew there was a lot of work to be done. The first step was to figure out where was all the information from years past so I could start the process. A big thank you is owed to Luke Cella and Sylvia for all their patience and timely responses to the countless e-mails I sent them over the next several days. I then met with Luke in person, and he promptly handed me all the files from years past. I almost croaked. Thankfully, my predecessors kept excellent notes. I put the last couple of years' history on a spreadsheet and was able to decipher what worked and what didn't. Luke and Sylvia graciously assumed the responsibility of handling the PowerPoint presentation (a HUGE help!).

I then put a committee together. Here is where the MAGCS organization really shines. Every single person that I asked jumped on board without hesitation. I now had a committee full of aggressive volunteers to whom I am extremely grateful: Garry Anderson, Keith Copersmet, A. J. Huey, Sylvia Lima, Dave Nadler, Bruce Schweiger, Howard Shuck, Scott Spier, Steve Stewart, Marsha Traves, Rick Uthe and Sam Wineinger. To these fine professionals, my heartfelt thanks for getting the solicitations in on time! Not only did this committee make the necessary calls to our existing sponsors, they accepted my challenge to seek out at least three new sponsors for this well-publicized event. Some of our new sponsors are: Aquatrols, Aspen Valley Landscape, Cleary Chemicals, DHD Tree Products, DryJet Midwest, Kasper Trucking, Martin Design Partnership, Pendleton Turf Supply, Peat, Inc. and Rabine Paving. Thank you for your support of and faith in our organization. A special request to our superintendents is now in order: Please extend your thanks to these new sponsors if you do business with them today, and if you are in the market for a new product or service, please consider one of these fine companies.

I would also like to thank the committee members, fellow vendors and of course, "step-up-to-the-plate" superintendents who helped me man the welcome table and the door. It is truly a sacrifice to give up the socializing on a business trip. A very special thanks to Gary Hearn, who stayed by my side both nights and kept our cash receipts in order! Thank you as well to Garry Anderson, Ed Braunsky, Keith Copersmet, Kevin DeRoo, Jay Druhan, Derek Florian, Brett Grams, Tom Healy, Dave Holler, Nick Hongisto, Tim Keating, Kevin Knudson, Steve Lane, Sylvia Lima, Chuck Odierno, Bruce Schweiger, Scott Spier, Steve Stewart and Rick Uthe.

You would think that with so many people working outside of the suite,

(continued on page 6)

there would be plenty of room inside the suite. Unfortunately, that was not the case. I apologize for the tight quarters on Thursday night; if you returned the next night, you were afforded a much larger room. Seriously, we were not trying to hide from you!

The biggest thank you, of course, goes to our sponsors participating in the Golden Tee Club. Our motto states it simply: You're the Best! I hope you will continue to support the MAGCS organization throughout the year. Our superintendents truly enjoy the suite and appreciate your generosity.

Another bright spot of the MAGCS Hospitality Suite is our relatively new split-the-pot raffle. In 2004, we were extremely pleased to have raised \$2,800 between the two nights. This year, we were truly blown away. The first night we raised \$3,400, of which \$1,700 was awarded to Dan Howard of Master of the Links. This is an awesome occurrence since Master of the Links sponsors their own scholarship offering. What is that saying? The more you give, the more you receive? The second night was just as

favorable in light of the slightly fewer people attending: \$2,200 was raised and we were able to give away \$1,100 to Patrick Ryan, a student at Kishwaukee Community College. Patrick's professor tells us that Patrick is a true-blue turf management student, earning his own money through many odd jobs on courses in the area to pay for his trip to Orlando. Furthermore, he is going to be doing an internship at Bethpage Golf Course in New York this summer. We truly picked a winner! I sure hope Jay Druhan (Membership Committee chair) was able to track him down and get his membership application filled out! In any case, due to the influx of money raised at the Hospitality Suite, our MAGCS Scholarship Fund is in such great shape that Paul Bastron of the Scholarship Committee is considering raising the amount of our two MAGCS scholarship offerings in the very near future. In just two short years of this split-the-pot raffle, we have been able to raise more than \$4,000 for our scholarship program. Thank you to all that participated in the raffle; who knows, maybe next

year will be your lucky year—we have yet to have a superintendent win.

Some other pertinent facts: we averaged 300 people per night, superintendents and their families comprising more than half. My committee members were able to raise about \$41,000; our expenditures were as follows:

<u>Thursday Night</u>	<u>Friday Night</u>
Food:	Food:
\$8,403	\$9,181.25
Beverages:	Beverages:
\$9,183	\$6834.74

Including tips and service charges, our total outlay was about \$43,000. So, we just about covered our expenses. Once again, a huge THANK YOU TO OUR SPONSORS! The MAGCS Hospitality Suite continued its fine tradition of providing the best for the best group of customers in the industry.

Keep your eyes open for the dates and location for next year as we hit the streets of New Orleans! If you would like to help at next year's event, please don't hesitate to give me a call!



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Landscape Beds, From the Bottom Up

Amending a soil for flower beds or landscape plantings is not always a simple task. And, while our suppliers have many different compost products available, they seldom are privy to the site conditions or have the agronomic background to properly match the amendment to the needs of the site. With flower budgets in the Chicago area running from a few thousand to as high as \$90,000 annually, it has become apparent that we must treat this area of our budgets with the same concern as the rest.

All too often, as we are servicing the fertility-management needs of our clients, the question arises: "Why do you suppose our flower beds are doing so poorly?" After a bit of examination, we discover that the flower and landscape beds have been amended with compost prior to planting.

Golf course superintendents are professionals. They analyze the soil, plan the proper inputs and make the applications. And, while some superintendents apply fertilizers without a soil analysis, never do they apply a product without a label. Never would they consider buying a pallet of unlabeled fertilizer and applying it to any part of the course. Or would they?

All too often, as we are servicing the fertility-management needs of our clients, the question arises: "Why do you suppose our flower beds are doing so poorly?" After a bit of examination, we discover that the flower and landscape beds have been amended with compost prior to planting. The next question we ask: "What were the chemistries in the compost?"

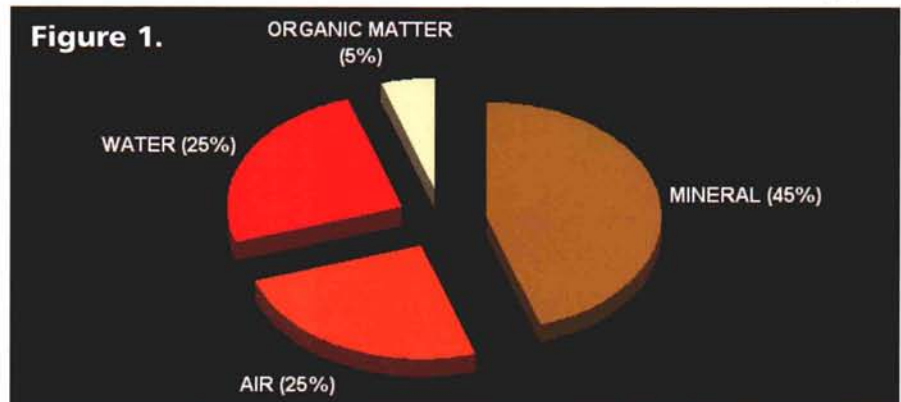
Chemistries in compost? You bet! It's very simple. When we compost something like leaves, grass clippings and yard waste, we burn off carbon. At the completion of the process, a pile that started three or four feet high may end up only one foot in height. The moisture content has gone up, the carbon content has come down, and in this process, the chemistries have become more concentrated. Not only have three or four feet of chemistries been reduced to one foot, or concentrated by 400%, but the water-holding capacity has also increased. This has in essence become a fertilizer.

Let's step back and look at the problem as a whole. First of all, there is really only one purpose for adding a soil amendment, and that is to improve the soil condition and make it more suitable for planting. As we improve the soil, we generally start by looking at two properties, chemical and physical. Since the physical property is more dominant, we will begin there.

A proper soil environment should be divided as shown in Figure 1. As we see, solids, or mineral content, should be 50% of the soil. The remaining 50% should be evenly divided between water and air-filled pore space. Of the mineral content, some 4% to 7% should be organic matter.

(continued on page 9)

Figure 1.





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Most soils in our area contain from 2% to 8% organic matter. Increasing low levels of organic matter becomes tricky and depends entirely on the type of soil you begin with. If, for instance, the native soil on your site is sandy, then you will want to choose an amendment that is well-composted and will retain water and nutrition. Since we only see this situation in northern Indiana and Michigan, we will concentrate on Chicago-area soils that are heavier and contain higher amounts of clay.

Most of the soils in the Chicago area would fall into the category of 'clay loam.' This refers to the amount of sand, silt and clay that is found in a soil physical analysis. From a sand, silt and clay perspective, we are presently seeing newer construction sites with clay values well above 30%. Since our maximum allowable specification is 20%, we will need to add sand to lower the clay percentage. Older soils, which account for many of our Chicago courses, have clay contents ranging from 15% to 25% and still need slight sand alterations.

As we know, the problem with excessive clay is that clay will hold excess water and slow the soil's ability to percolate water through the soil profile. Adding sand to alter the clay level becomes a simple answer. How-

ever, since adding sand dilutes the level of organic matter, it now becomes necessary to find a suitable organic amendment.

For the most part, we will need to select a product that is regionally available, as well as affordable. That usually means peat, leaf or yard-waste compost, spent mushroom compost or woodchip products. The problem with peat and compost products is that they typically hold from 4% to 6% of their weight in water. Adding these products to a clay loam will increase the water-holding capacity, not improve the soil. Woodchip products may well be a source of organic matter, but what about the carbon? Products such as these will create a nitrogen sink and utilize free nitrogen, often stunting plantings in the bed.

A good alternative is pine bark fines. Pine bark, which is a primary component of many of our potting soils, provides adequate levels of organic matter without the same carbon sink. This is due to the rather high amount of lignin found in pine. Since lignin slows the digestion or composting process, there will only be minimal nitrogen sink. In addition to being a stable organic product, pine generally has a pH of about 4.5. This can be a further benefit in Chicago-area soils.

In the chemistry area, peat, woodchips and pine are generally rather inert. Composts, however, tell another story. Table 1 shows the chemistry analysis of two yard-waste composts along with mushroom compost.

A quick look at Table 1 indicates the following areas of concern:

- The exchange capacities are very high. This indicates that these products will carry a great deal of alkaline mineral.
- The pH of each is very high.
- Soluble sulfur levels are excessive and will lean toward anaerobic.
- Phosphorus is very high. This often leads to chlorosis in susceptible plantings. This is of further concern in light of phosphorus regulations that are sweeping the country.
- Calcium levels are substandard but easily corrected.
- Magnesium is very high. This is troublesome considering the fact that our local soils are already magnesium-excessive.
- Sodium is very excessive. This needs no explanation.
- Soluble salts are excessive.
- Nitrate-N is adequate for growing 200 bushels of corn!
- Ammonium levels will turn soils anaerobic.

As illustrated in this brief explanation
(continued on page 10)

TABLE 1.


	REFERENCE	YARD WASTE 1	YARD WASTE 2	MUSHROOM COMPOST
Cation-Exchange Capacity		40.85	34.06	36.86
pH	6.3	7.8	7.4	7.4
Percent Organic Matter		0.2807	0.269	0.572
Anions				
Soluble Sulfur	35 ppm	135 ppm	122 ppm	1120 ppm
Easily Extractable Phosphorus	35 ppm	637 ppm	348 ppm	450 ppm
Percent Base Saturation				
Calcium	68%	49.85%	57.97%	60.90%
Magnesium	12%	23.18%	18.30%	14.69%
Potassium	5%	22.00%	17.70%	16.05%
Sodium	1%	1.37%	2.07%	4.35%
Other Bases	5%	3.60%	4.00%	4.00%
Hydrogen	10%	0.00%	0.00%	0.00
Soluble Salts		3.13 ppm		7.7 ppm
Nitrate-N	4-10 ppm	126.0 ppm		10.0 ppm
Ammonium-N	5 ppm	132.0 ppm		

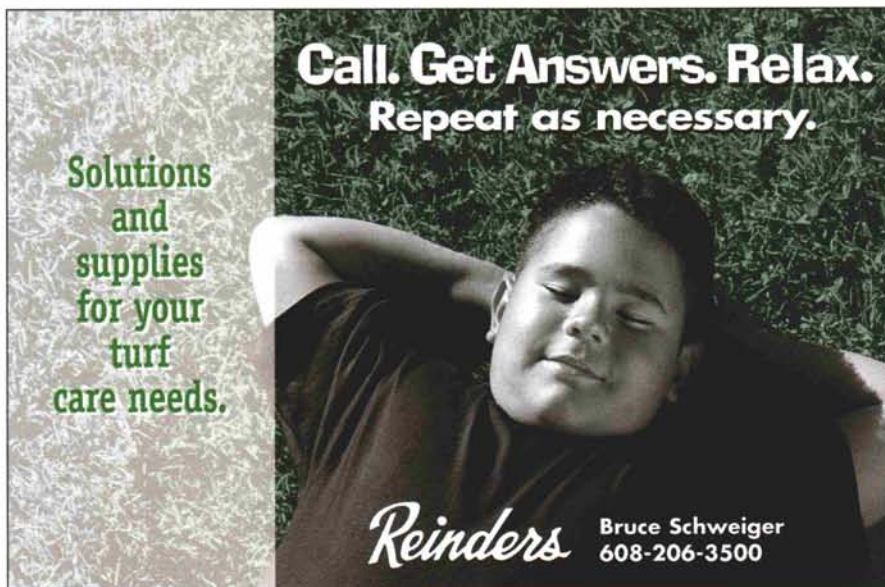
The values in the reference column that are not constants have been left blank.

nation, many of the chemistries that accompany these products are very excessive. Therein, whenever we add these amendments, we are also adding the equivalent of a great deal of fertilizer. The problem, as mentioned at the beginning of this article, is that unless we have this data, we are adding an abundance of unwanted and unneeded fertility.

The bottom line is to know what the soil conditions are and then properly match the amendments to the site. This means that we need to choose products that have both the chemical and physical properties we are looking for. A generic recommendation for most Chicagoland soils is to use a blend containing 50% pine fines and 50% sharp, coarse sand. This blend has been very successful used over the top at 2" to 3" and incorporated to a depth of 6" to 8". This blend is relatively inert and in many ways duplicates the properties of potting soils used by many of the area's nurseries and greenhouses. Pine fines can be purchased at many of the area's mulch companies, such as River

City Landscape Supply, White Premium Organics and Midwest Trading Co. Please feel free to call if you have any problem locating pine fines.

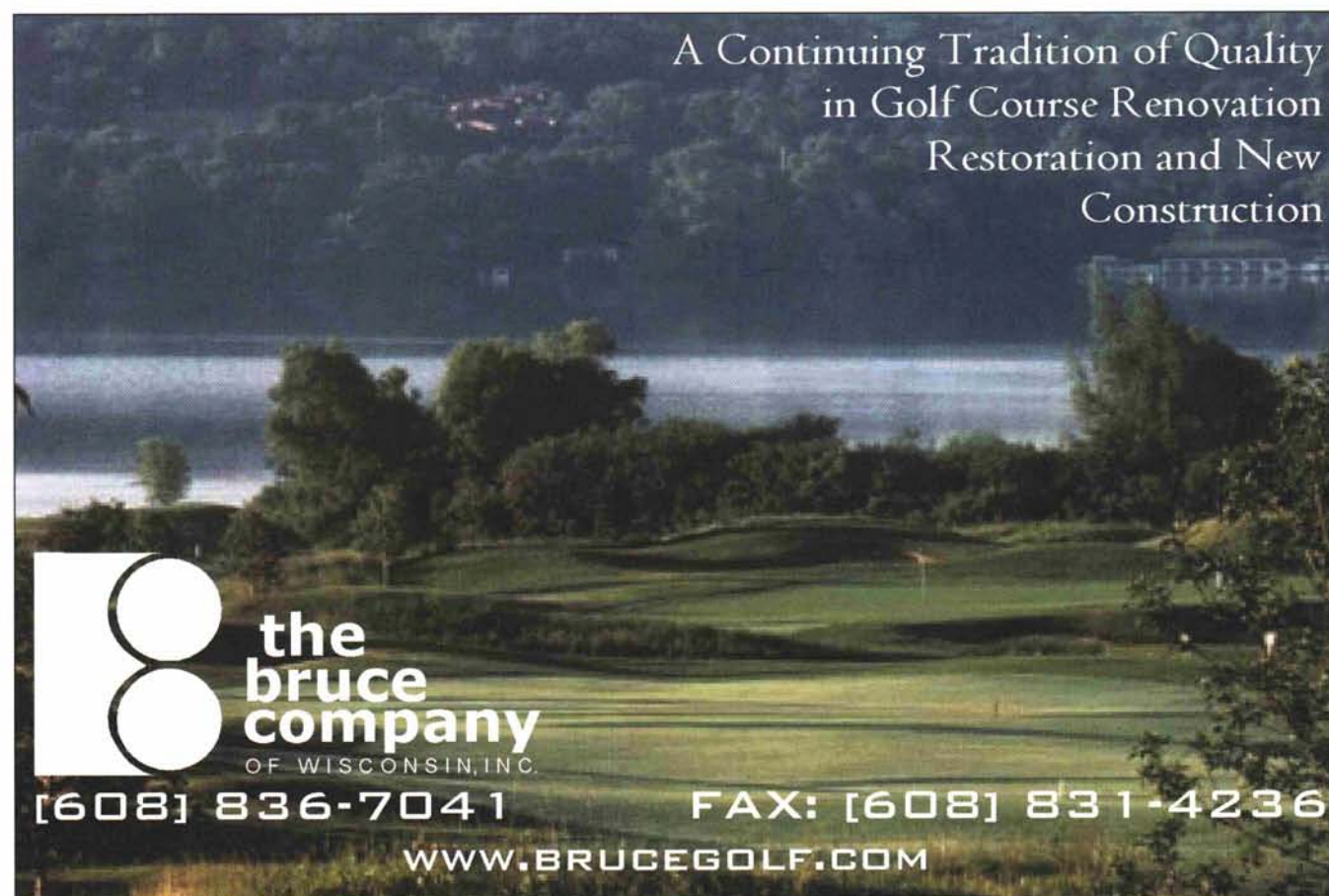
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